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04.17.2023

BY HAND AND E-MAIL
Hon. Nicola Armacost, Mayor
and Members of the Village Board of Trustees
Village of Hastings-on-Hudson
Municipal Building
7 Maple Avenue
Hastings-on-Hudson, New York 10706

RE: Electric Owl Holdings, LLC: Petition to Amend the Code of the Village
Supplemental Submission
Subject Premises: One South Broadway, Hastings-on-Hudson, New York

Dear Mayor Armacost and Members of the Village Board of Trustees:

On behalf of Electric Owl Holdings, LLC (the "Applicant"), the contract-vendee for the Subject Premises owned by Graham-Windham, a/k/a Graham-Windham, a New York non-profit corporation ("Graham-Windham"), we respectfully submit this letter and the enclosed materials in furtherance of Applicant's previously filed "Petition to Amend the Code of the Village of Hastings-on-Hudson (the 'Village Code') to establish a 'Multimedia Production Studio Overlay District'." As the Board knows, this Petition supports the Applicant's proposal to construct and operate a LEED-Certified film and production studio at the above-referend Premises, subject to proposed dimensional regulations and performance standards set forth in the Petition.

Procedural History and Next Steps

The Applicant filed the above-referenced Petition on December 29, 2022. On February 7, 2023, the Board of Trustees declared its intent to serve as Lead Agency pursuant to the State Environmental Quality Review Act, Environmental Conservation Law Article 8, 6 NYCRR Part 617 *et seq*. Following the requisite referrals to Involved and Interested Agencies, and in light of the fact that there were no objections by said Agencies to the Board of Trustees serving as Lead Agency, the Board of Trustees declared its status as Lead Agency on March 21, 2023.

During the intervening time, the Applicant has been revising its proposal in light of the preliminary comments received from the Board and the public and considering the unique site constraints.

Consistent with Section 295-157(C) of the Village's Zoning Code, the Applicant respectfully requests that the Board of Trustees schedule a Public Hearing on the Petition and refer the Petition to the Village's Planning Board and Zoning Board of Appeals for Advisory Reports to further the public review of the Applicant's Petition.

Updates to the Proposal

Considering the comments received thus far and the unique site constraints, the Applicant has made the following substantial revisions to its proposal:

- The "campus" feel of the site has been preserved ensuring that the historic Administration Building will remain the highest structure on the site;
- The parking structure has been modified significantly, as follows:
  - It has been relocated away from the steep slopes and 291 feet from the Old Croton Aqueduct Trail to eliminate any potential adverse noise or visual impact on said Trail, much farther than the 118-foot distance previously presented;
  - The profile and height of the parking structure have been modified to reduce its visual impact, lowering the height from 60 feet to 33 feet and dropping the structure into the grade;
  - The tallest portion of the parking structure will be facing away from the Old Croton Aqueduct Trail, and that in some places will be less than 15 feet in height;
  - Screening has been added to improve its aesthetics;
- Traffic lanes have been added to the studio entrance to avoid traffic stacking on South Broadway (in conjunction with same the existing guard house has been relocated);
- The Mill Shops have been relocated to provide additional space for vehicles and staging between the Administrative Building and the Mill Shops;
- Soundproofing has been added to the Mill Shops to reduce any potential significant adverse noise impacts, particularly to the south and southwest of the Premises;
- The height of the stages has been reduced to approximately 50 feet from the finished floor enabling the height of the buildings to be minimized;
- Building aesthetics have been improved to more closely align with the character of the Premises; and

- Landscaping has been enhanced with more trees and foliage added including in the area to the south of the sound stages where evergreens, as opposed to deciduous vegetation, will be used; and
- The proposed vegetation will enhance left-turn visibility and sightlines from Dudley Street.

The Applicant looks forward to utilizing its experienced team to bring a high-demand product that will yield a significant economic benefit to the Village, the design and operation of which will be based in principles of sustainability, community, and quality – all of which was articulated in the Applicant's December 29, 2022 Zoning Petition and the exhibits enclosed therein. Currently, the sound stage rental market in New York is in a state of high occupancy with demand significantly outpacing supply. Even with existing film studios and scheduled film studio openings, an independent study by Deloitte noted that demand for physical production studios will continue to outpace supply in New York through 2025 by approximately 19% of the required square footage. This Site is in a prime location as it is situated within the New York Film Production Studio Zone, which is an area generally defined by a 25-mile radius of New York City (Columbus Circle) used by the entertainment industry/unions to determine employee benefits for film work done within it. The entertainment industry prefers to film movies and television shows within the studio zone as it will reduce production expenses. As articulated in the Petition, this Project represents a significant opportunity for the Village to return a large tract of land to the Village's tax rolls through a creative commercial use, a goal of the Village's Comprehensive Plan (*see* Chapter 4, Strategy 4.1 of Village's 2011 Comprehensive Plan), while having no significant adverse impact on community character, traffic, noise, or lighting.

Revised and Supplemental Materials

In support of this request to amend the Village Code, we respectfully submit the following to the Board:

Exhibit A: Revised Schematic Site Plan Drawings, Building Sections, and Renderings highlighting the layout and nature of the proposal, dated April 14, 2023, prepared by Granoff Architects; and

Exhibit B: Revised Exhibit I to Applicant's December 29, 2022 Zoning Petition, entitled "Zoning Table," reflecting dimensions of the revised proposal.

Also enclosed you will find a Revised Traffic Impact Study, prepared by Kimley-Horn Engineering and Landscaping Architecture of New York, P.C., dated April 2023[1]; and an Alternatives Analysis prepared by Historical Perspectives, Inc., dated April 2023.

Moreover, attached you will find Site Plan Drawings prepared by Kimley-Horn Engineering and Landscaping Architecture of New York, P.C., dated April 17, 2023, with the following sheets:

C-3.0: Overall Site Plan;
C-4.0: Overall Grading and Drainage Plan; and
C-5.0: Overall Utility Plan.

Lastly, enclosed you will find Drainage Plans prepared by Kimley-Horn Engineering and Landscaping Architecture of New York, P.C., dated April 17, 2023, with the following sheets:

Existing Drainage Area Map; and
Proposed Drainage Area Map.

We look forward to appearing before the Board of Trustees on May 2, 2023 to further discuss this proposal. Thank you for your consideration.

Respectfully yours,

William S. Null

Enclosures

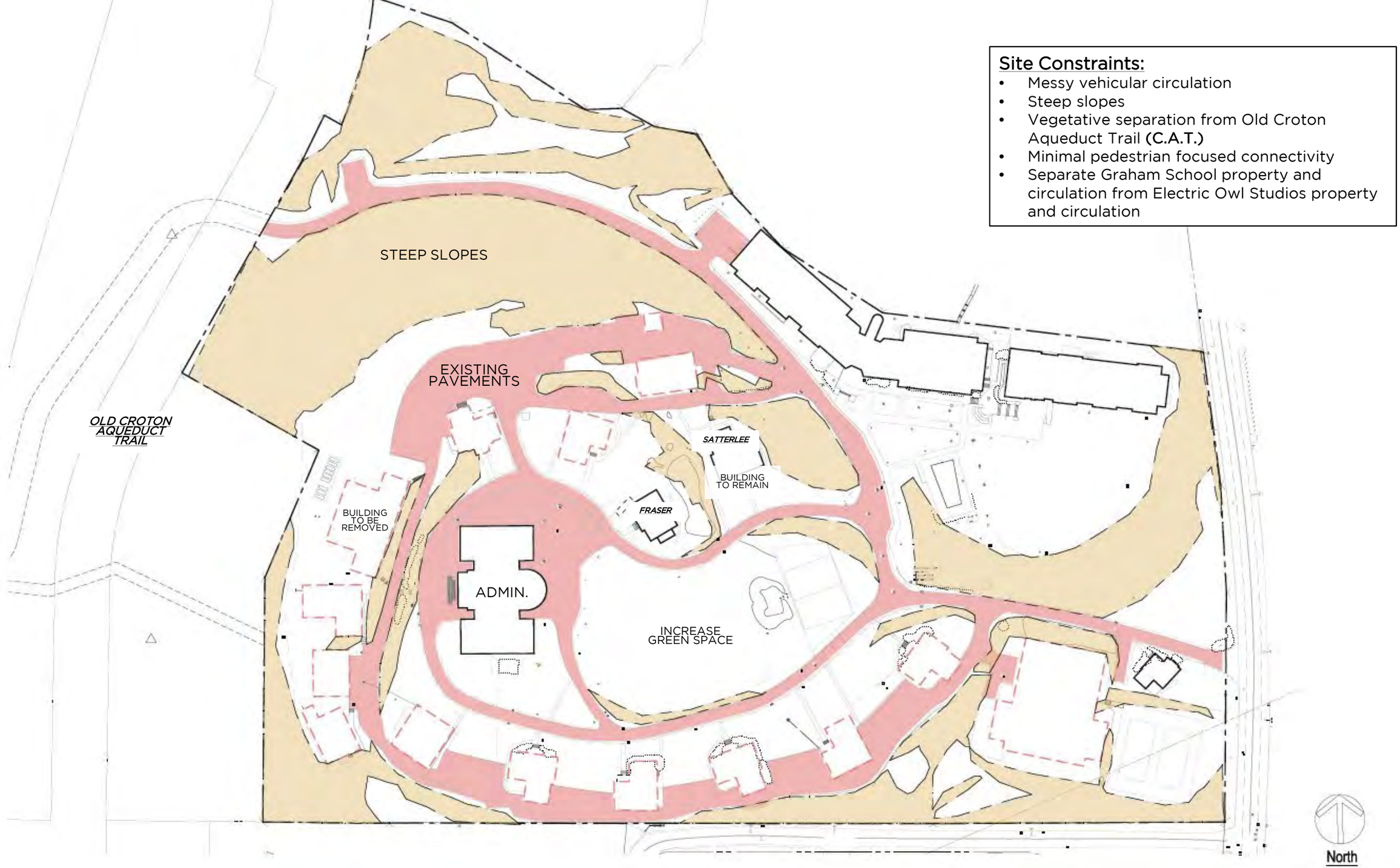
cc: Mary Beth Murphy, Village Manager; Linda Whitehead, Esq., Village Attorney; Patrick Cleary, Village Planner; Michael Hahn & Dan Rosenfelt, Electric Owl Holdings, LLC; Tim Williams & Ben Ruswick, Michael Maltzan Architecture; John Canning & Bonnie Von Ohlsen, Kimley-Horn Engineering and Landscape Architecture of New York, P.C.; Maximillian R. Mahalek, Esq.; and Graham-Windham School

[1] Note that the number of parking spots reserved for the school portion of the Premises is 232 spaces, as compared to the 197 spaces listed in the Revised Traffic Impact Study. The correct number of parking spaces is shown on the submitted revised plans and is included in the revised Zoning Table enclosed herein.

Exhibit A

Site Constraints:

- Messy vehicular circulation
- Steep slopes
- Vegetative separation from Old Croton Aqueduct Trail **(C.A.T.)**
- Minimal pedestrian focused connectivity
- Separate Graham School property and circulation from Electric Owl Studios property and circulation



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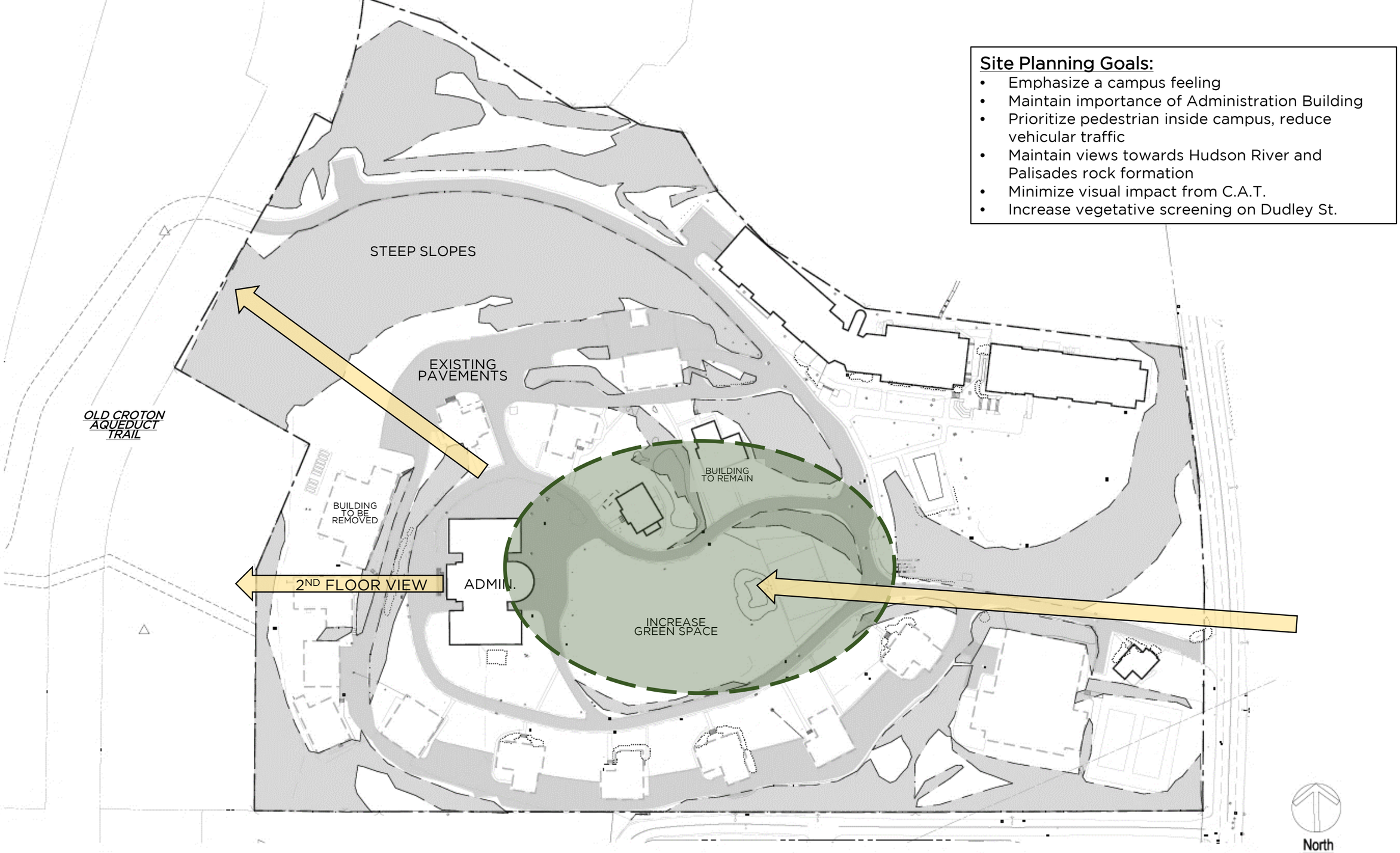
EXISTING SITE CONDITIONS



Site Planning Goals:

- Emphasize a campus feeling
- Maintain importance of Administration Building
- Prioritize pedestrian inside campus, reduce vehicular traffic
- Maintain views towards Hudson River and Palisades rock formation
- Minimize visual impact from C.A.T.
- Increase vegetative screening on Dudley St.

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SITE ANALYSIS

LEGEND

1. OUT BUILDINGS
2. EXISTING ADMINISTRATIVE BUILDING
3. OCCUPIABLE GREEN ROOF
4. GREEN ROOF
5. POTENTIAL SOLAR PV FIELDS
6. MILL BUILDING
7. STAGE BUILDINGS
8. OPEN-AIR PARKING STRUCTURE
9. PEDESTRIAN "QUAD"
10. REMAINING SCHOOL BUILDINGS
11. SCHOOL PARKING LOT AND BUS DROP-OFF
12. STUDIO ENTRANCE
13. SCHOOL ENTRANCE
14. GUARD BOOTH
15. OLD CROTON TRAILWAY

MICHAEL MALTZAN ARCHITECTURE

ELECTRIC OWL

SCALE - 1 : 2000 | PROPOSED SITE PLAN

11/15/2022 5

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PREVIOUS SCHEMATIC DESIGN

PREVIOUS DESIGN PARKING STRUCTURE WITH MILL SHOP LOCATION

ROOF ELEVATION: 261.0
BASE ELEVATION: 201.0
TOTAL HEIGHT – 60'

PREVIOUS DESIGN STUDIO BUILDING LOCATIONS

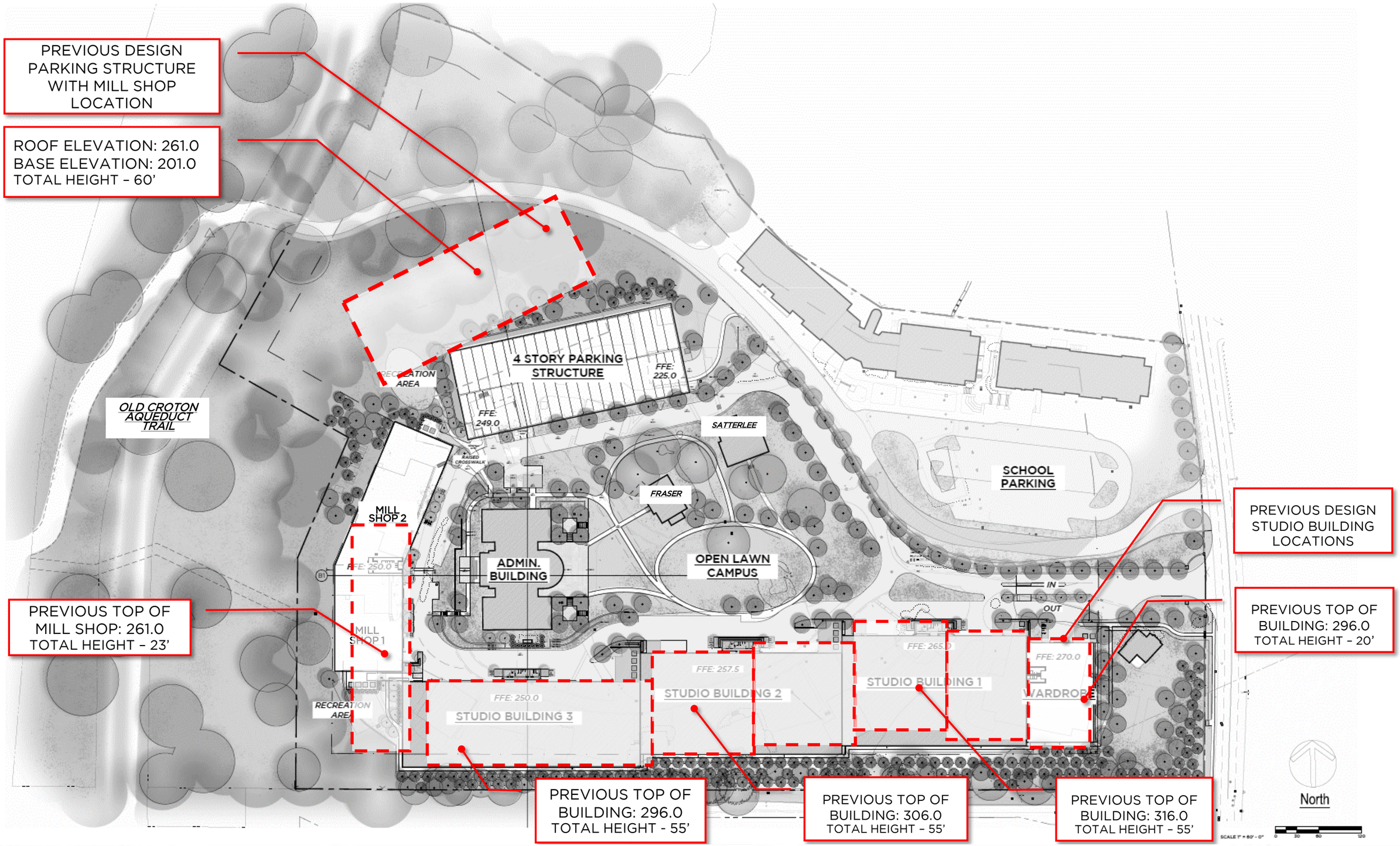
PREVIOUS TOP OF BUILDING: 296.0
TOTAL HEIGHT – 20'

PREVIOUS TOP OF MILL SHOP: 261.0
TOTAL HEIGHT – 23'

PREVIOUS TOP OF BUILDING: 296.0
TOTAL HEIGHT - 55'

PREVIOUS TOP OF BUILDING: 306.0
TOTAL HEIGHT – 55'

PREVIOUS TOP OF BUILDING: 316.0
TOTAL HEIGHT – 55'



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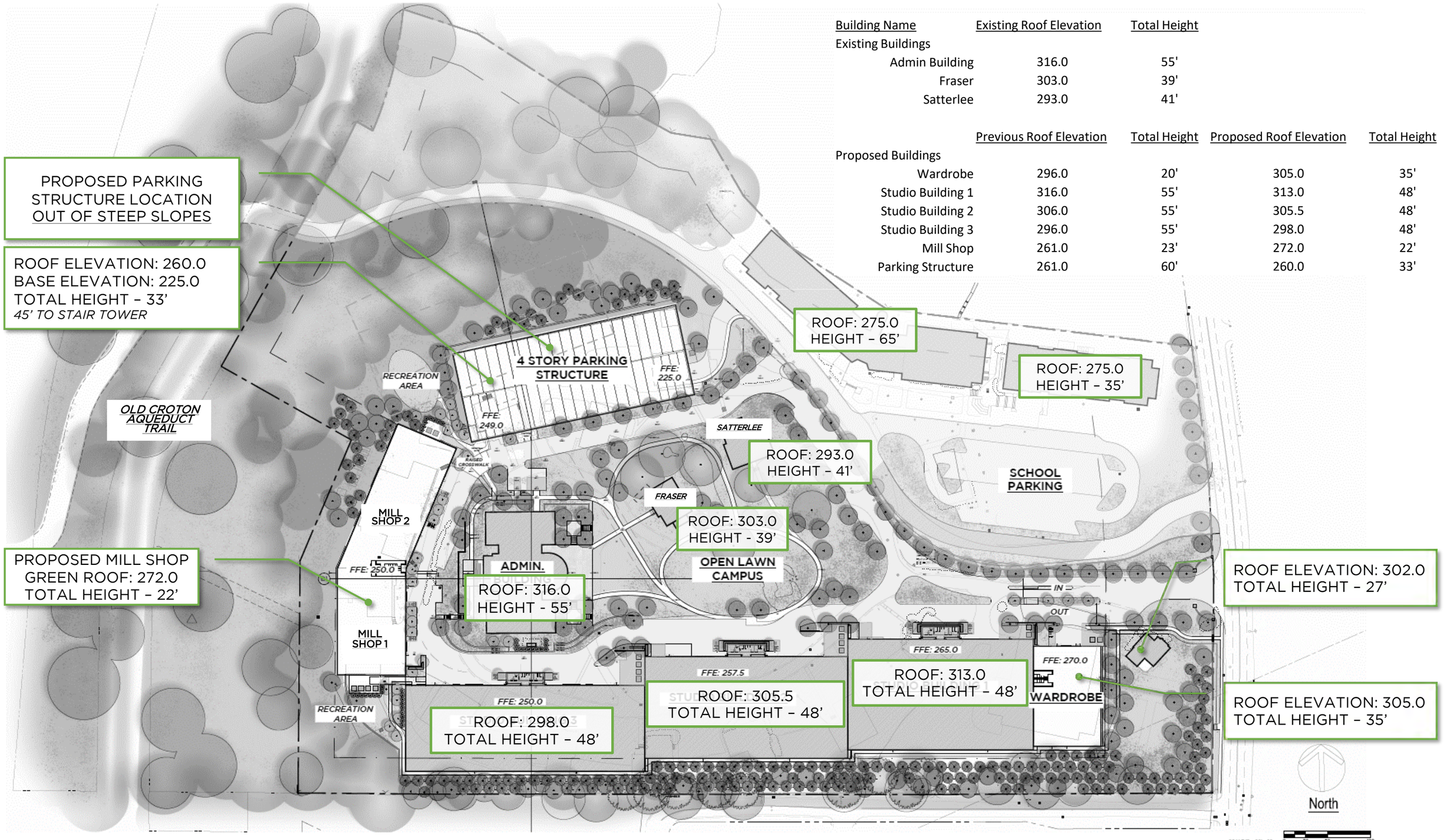
PREVIOUS BUILDING LOCATIONS AND HEIGHTS

Building Name	Existing Roof Elevation	Total Height
Existing Buildings		
Admin Building	316.0	55'
Fraser	303.0	39'
Satterlee	293.0	41'

	Previous Roof Elevation	Total Height	Proposed Roof Elevation	Total Height
Proposed Buildings				
Wardrobe	296.0	20'	305.0	35'
Studio Building 1	316.0	55'	313.0	48'
Studio Building 2	306.0	55'	305.5	48'
Studio Building 3	296.0	55'	298.0	48'
Mill Shop	261.0	23'	272.0	22'
Parking Structure	261.0	60'	260.0	33'



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PROPOSED BUILDING LOCATIONS AND HEIGHTS

KEY

EXISTING TREE TO REMAIN (270)

EXISTING TREE TO BE REMOVED (214)

PROPOSED TREES (421)

NOTES:

- TREE SIZES AND LOCATIONS BASED ON TREE SURVEY COMPLETED BY SAV-A-TREE DATED 3/30/23. REFER TO SUPPLEMENTAL DOCUMENTS FOR TREE SPECIES AND HEALTH
- TREE CANOPY IS APPROXIMATED

North

SCALE 1" = 80' - 0"

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EXISTING AND PROPOSED TREE COMPARISON

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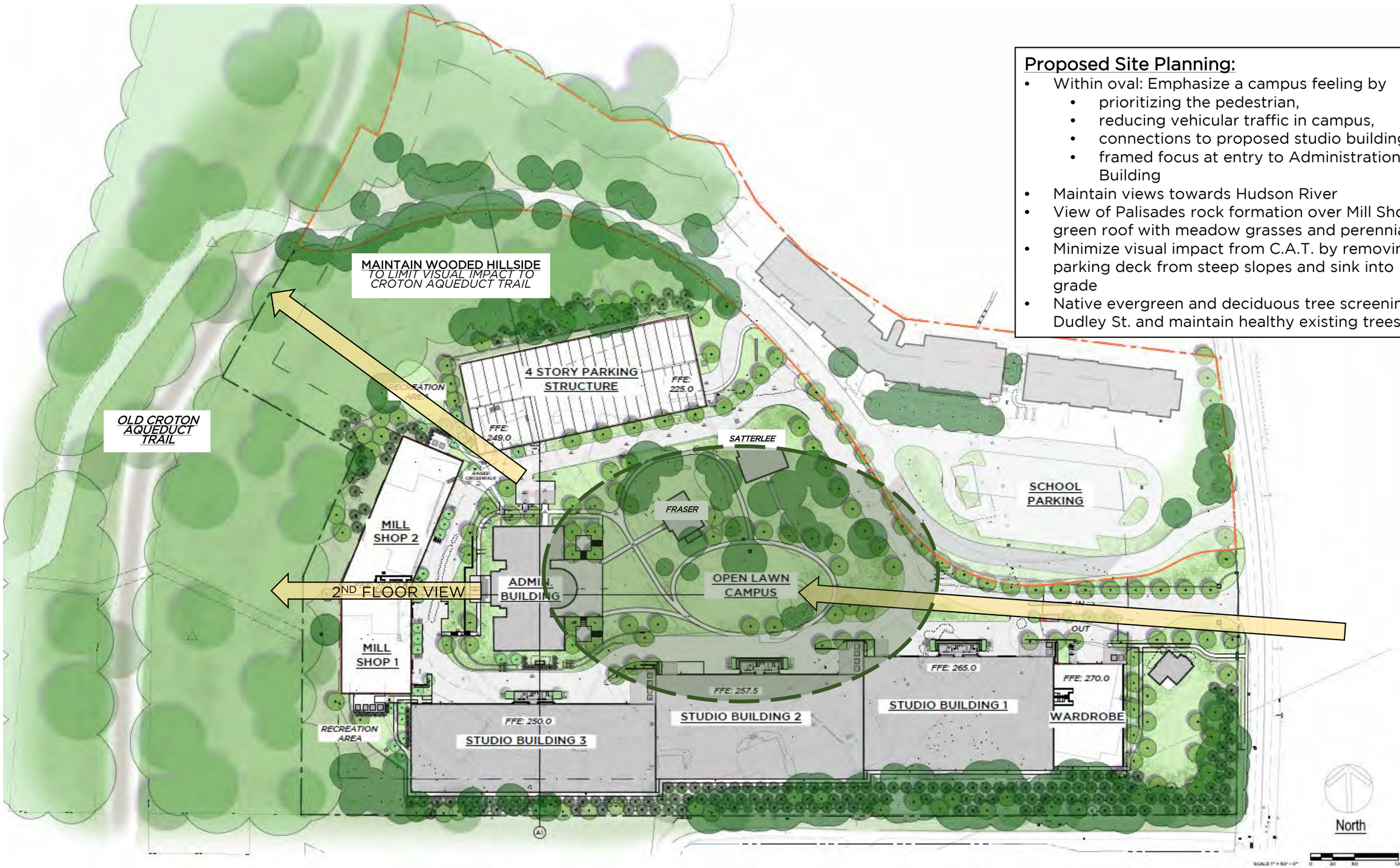
PROPOSED PROPERTY SUBDIVISION

Proposed Site Planning:

- Within oval: Emphasize a campus feeling by
  - prioritizing the pedestrian,
  - reducing vehicular traffic in campus,
  - connections to proposed studio buildings
  - framed focus at entry to Administration Building
- Maintain views towards Hudson River
- View of Palisades rock formation over Mill Shop green roof with meadow grasses and perennials
- Minimize visual impact from C.A.T. by removing parking deck from steep slopes and sink into grade
- Native evergreen and deciduous tree screening at Dudley St. and maintain healthy existing trees



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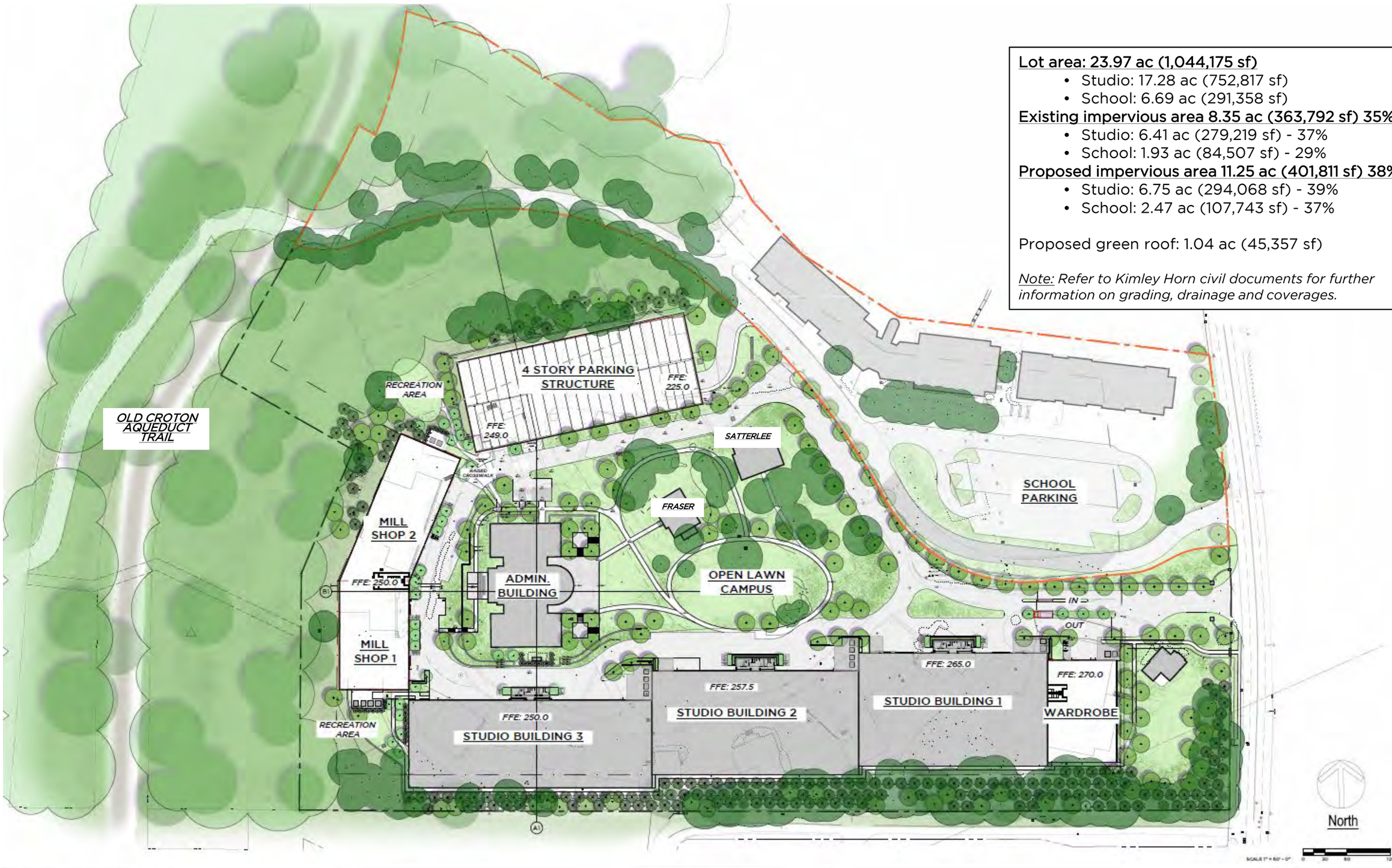
PROPOSED SITE PLANNING



Lot area: 23.97 ac (1,044,175 sf)

- Studio: 17.28 ac (752,817 sf)
- School: 6.69 ac (291,358 sf)

Existing impervious area 8.35 ac (363,792 sf) 35%

- Studio: 6.41 ac (279,219 sf) - 37%
- School: 1.93 ac (84,507 sf) - 29%

Proposed impervious area 11.25 ac (401,811 sf) 38%

- Studio: 6.75 ac (294,068 sf) - 39%
- School: 2.47 ac (107,743 sf) - 37%

Proposed green roof: 1.04 ac (45,357 sf)

Note: Refer to Kimley Horn civil documents for further information on grading, drainage and coverages.

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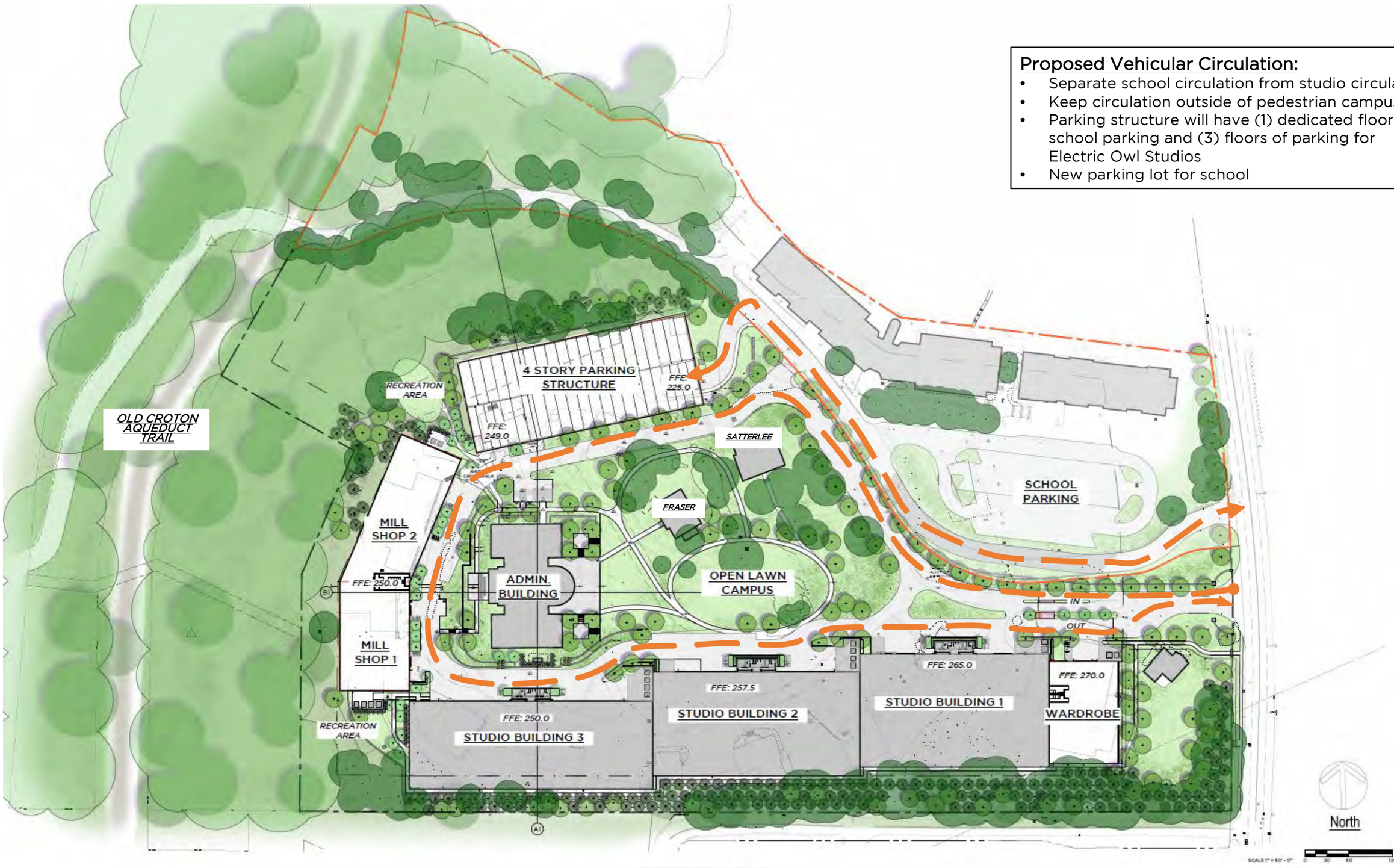
PROPOSED SCHEMATIC SITE PLAN

Proposed Vehicular Circulation:

- Separate school circulation from studio circulation
- Keep circulation outside of pedestrian campus
- Parking structure will have (1) dedicated floor for school parking and (3) floors of parking for Electric Owl Studios
- New parking lot for school



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PROPOSED VEHICULAR CIRCULATION

Proposed Pedestrian Circulation:

- Connect campus to South Broadway, provide sidewalk to existing bus stop
- Pedestrian entry is the former vehicular entry, play up site history with a gated entry
- Proposed one way road with dedicated bike path
- Bike racks at all studios
- Pedestrian paths to all buildings
- (2) Designated pedestrian recreation areas
- ADA connectivity along all pathways

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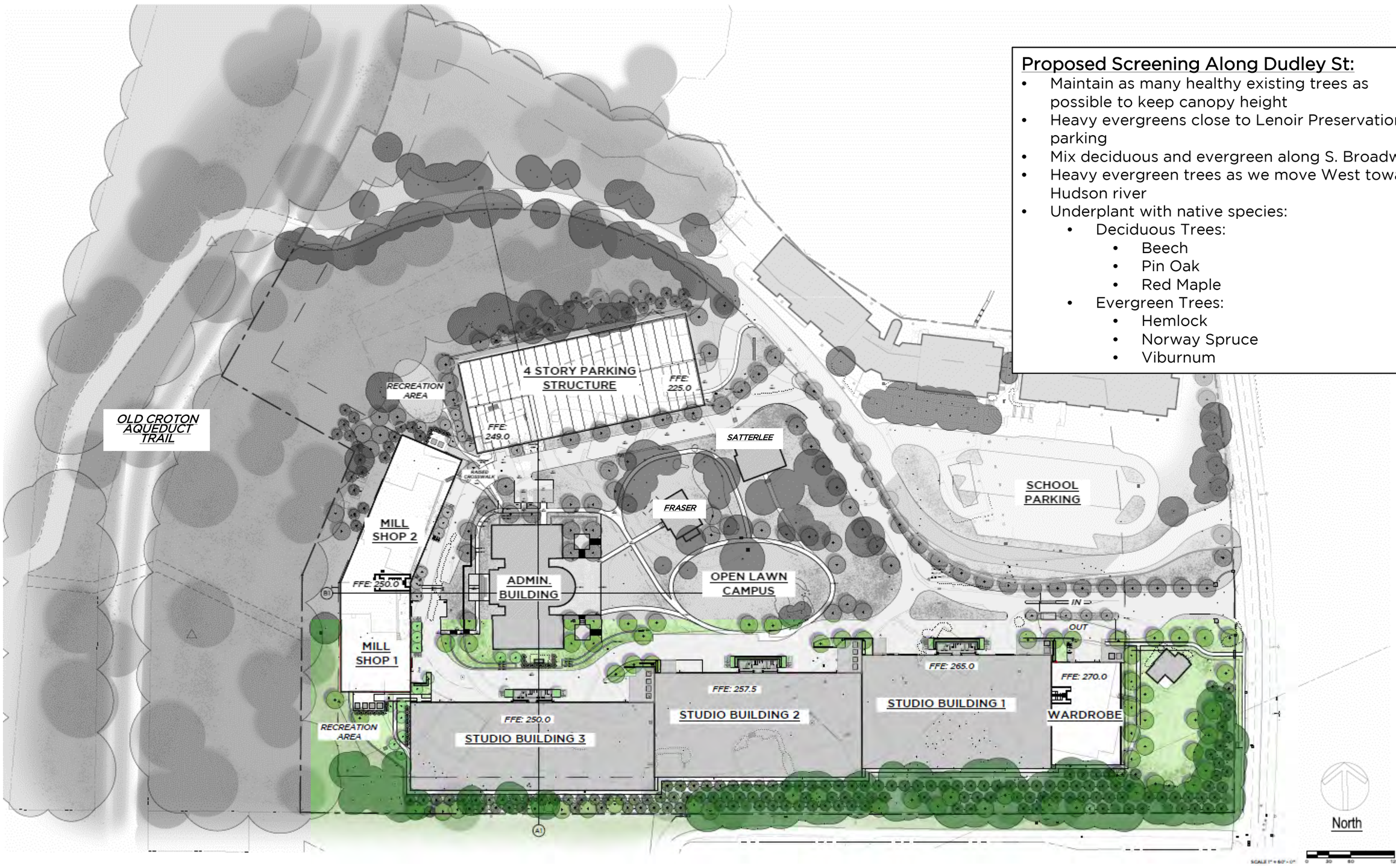
PROPOSED PEDESTRIAN CIRCULATION



Proposed Screening Along Dudley St:

- Maintain as many healthy existing trees as possible to keep canopy height
- Heavy evergreens close to Lenoir Preservation parking
- Mix deciduous and evergreen along S. Broadway
- Heavy evergreen trees as we move West towards Hudson river
- Underplant with native species:
  - Deciduous Trees:
    - Beech
    - Pin Oak
    - Red Maple
  - Evergreen Trees:
    - Hemlock
    - Norway Spruce
    - Viburnum

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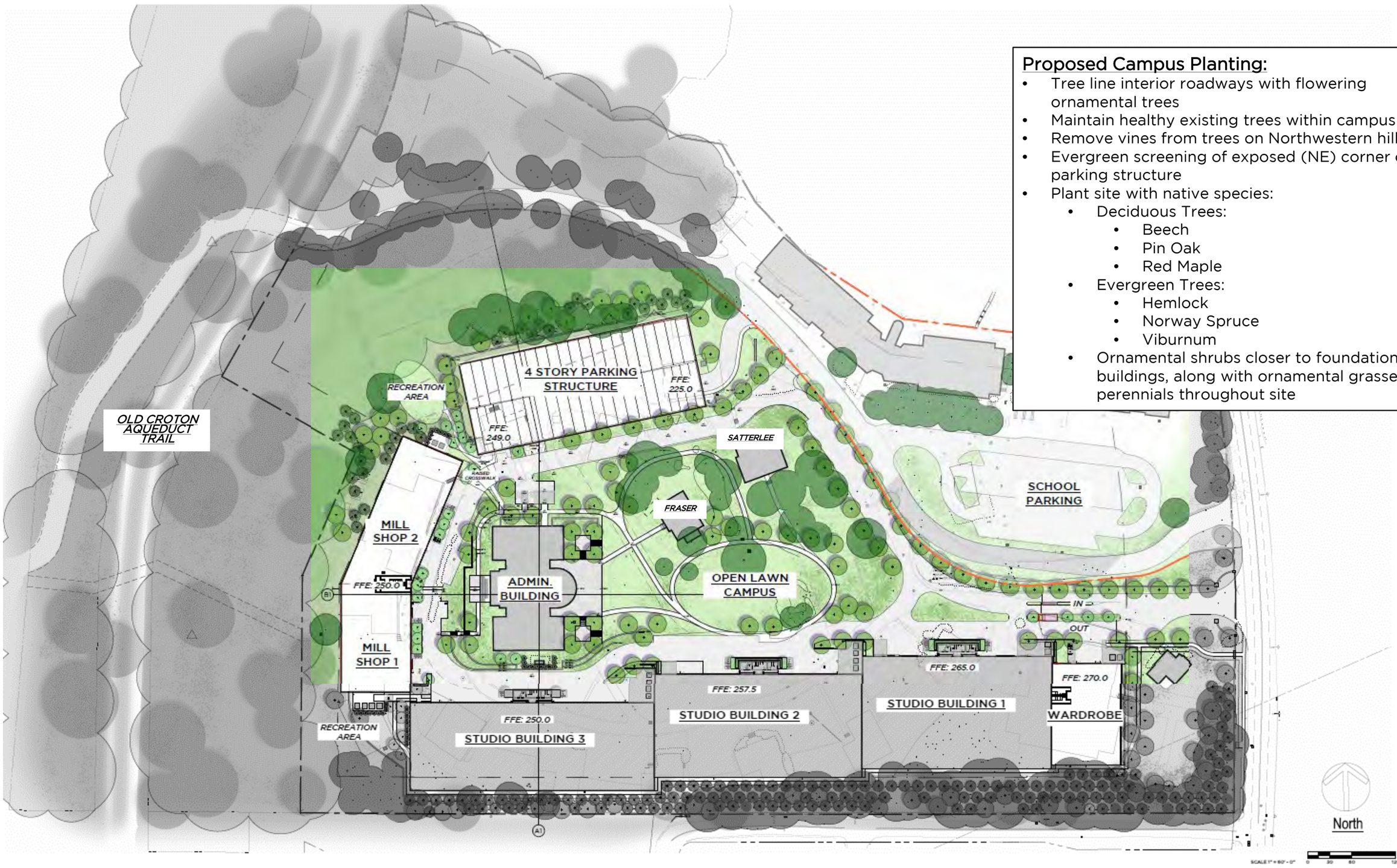
PROPOSED SCHEMATIC PLANTING – DUDLEY ST



Proposed Campus Planting:

- Tree line interior roadways with flowering ornamental trees
- Maintain healthy existing trees within campus
- Remove vines from trees on Northwestern hillside
- Evergreen screening of exposed (NE) corner of parking structure
- Plant site with native species:
  - Deciduous Trees:
    - Beech
    - Pin Oak
    - Red Maple
  - Evergreen Trees:
    - Hemlock
    - Norway Spruce
    - Viburnum
  - Ornamental shrubs closer to foundations of buildings, along with ornamental grasses, perennials throughout site

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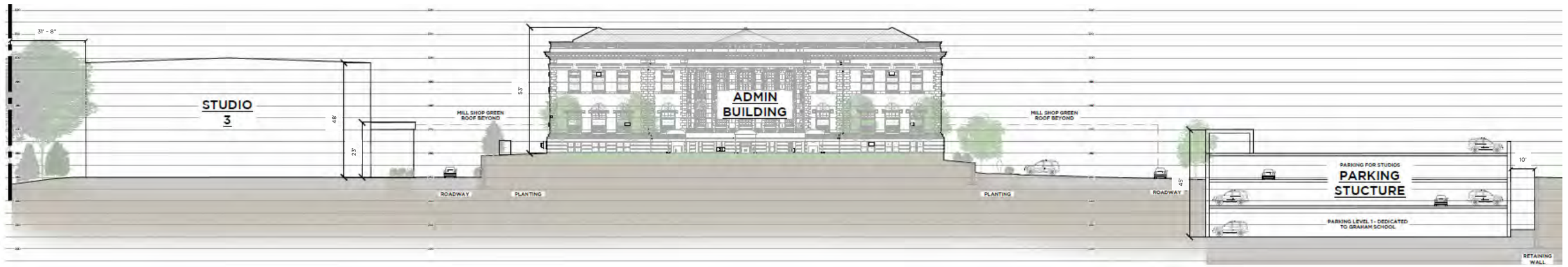
PROPOSED SCHEMATIC PLANTING – CAMPUS

Proposed Site Sections:

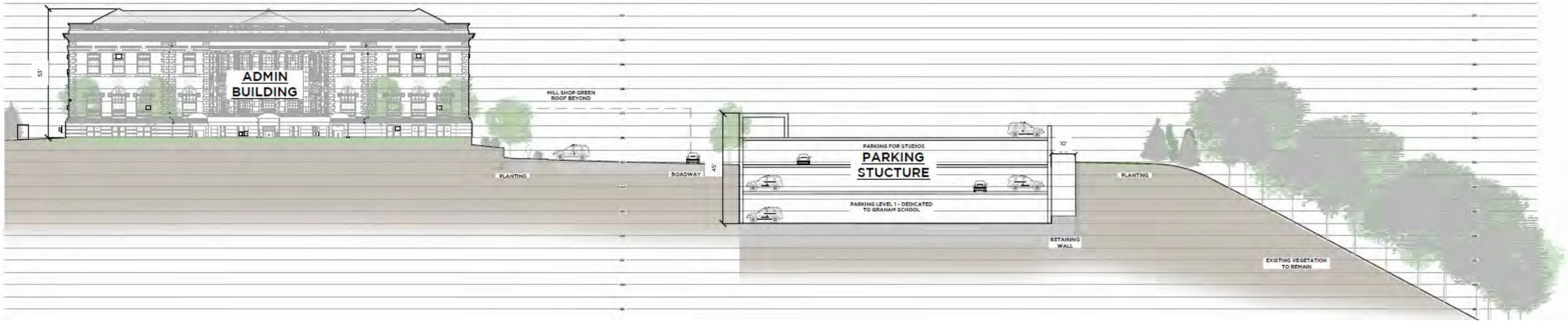
- Emphasize importance of Administration Building
- Minimize visual impact of parking structure
- Maintain pedestrian connections to all buildings existing and proposed

SECTION A1

SCALE 1" = 20' - 0"



SECTION A1 CONTINUED



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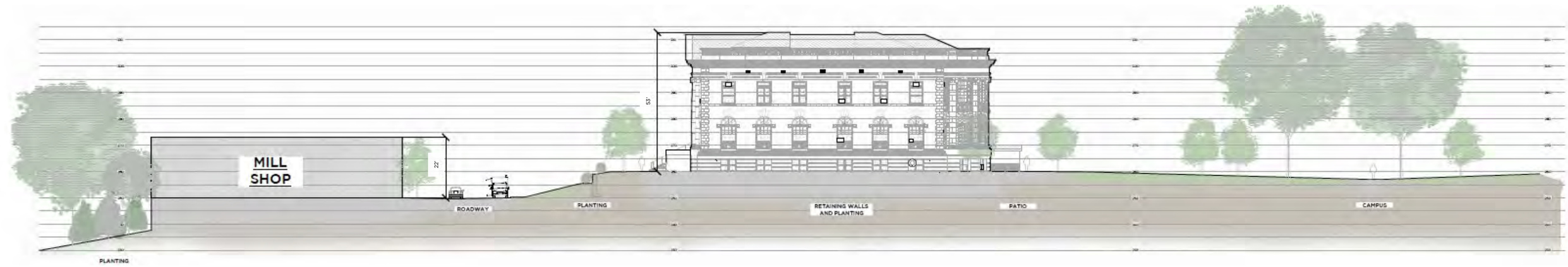
PROPOSED SITE SECTIONS

Proposed Site Sections:

- Emphasize importance of Administration Building
- Minimize visual impact of parking structure
- Maintain pedestrian connections to all buildings existing and proposed

SECTION B1

SCALE 1" = 20' - 0" 0 10 20 40



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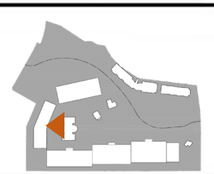

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VIEW TOWARDS HUDSON
FROM ADMIN STEPS

AFTER:

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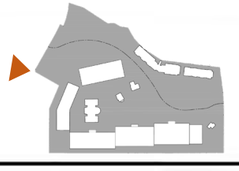

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VIEW FROM CROTON AQUEDUCT TRAIL

AFTER:

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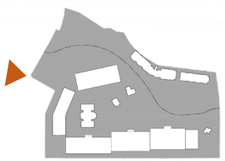

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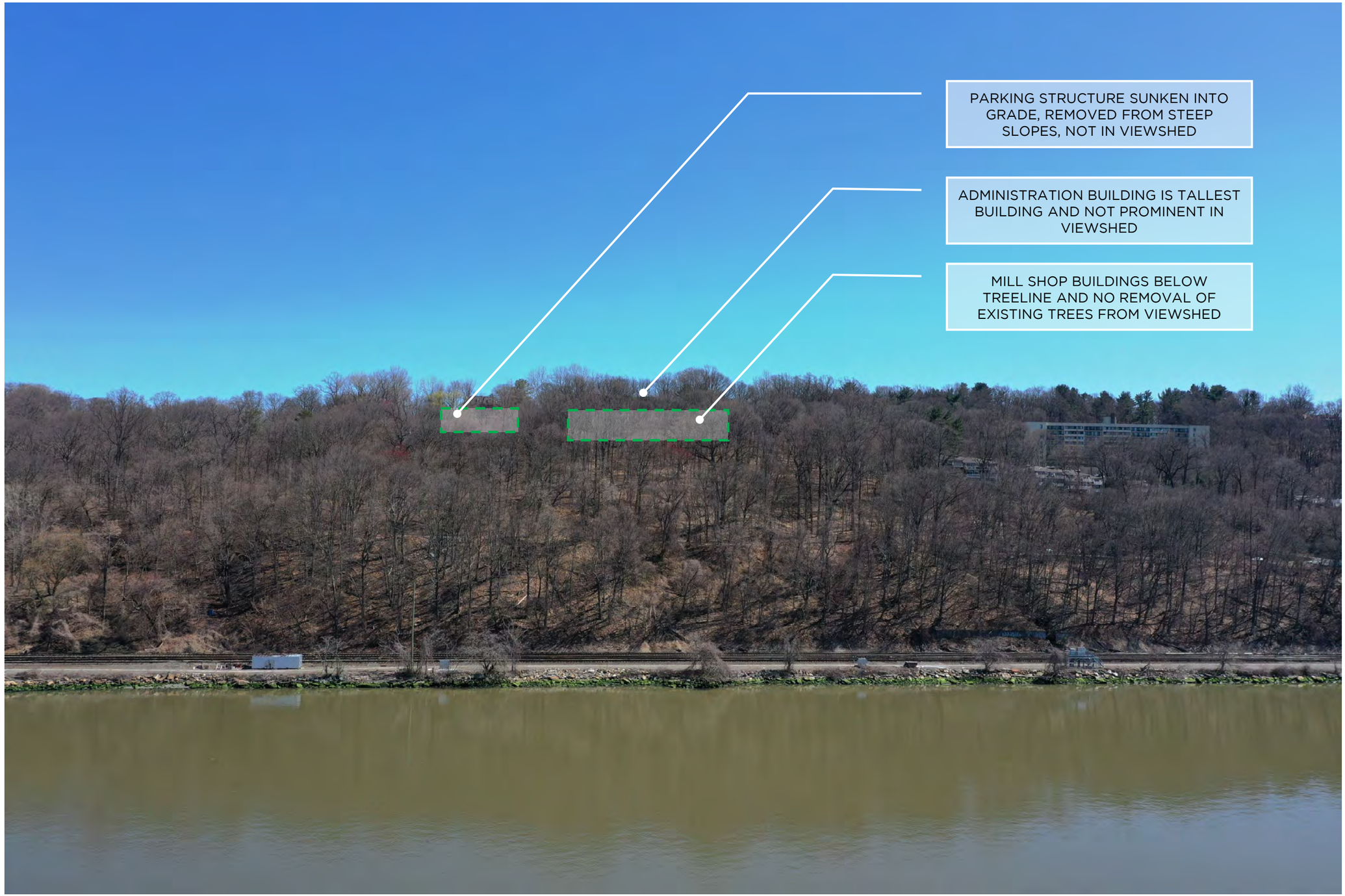
VIEW FROM CROTON AQUEDUCT TRAIL



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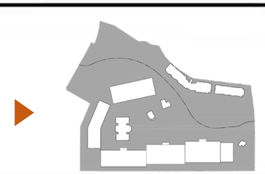
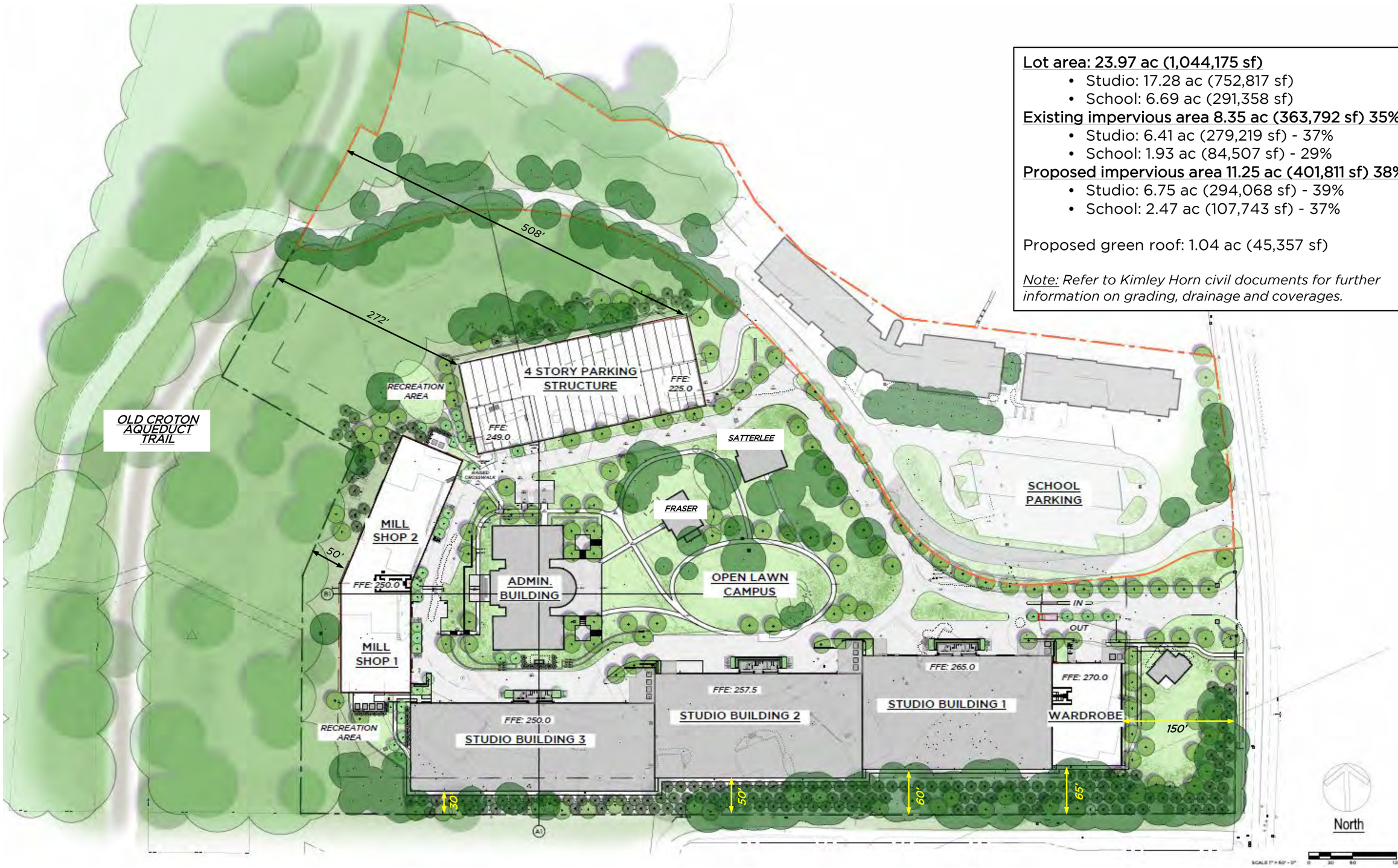


DRAWING NO.:

EXISTING VIEW FROM HUDSON RIVER @30’



Lot area: 23.97 ac (1,044,175 sf)

- Studio: 17.28 ac (752,817 sf)
- School: 6.69 ac (291,358 sf)

Existing impervious area 8.35 ac (363,792 sf) 35%

- Studio: 6.41 ac (279,219 sf) - 37%
- School: 1.93 ac (84,507 sf) - 29%

Proposed impervious area 11.25 ac (401,811 sf) 38%

- Studio: 6.75 ac (294,068 sf) - 39%
- School: 2.47 ac (107,743 sf) - 37%

Proposed green roof: 1.04 ac (45,357 sf)

Note: Refer to Kimley Horn civil documents for further information on grading, drainage and coverages.

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/14/23

DRAWING NO.:

PROPOSED SCHEMATIC SITE PLAN

EXHIBIT I
ZONING TABLE

Existing & Proposed Dimensional Parameters for the Redevelopment of the Subject Premises

VILLAGE OF HASTINGS-ON-HUDSON ZONING TABLE 1 S. BROADWAY: ZONING DISTRICT					
ITEM	**SCHOOL**			**STUDIO**	
	REQUIRED[1]	**CURRENT**	**PROPOSED**	**PETITION**	**PROPOSED**
Min. Lot Area	3 Acres + 1 Acre per 100 Pupils	23.97 acres	6.69 acres	10 acres	17.28 acres
Min. Lot Width	150 ft	791 ft	203 ft	150 ft	655 ft
Max Building Height	35 ft	62 ft (Existing non-conforming)	62 ft (Existing non-conforming)	55 Ft	55 ft
Max. Building Coverage	15%	13%	13%	35%	24%
Max. Impervious Coverage	40%	35%	37%	40%	39%
Min. Front Yard	150 ft	48 ft (Existing non-conforming)	48 ft (Existing non-conforming)	150 ft	150 ft
Min. Side Yard	50 ft	0 ft (Existing non-conforming)	0 ft (Existing non-conforming)	50 ft	50 ft[2]
Min. Rear Yard	50 ft	50 ft	50 ft	50 ft	50 ft
Car Parking Spaces	1 space/employee + 1 space / 12 pupils (225 required)	135	232	For Multimedia Production Studio space: 1 parking space/1,000 square feet of gross floor area; and for a free-standing building devoted exclusively to office use: 1 parking space/250 square feet of GFA. (330 required)[3]	331

[1] Combines R-20 and Gateway Cluster Overlay District

[2] Generally, the design for the Subject Premises also includes a 50-foot side yard setback (other than the Broadway frontage, which has a 150-foot setback). However, one area on the south side of the Subject Premises is unable to comply with that 50-foot side yard setback given the configuration of the interior access road and the need to provide adjacent space for trucks to access one of the studio buildings. The setback at that location is 30-feet, but it adjoins a heavily wooded downhill slope situated northerly of Dudley Street where there are no residential or other buildings neighboring it. Thus, the topography and screening should mitigate the reduced setback in this limited area.

[3] Total gross floor area (GFA) in existing free-standing buildings to remain will not be dedicated exclusively to office. Portions of the GFA will be storage and/or cafeteria, which are redundant uses on the campus, whereby new parking spaces are not required for that portion.

5474604.v2

PARKING COUNT

STUDIO:
FOR MULTIMEDIA PRODUCTION STUDIO SPACE: 1 PARKING SPACE/1,000 SQUARE FEET OF GROSS FLOOR AREA; AND FOR A FREE-STANDING BUILDING DEVOTED EXCLUSIVELY TO OFFICE USE: 1 PARKING SPACE/250 SQUARE FEET OF GFA. (330 REQUIRED)

OFFICE USE G.F.A.:	36,967 SF
STUDIO USE G.F.A.:	182,000 SF
REQUIRED PARKING FOR OFFICE USE: 36,967/250	148 STALLS
REQUIRED PARKING FOR STUDIO USE: 182,000/1,000	182 STALLS
TOTAL STUDIO REQUIRED PARKING:	330 STALLS
PROPOSED SURFACE PARKING:	19 STALLS
PROPOSED PARKING DECK:	312 STALLS
TOTAL STUDIO PARKING:	331 STALLS

SCHOOL:
1 SPACE/EMPLOYEE + 1 SPACE / 12 PUPILS (225 REQUIRED)

EXISTING PARKING:	35 STALLS
PROPOSED SURFACE PARKING:	76 STALLS
PROPOSED PARKING DECK:	121 STALLS
TOTAL SCHOOL PARKING:	232 STALLS

LOT COVERAGE

LOT AREA:	23.97 AC (1,044,175 SF)
STUDIO:	17.28 AC (752,817 SF)
SCHOOL:	6.69 AC (291,358 SF)
EXISTING IMPERVIOUS AREA:	8.35 AC (363,792 SF)
PERCENTAGE OF TOTAL LOT AREA:	35%
SCHOOL PARCEL IMPERVIOUS AREA:	2.47 AC (107,743 SF)
IMPERVIOUS COVERAGE:	37%
BUILDING COVERAGE:	13%
STUDIO PARCEL IMPERVIOUS AREA:	6.75 AC (294,068 SF)
IMPERVIOUS COVERAGE:	39%
BUILDING COVERAGE:	24%
PROPOSED STUDIO GREEN ROOF:	1.04 AC (45,357 SF)
PROPOSED PERVIOUS PAVERS:	0.51 AC (22,076 SF)
PROPOSED PERVIOUS PAVEMENT:	0.47 AC (20,307 SF)

SETBACKS
FRONT: 150 FT
SIDE: 50 FT
REAR: 50 FT

Kimley»Horn

1 NORTH LEXINGTON AVENUE, SUITE 505
WHITE PLAINS, NY 10601
PHONE: 914-368-9200
WWW.KIMLEY-HORN.COM

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GREENWICH, CT 06830

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/14/23

DRAWING NO.:

ENTRY AT S. BROADWAY

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/14/23

DRAWING NO.:

NORTHEAST DRONE VIEW TOWARDS HUDSON

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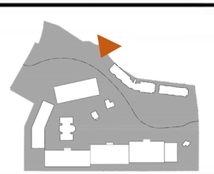
ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/14/23



DRAWING NO.:

PARKING STRUCTURE
SCHOOL ENTRANCE

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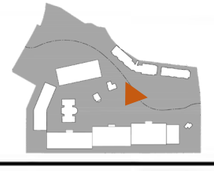
ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/14/23



DRAWING NO.:

VIEW OF STUDIOS ON CAMPUS

GRANOFF ARCHITECTS

330 RAILROAD AVENUE
GREENWICH, CT 06830

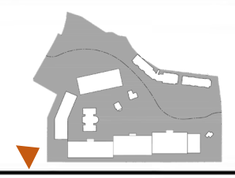
203.625.9460

WWW.GRANOFFARCHITECTS.COM

ELECTRIC OWL STUDIOS

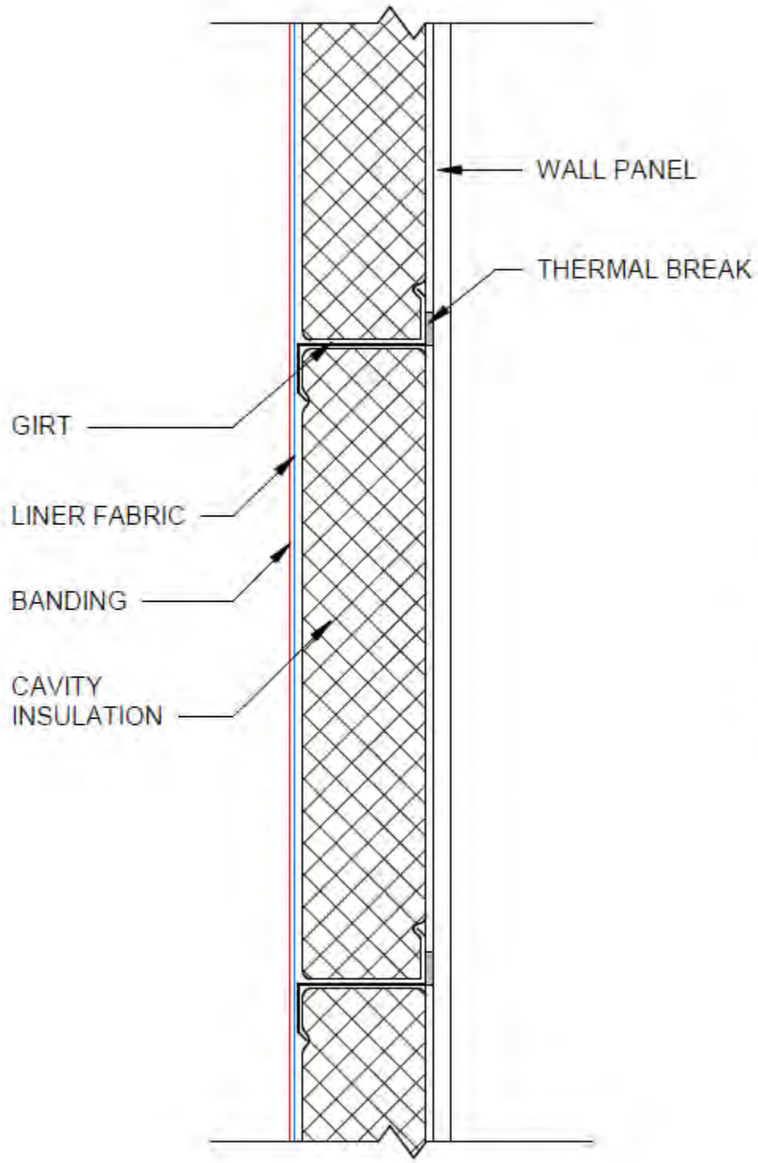
1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/14/23

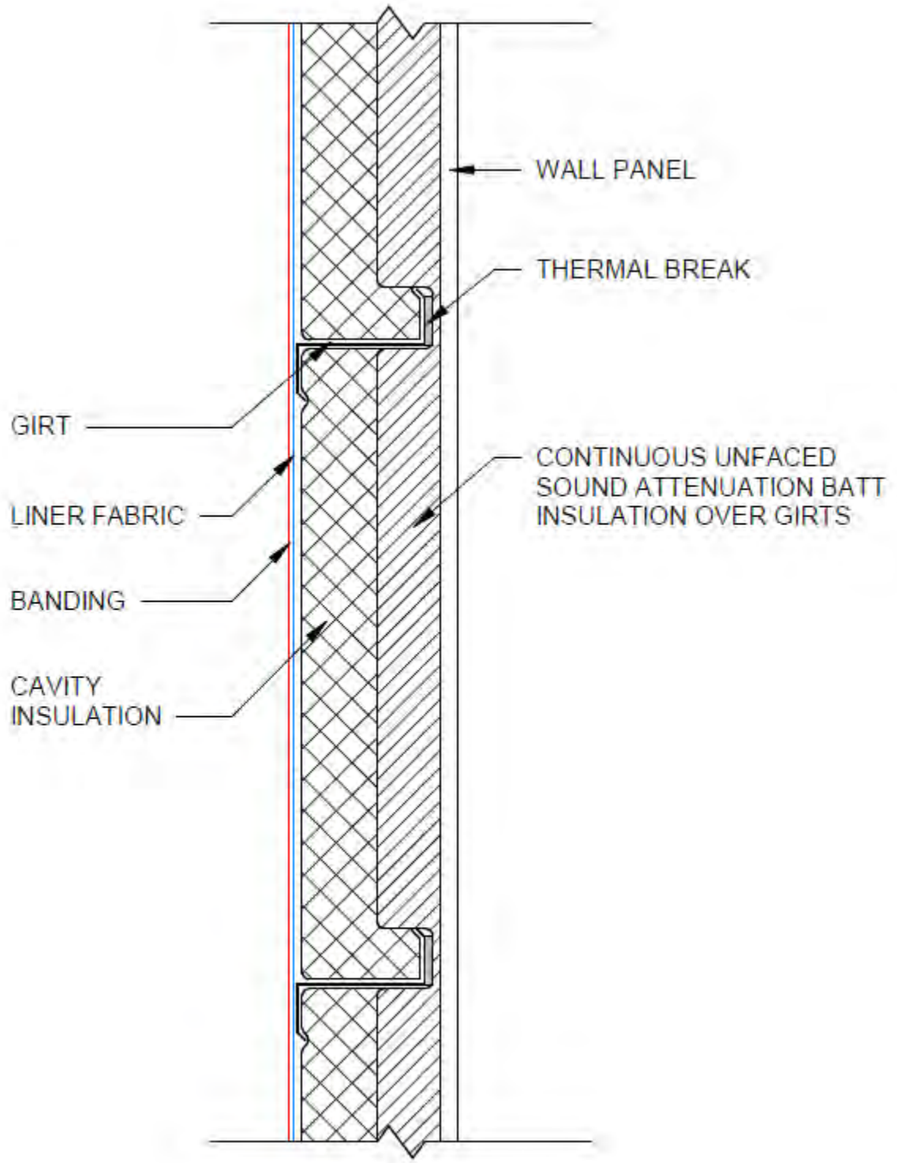


DRAWING NO.:

SOUTHWEST DRONE VIEW OF CAMPUS



ELECTRIC OWL STUDIOS ATLANTA
MILL SHOP WALL SECTION
SINGLE LAYER WALL SYSTEM



ELECTRIC OWL STUDIOS HASTINGS ON HUDSON
MILL SHOP WALL SECTION
DOUBLE LAYER WALL SYSTEM

GRIFFCO
1701 BARRETT LAKES BLVD.
SUITE 285
KENNESAW, GA 30144
PHONE: (770) 422-5420

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330 RAILROAD AVENUE
GREENWICH, CT 06830
203.625.9460
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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/14/23

DRAWING NO.:

PROPOSED WALL SECTION
COMPARISON TO ATLANTA

Exhibit B

EXHIBIT I
ZONING TABLE

Existing & Proposed Dimensional Parameters for the Redevelopment of the Subject Premises

VILLAGE OF HASTINGS-ON-HUDSON ZONING TABLE 1 S. BROADWAY: ZONING DISTRICT					
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[3] Total gross floor area (GFA) in existing free-standing buildings to remain will not be dedicated exclusively to office. Portions of the GFA will be storage and/or cafeteria, which are redundant uses on the campus, whereby new parking spaces are not required for that portion.

Revised Traffic Impact Study

Traffic Impact Study

Development of Electric Owl Studios

1 South Broadway
Village of Hastings-on-Hudson, NY

PREPARED FOR:

Capstone South Properties

Tower Place 200
3348 Peachtree Road, Suite 700
Atlanta, GA 30326

PREPARED BY:

Kimley-Horn Engineering and Landscape Architecture of New York, P.C.

1 North Lexington Avenue, Suite 505
White Plains, NY 10601
914.368.9200

April 2023
Project Number 112701000

Kimley»Horn
New York

TABLE OF CONTENTS

FIGURES

TABLES

APPENDIX

1.0 EXECUTIVE SUMMARY

This Traffic Impact Study has been prepared by Kimley-Horn Engineering and Landscape Architecture of New York, P.C. (Kimley-Horn) to document the potential traffic impacts associated with the proposed subdivision of the Graham School Campus property in order to develop new multi-media production studios, known as Electric Owl Studios ("the Project"). The Graham School Campus property is located along the west side of Broadway in the Village of Hastings-on-Hudson, Westchester County, New York. It is proposed to subdivide the school's campus and construct a new multi-media production studio. The production studio is to be developed on the southern side of the property. The existing school will remain in operation and operate exclusively on the northern part of the property. A new driveway will be constructed for the school on Broadway and the existing driveway will be modified to accommodate Project traffic. This traffic impact study evaluated existing and future traffic conditions surrounding the site both with and without the Project. The anticipated year of completion of the Project is 2027.

1.1 Project Description

The applicant, Capstone South Properties, is proposing to demolish several of the existing vacant buildings on the south side of the property, subdivide the school campus, develop a new zoning strategy, renovate four of the existing buildings for studio administration use, and construct a new multi-media production studio. The proposed production studios will renovate approximately 57,000 sf of the existing buildings to serve as office/administrative space for Electric Owl Studio operations. The project is also to construct approximately 182,000 sf of new buildings (consisting of approximately 123,000 sf of space in 3 sound-studios and approximately 59,000 sf of mill shop/warehouse space), bringing the total size of the studio to 239,000 sf. The Project will also provide a total of 528 parking spaces, 331 for the studio and 197 for the school, with 433 spaces shared in a new, 4-level parking structure. A further approximately 19 parallel parking spaces will be provided on the studio property and 76 parking spaces will be provided on the school property. The existing emergency access to the property that leads to Warburton Avenue will be widened to 20 feet and repaired but will be used only for emergency access purposes.

In terms of public access, the existing driveway will be relocated and reconfigured for the project's operations, with a 30'-wide driveway constructed approximately 80' to the north of its current location. For the schools' operations, a new driveway will be constructed, similar in size to the existing driveway, approximately 200' to the north of the existing driveway. These driveways are distinctly separate, as each is to service only the property that it is directly accessing[1].

This study evaluated the potential traffic impacts of the Project on the surrounding roadways.

[1] An internal connection will allow emergency access to both driveways from the Warburton Avenue emergency access driveway.

1.2 Study Methodology

The following nine (9) intersections were determined to have the greatest potential to be impacted by the proposed development and were studied in detail:

1. N Broadway and Executive Blvd (Signalized)
2. N Broadway and Andrus Center main driveway (Unsignalized)
3. N Broadway and Dudley Street (Unsignalized)
4. Broadway and Existing Graham School Driveway (Unsignalized)
5. Broadway and Tompkins Avenue (West) (Unsignalized)
6. Broadway and Tompkins Avenue (East) (Unsignalized)
7. Tompkins Avenue and James Street (Unsignalized)
8. High Street and James Street (Unsignalized)
9. Farragut Parkway and High Street (Unsignalized)

Trip arrival and departure distributions, which show how Project-generated trips will travel to and from the site, have been forecast by evaluating the existing traffic patterns, travel times, volumes on the area roadways, information provided by the applicant, and by analyzing on-street restrictions in the area. Separate arrival and departure patterns were calculated for passenger cars, and trucks.

In the future Build condition, the relocated Graham School Driveway and Broadway intersection will be analyzed and compared to the existing Graham School Driveway and Broadway intersection, despite being located 200’ to the north. The proposed Electric Owl Studios Driveway and Broadway intersection will also be analyzed.

1.3 Findings

While for most days of the year, there is expected to be very modest levels of traffic activity at studio (associated with pre- and post-production activities), during typically busy days, industry-based data indicates that the proposed studio will generate 81 trips during the weekday AM and PM peak hours of passing traffic on Broadway. These trip projections do not include any credits for trips that might be made by non-auto modes of travel and the Applicant is proposing a shuttle to and from the Hastings and/or Greystone train station (whichever works better for transit users to encourage transit use).

The analyses indicate that, with or without the Project, generally acceptable levels of service are projected to prevail in the study area and, except at the Site driveway, fewer than 1 vehicle per minute will be added by the Project to any roadway, on average, during the peak hours. Through the Uniontown section of the Village, the Project is anticipated to add slightly fewer than 1 vehicle every four minutes to any roadway.

Peak-hour observations conducted on High Street, James Street and Tompkins Avenue revealed that parked vehicles limit the capacity of the roadways and present obstacles for walking. Compliance with the left-turn restriction on High Street at James Street was enforced and effective, however, some level of legal cut-through traffic still exists in the neighborhood. There also appears to be some level of non-compliance with posted speed limits. Observations did indicate, however, that, with relatively low levels of traffic and pedestrian activity, past problems on these roadways have largely been resolved.

A review of five years of crash data revealed that the majority of the reported crashes in the area occurred to the south of the site on Broadway at its intersection with Executive Boulevard, and that the recent left-turn prohibition posted on High Street have almost halved the number of accidents reported in that neighborhood.

Although truck traffic will be infrequent, at most, it is conservatively estimated that there will be three trucks in 1 hour at the studio.

With the addition of Project traffic, increases in delay will generally be about a second or less and no significant changes in Level of Service will occur.

With the addition of Project traffic, increases in delay will generally be about a second or less and no significant changes in level of Service will occur.

At the Project driveway, there will be more than adequate capacity to accommodate entering and exiting traffic. Driveway conditions at the relocated Graham School driveway will be the same as the existing Graham School operations.

Sight distance and truck turning analyses were conducted, and, with the proper design of the driveways no issues will exist with the proposed construction of the Electric Owl Studios Driveway or the relocated Graham School Driveway.

1.4 Conclusions

Based on the analysis provided herein, it is concluded that traffic from the proposed redevelopment of the property will not have a significant adverse impact on the traffic conditions in the area. The Site driveways will have adequate capacity to accommodate Project traffic. The Project will also redesign the site driveway resulting in safer accessibility and greater sight distance.

2.0 INTRODUCTION

2.1 Project Description

This Traffic Impact Study has been prepared by Kimley-Horn to document the potential traffic impacts associated with the proposed subdivision of the Graham School Campus property in order to develop new multi-media production studios, known as Electric Owl Studios. The Graham School Campus property is located along the west side of Broadway in the Village of Hastings-on-Hudson, Westchester County, New York. This report evaluates existing and future traffic conditions surrounding the site both with and without the Project. The anticipated year of completion of this development is 2027.

The Project site is situated on the Village's southern boundary with the City of Yonkers and to the west of Broadway. It is located to the north of Lenoir Preserve, and to the east of the Old Croton Aqueduct. Existing vehicular and pedestrian access to the site is provided by Broadway which runs continuously from Manhattan in the south to Sleepy Hollow in the north. In the vicinity of the site, Broadway connects to Executive Boulevard in the south, and splits into separate northbound and southbound roadways to the north as illustrated in **Figure 1**. An emergency access driveway is provided from Warburton Avenue. The property is currently developed solely with a currently operating school, as well as some vacant buildings.

The applicant, Capstone South Properties, is proposing to demolish several of the existing vacant buildings on the south side of the property, subdivide the school campus, develop a new zoning strategy, renovate four of the existing buildings for studio administration use, and construct a new multi-media production studio. The production studio is to be developed on the southern side of the property. The existing school will remain in operation and operate exclusively on the northern part of the property. A new driveway will be constructed for the school on Broadway and the existing driveway will be modified to accommodate Project traffic. The existing emergency access to the property that leads to Warburton Avenue will be widened to 20 feet and repaired but will be used only for emergency access purposes.

The Applicant proposes to subdivide the property with the production studio to be developed on the southern side. The existing school will remain in operation and operate exclusively on the northern part of the property. Approximately 57,000 sf of the existing buildings on the property will be renovated to serve as office/administrative space for Electric Owl Studio operations. The project will also construct approximately 182,000 sf of new buildings (consisting of approximately 123,000 sf of space in 3 sound-studios and approximately 59,000 sf of mill shop/warehouse space), bringing the size of the entire studio to 239,000 sf. The Project will also provide a total of 528 parking spaces, 331 for the studio and 197 for the school, with 433 spaces shared in a new, 4-level parking structure. A further approximately 19 parallel parking spaces will be provided on the studio property and 76 parking spaces will be provided on the school

property. The existing emergency access to the property that leads to Warburton Avenue will be widened to 20 feet and repaired but will be used only for emergency access purposes.

In terms of access, the existing driveway will be relocated and reconfigured for the project's operations, with a 30' wide driveway is to be constructed approximately 80' to the north of the existing driveway location. This driveway will intersect with Broadway at a more right-angle, be significantly wider, and offer greater site distances than the existing driveway. This will allow much safer conditions in the area. For the school's operations, a new driveway will be constructed, similar in size to the existing driveway, approximately 200' to the north of the existing driveway. These driveways are distinctly separate, as each is to service only the property that it is directly accessing[2]. The sidewalk along Broadway will be extended from Dudley Street across the front of the property. All new facilities will comply with applicable ADA requirements.

2.2 Movie Studio Operations

As indicated in **Table 1** below, the Applicant is proposing to construct a 239,000 square foot (sf) movie production studio. More specifically, there will be three sound stages, mill shops and wardrobe totaling around 182,000 sf. The remaining 57,000 sf, inside the renovated spaces, will service as office space.

Table 1 - Development Program

Component	Size (sf)
Sound Stages	123,000
Office	57,000
Warehouse/Mill	59,000
Development Total	**239,000**

For a TV show or feature film, the average length of production time is 6 months with production activities typically occurring on weekdays only. Employees will generally arrive before 9:00 AM, stay onsite for the day and then depart after 6:00 PM. Deliveries to the studio will be by box truck or WB-50 tractor trailers, which the operator has indicated to be the largest vehicles used on a regular basis. For the average 6-month production schedule, larger-truck deliveries will occur only in months 3 through 5, with up to three (3) tractor trailers that will remain onsite for most of the filming time, with equipment used in the process. Box trucks will be used for typical delivery items and will not be kept onsite, but will instead arrive, drop off their deliveries, and depart.

[2] An internal connection will allow emergency access to both driveways from the Warburton Avenue emergency access driveway.

Although it is only possible to generalize (as each project is unique), it is expected that four (4) good-sized productions will occur on the studio lot in the course of each year (each requiring the use of all three stages). Incoming and outgoing shows will be staggered and rarely have the same move in and move out dates. On balance, with an average of 4 productions on the lot each year, actual filming will occur 4 out of 12 months, on average.

2.3 Study Intersections

The following nine (9) intersections were determined to have the greatest potential to be impacted by the proposed development and were studied in detail (shown on **Figure 1**):

1. N Broadway and Executive Blvd (Signalized)
2. N Broadway and Andrus Center Main Driveway (Unsignalized)
3. N Broadway and Dudley Street (Unsignalized)
4. Broadway and Existing Graham School Driveway (Unsignalized)
5. Broadway and Tompkins Avenue (West) (Unsignalized)
6. Broadway and Tompkins Avenue (East) (Unsignalized)
7. Tompkins Avenue and James Street (Unsignalized)
8. High Street and James Street (Unsignalized)
9. Farragut Parkway and High Street (Unsignalized)

In the future Build condition, the relocated Graham School Driveway and Broadway intersection will be analyzed and compared to the existing Graham School Driveway and Broadway intersection, despite being located 200’ to the north. The proposed Electric Owl Studios Driveway and Broadway intersection will also be analyzed.

Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson, New York	Site Location	Figure 1

3.0 EXISTING CONDITIONS

3.1 Roadway Network

Evaluation of the traffic impacts associated with the proposed Project requires a thorough understanding of the existing roadway system in the vicinity of the site. The existing conditions observed in the study area include an inventory of the roadways, speed limits, intersection geometry, traffic control devices, pavement condition and markings. This information is provided below.

Broadway (US Route 9) is a state highway that is classified by NYSDOT as an Urban Principal Arterial and travels in a generally north/south direction from New York City in the south, through the City of Yonkers, and continuing northward to Champlain, NY. Within the study area, Broadway has a pavement width of 40 feet with two travel lanes per direction. Turning lanes are provided at the study intersection with Executive Boulevard. The pavement is in generally fair to good condition and parking is not permitted along either side of the road. Sidewalks are provided on west side of the roadway areas far north as Dudley Street. Broadway is under the jurisdiction of the City of Yonkers and the State of New York and has a posted speed limit of 30 mph. NYSDOT reports a 2017 AADT of 6,026 vehicles at the nearest count station located approximately 0.6 miles north of the Graham School Driveway.

Executive Boulevard is classified by NYSDOT as an Urban Principal Arterial roadway and travels in a generally east/west direction from Broadway in the west to the Saw Mill River Parkway in the east. Executive Boulevard has a pavement width of 44 to 45 feet and provides one travel lane in each direction. Additional turning lanes are provided at the study intersection along Executive Boulevard. The pavement is in generally fair to good condition. Parking is not permitted on either side of the roadway. Sidewalks are provided along the southern side of the roadway between Broadway and Nepperhan Avenue and along the north side of the roadway between Broadway and Executive Plaza. Executive Boulevard is under the jurisdiction of the City of Yonkers and has a posted speed limit of 30 mph. According to the NYSDOT, the 2019 AADT on Executive Boulevard between Enterprise Boulevard and Truman Avenue is 22,878 vehicles.

Dudley Street is classified by NYSDOT as an Urban Local roadway and travels in an east/west direction from Broadway in the east to a dead end in the west. Dudley Street has a pavement width of 22 feet and provides one travel lane in each direction. The pavement is in generally fair condition. Parking is not permitted on either side of the roadway. Sidewalks are not provided along either side of the roadway. Dudley Street is under the jurisdiction of the City of Yonkers and has no posted speed limit. It is assumed that the city speed limit of 30 mph applies.

Tompkins Avenue is classified by NYSDOT as an Urban Minor Arterial roadway and travels in a generally east/west direction from Broadway in the west to just east of Nepperhan Avenue. Within the study area, Tompkins Avenue has a pavement width of 30 feet and provides one travel lane in each direction. The pavement, for the most part, is in fair condition. Near the street's intersection with

James Street, the pavement on the northbound approach is very poor. Parking is not permitted anywhere on the southern side of the roadway. It is permitted along the northern side of the roadway, to the west of James Street. Sidewalks are not provided along either side of the roadway. Tompkins Avenue is under the jurisdiction of the Village of Hastings-on-Hudson and has a posted speed limit of 25 mph, to the west of James Street. To the east of James Street, Tompkins Avenue is under the jurisdiction of the City of Yonkers and has a posted speed limit of 30 mph. According to the NYSDOT, the 2018 AADT on Tompkins Avenue between Broadway and James Street is 3,307 vehicles.

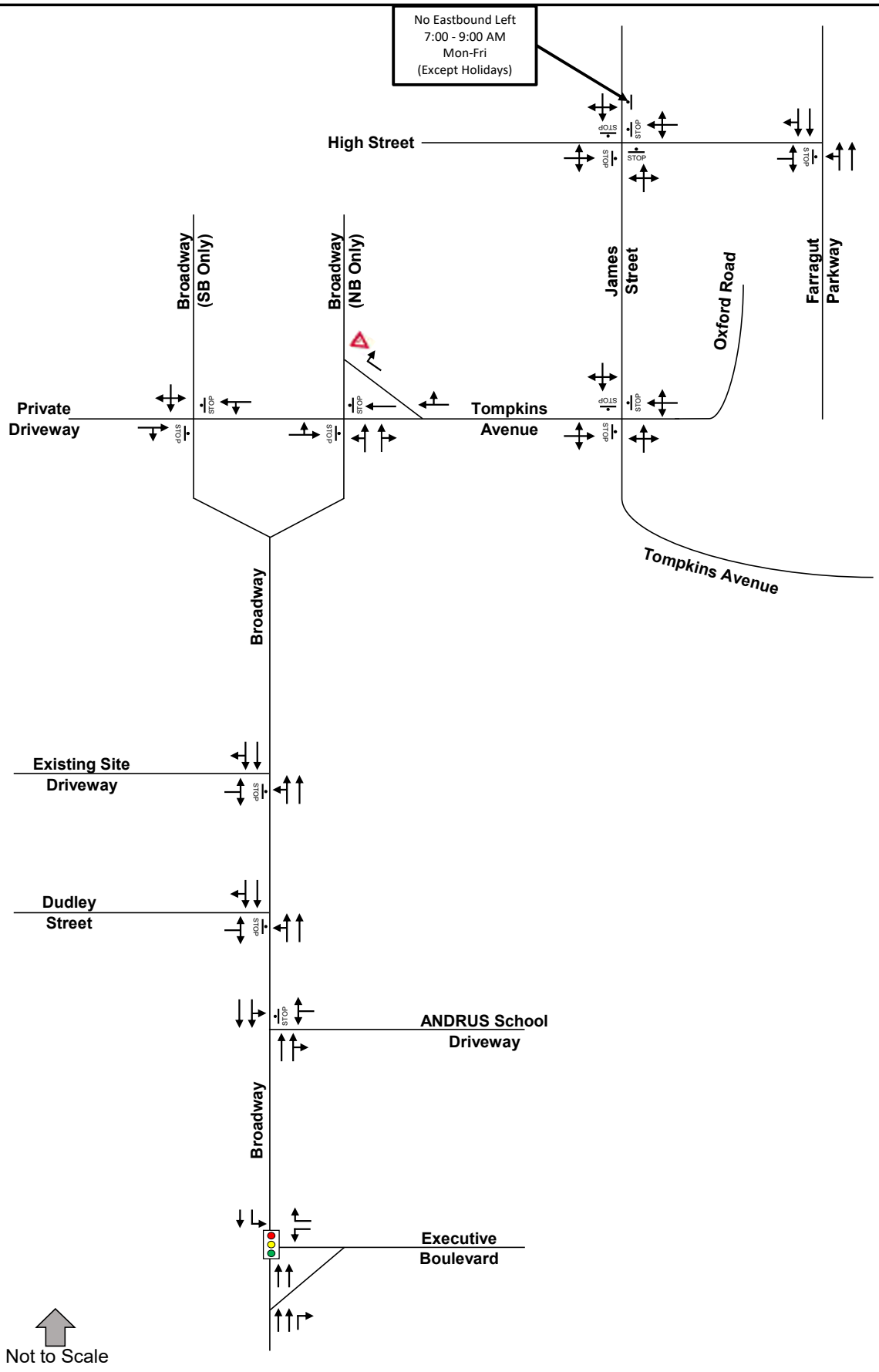
James Street is classified by NYSDOT as an Urban Local roadway and travels in a north/south direction from Tompkins Avenue in the south to a dead end in the north, just past High Street. James Street has a pavement width of 20 feet and provides one travel lane in each direction. The pavement is in generally fair condition. Parking is permitted on either side of the roadway, except on the east side at the north end of the street before High Street. Sidewalks are not provided along either side of the roadway. James Street is under the jurisdiction of the Village of Hastings-on-Hudson and has a posted speed limit of 25 mph.

High Street is classified by NYSDOT as an Urban Local roadway and travels in an east/west direction from Old Broadway in the west to Farragut Parkway in the east. High Street has a pavement width of 24-26 feet and provides one travel lane in each direction. The pavement is in generally fair condition. Parking is permitted on either side of the roadway, in certain stretches away from intersections or residential driveways. Sidewalks are not provided along either side of the roadway. High Street is under the jurisdiction of the Village of Hastings-on-Hudson and has a posted speed limit of 25 mph.

Farragut Parkway is classified by NYSDOT as an Urban Minor Arterial roadway and travels in a generally southeast/northwest direction from Broadway in the north to the Saw Mill River Parkway in the south. Within the study area, Farragut Parkway has a pavement width of 40 feet and provides two travel lanes in each direction. The pavement is in good condition. Parking is not permitted on either side of the roadway. Sidewalks are not provided along either side of the roadway within the vicinity of the study area. Farragut Parkway is under the jurisdiction of the Westchester County DOT and has a posted speed limit of 35 mph. According to the NYSDOT, the 2019 AADT on Farragut Parkway from High Street to the Saw Mill River Parkway is 5,534 vehicles.

3.2 Description of Study Intersections

The following provides a description of the intersection geometry and traffic controls at each of the 9 study intersections. This information is also provided graphically on **Figure 2.**



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Intersection Geometry	Figure 2

Broadway and Executive Boulevard - Executive Boulevard forms the westbound approach to this signalized "T" intersection with Broadway and provides separate left- and right-turn lanes. Broadway provides two through lanes and a channelized right-turn lane northbound, and a left-turn lane and a through lane southbound. The intersection is controlled by a three-phase traffic signal with the southbound approach provided a lead phase for the left and through movements. Sidewalks are provided on both sides of both roadways with a crosswalk provided across Executive Boulevard and the north leg of Broadway. Pedestrian push buttons with countdown timers are provided at each crosswalk.

N Broadway and ANDRUS School Driveway – The ANDRUS School main driveway forms the westbound approach to this unsignalized "T" intersection with Broadway and provides one shared left/right-turn lane. The intersection is controlled by a stop sign at the driveway's exit. Broadway provides one through-only and one shared through-right lane on the northbound approach. On the southbound approach, one through-only and one shared left-through lane are provided. Sidewalks are provided the west side of Broadway. It is worth noting that there is a second ANDRUS school driveway, approximately 1,300' north, however this was not analyzed as it is only used for emergencies.

Broadway and Dudley Street – Dudley Street forms the eastbound approach to this unsignalized "T" intersection with Broadway and provides one shared left/right-turn lane. The intersection is controlled by a stop sign at the driveway's exit. Broadway provides one through-only and one shared left-through lane on the northbound approach. On the southbound approach, one through-only and one shared through-right lane is provided. Sidewalks are provided on the west side of Broadway south of Dudley Street. however do not continue north of Dudley Street.

Broadway and Graham School Driveway (Existing) – The Graham School Driveway forms the eastbound approach to this unsignalized "T" intersection with Broadway and provides one shared left/right-turn lane. The intersection is controlled by a stop sign at the driveway's exit. Broadway provides one through-only and one shared left-through on the northbound approach. On the southbound approach, one through-only and one shared through-right lane is provided. Sidewalks are not provided at this intersection, on any approach.

Broadway and Tompkins Avenue – Near the point where Broadway intersects with Tompkins Avenue, it bifurcates. The west side permits southbound only travelers, while the east side permits northbound travelers only. These sides eventually meet and are no longer divided, near Burnside Drive to the north. In between Tompkins Avenue is the Andrus senior care community. For the purpose of analysis, each side of Broadway's intersection with Tompkins Avenue was analyzed independently of the other, and are described below:

- ***Broadway and Tompkins Avenue (West) –*** Tompkins Avenue forms the westbound approach to this unsignalized intersection with Broadway and provides one shared left-through lane. Opposite of Tompkins, is a private driveway from a Chapel. This approach provides one shared through-right lane. Both of these approaches are controlled by stop signs. Southbound Broadway intersects

these two approaches and provides one shared left-through-right lane. As mentioned previously, there is no northbound approach at this intersection. Sidewalks are not provided at this intersection, on any approach.

- ***Broadway and Tompkins Avenue (East) -*** Tompkins Avenue forms the eastbound and westbound approach to this unsignalized intersection with Broadway. The eastbound approach provides one shared left-through lane. The westbound approach provides one through-only lane and one channelized right-turn-only lane. Both of these approaches are controlled by stop signs. Northbound Broadway intersects these two approaches and provides one shared left-through lane and one shared through-right lane. There is no southbound approach at this intersection. Sidewalks are not provided at this intersection, on any approach.

Tompkins Avenue and James Street/Oxford Road - James Street forms the southbound approach to this uniquely unsignalized four-way intersection with Tompkins Avenue and Oxford Road. Each approach provides one shared left-through-right lane. This intersection is unique as stop signs control 3 of the 4 approaches. The eastbound Tompkins, westbound Oxford Street, and southbound James Street approaches are all controlled by stop signs. Northbound Tompkins is uncontrolled. Sidewalks are not provided at this intersection, on any approach.

High Street and James Street – James Street forms the north and southbound approach to this unsignalized all-way stop intersection with High Street. Each approach provides one shared left-through-right lane and is controlled by a stop sign. The westbound left-turn movement along High Street is not permitted during AM Peak Hours (7:00 – 9:00 AM on Monday-Friday, excluding holidays). Sidewalks are provided on the southeast and northeast sides of High Street. A striped crosswalk connects the sidewalks.

Farragut Parkway and High Street – High Street forms the eastbound approach to this unsignalized “T” intersection with Farragut Parkway and provides one shared left/right-turn lane. The intersection is controlled by a single stop sign on High Street. Farragut Parkway provides one through-only and one shared left-through on the northbound approach. On the southbound approach, one through-only and one shared through-right lane is provided. Sidewalks are not provided at this intersection, on any approach.

3.3 Public Transportation

The nearest of the two Metro-North Railroad stations in the vicinity of the Project Site is the Greystone Station, located 1.2 miles southwest of the project site. The station is on the Hudson Line, which provides frequent daily rail service between Poughkeepsie and Grand Central Station in Manhattan. Vehicular access to the train station is available via the east side of the station. A pedestrian overpass is available to access the northbound and southbound platforms of the rail line. On a weekday, there are currently 65 trains that stop in Greystone (33 northbound trains and 32 southbound trains). On both Saturdays and Sundays, there are 42 trains that stop in Greystone (21 northbound and 21 southbound).

The other Metro-North Railroad station in the vicinity of the Project Site is the Hastings-on-Hudson ("Hastings") Station, located 1.6 miles northwest of the project site. This station is also on the Hudson Line. Vehicle and Pedestrian access to the train station and the northbound and southbound platforms is available from both sides of the rail line. A pedestrian overpass is also available at this station. On a weekday, there are currently 81 trains that stop in Hastings (41 northbound trains and 40 southbound trains). On both Saturdays and Sundays, there are 42 trains that stop in Hastings (21 northbound and 21 southbound).

Bus service is provided along Broadway by Westchester County's Bee-Line bus system. The Bee-Line system operates one bus route along Broadway (in the vicinity of the site) providing frequent service between Broadway and various locations, in Westchester County. This route, Beeline Route 6, originates in Yonkers at the Metro-North Yonkers Station, travels north through Broadway, past the site, then makes quick stops in Hastings, Dobbs Ferry, and Ardsley. Route 6 then makes many stops in White Plains, before heading north through Valhalla, Thornwood and eventually stopping at the Metro North Pleasantville Station, before reversing and traveling southbound through the same route. From Monday through Friday, 37 northbound buses and 36 southbound buses on this line passes the study area daily. On Saturdays, Route 6 operates with 23 northbound buses and 22 southbound buses. On Sundays, Route 6 operates with 6 northbound buses and 6 southbound buses. Direct connecting service to Metro North trains and other Bee-Line bus routes are available at the Yonkers, Hastings, Dobbs Ferry, White Plains, North White Plains, Valhalla, and Pleasantville train stations. The nearest stop on Route 6 is directly in front of the Graham School Driveway, located at the southwest corner of the intersection of the driveway and Broadway.

Additional bus service is provided nearby by Westchester County's Bee-Line bus system with many routes stopping at the Boyce Thompson Center and South Westchester Executive Park, approximately 0.5 miles south of the project site. The Bee-Line system operates three additional bus route that provide service to and from this area. A description of these routes, and the areas that they serve is below:

- Route 2 (Local) – This line originates at W 242nd Street in the Bronx, and runs north-south through Getty Square, and Tudor Woods. The last stop on this line is at South Westchester Executive Park before the bus reverses and travels southbound.
- Route 6 (Part-Time) – Route 2 (Local) – This line is a part-time running line that provides peak hour access to the South Westchester Executive Park. Similar to Route 6, this line originates at the Yonkers Metro-North Station, however, only travels to the park, before turning around. This bus runs 6 times northbound in the AM peak hour, and 6 times southbound in the PM peak hour, serving to commuters of the executive park.
- Route 9 (Local) - This line originates at the Yonkers Metro North Station and runs locally through Yonkers. It runs north to Broadway, the east along Executive Boulevard, and south on Nepperhan Avenue. This line services various areas through Yonkers including City Hall, Woodstock Manor, Untermeyer Park, and many others.

Sidewalk access is provided to these bus stops at the Boyce Thompson Center all the way to Dudley Street, with a pedestrian sidewalk running along the west side of Broadway, near the project site.

3.4 Traffic Data Collection

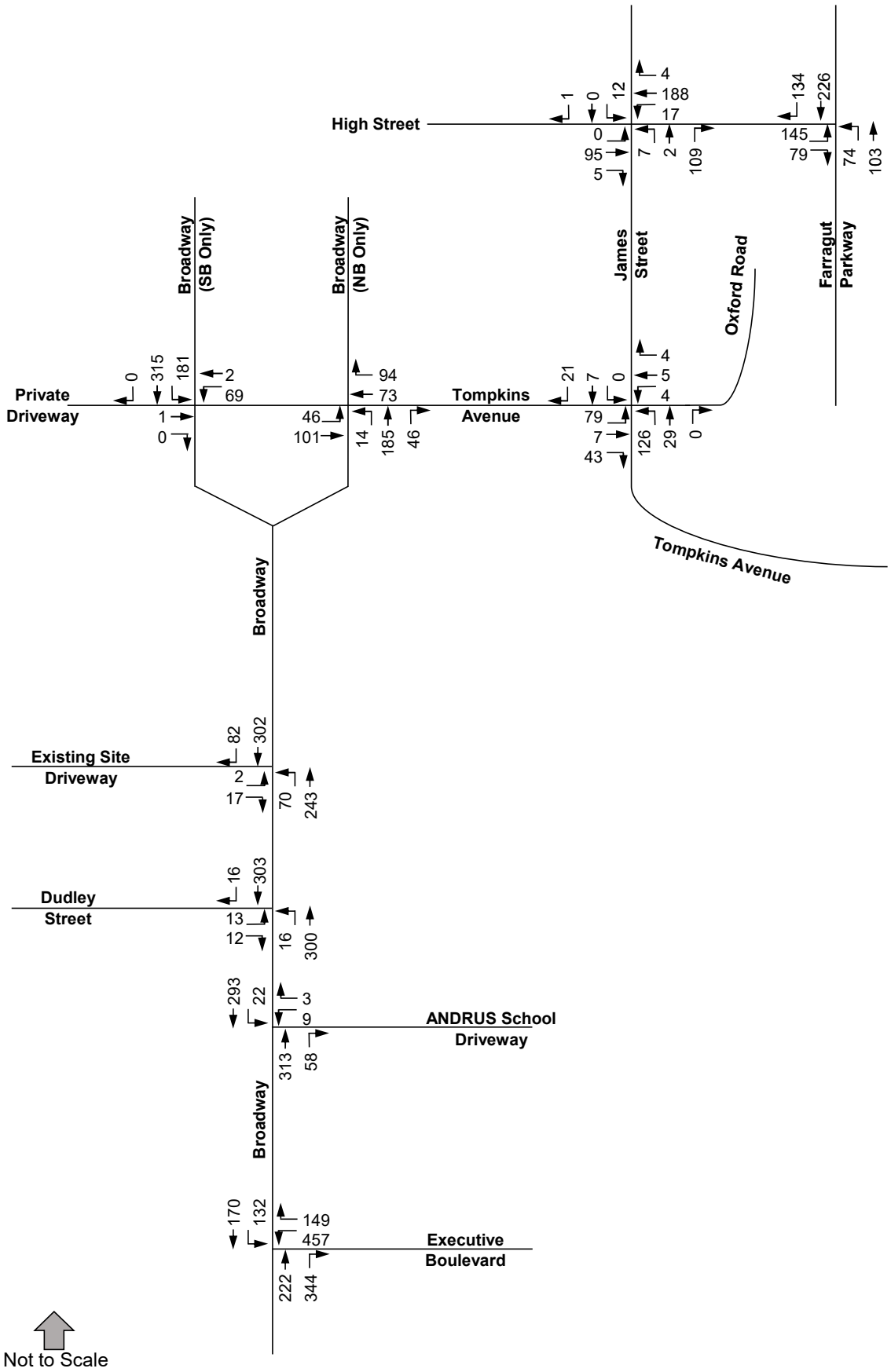
To assess existing traffic conditions, turning movement and pedestrian counts were conducted at the study intersections on Thursday, March 9, 2023, during the weekday morning commuter period (7:15 to 9:15 AM) and the weekday evening school period (2:30 to 5:00 PM). An initial due diligence traffic memo was conducted in September 2022 and used to determine our count hours. During the brief September study, peak hours on Broadway were determined to be earlier in the afternoon, and thus the reasoning for the earlier than traditional traffic counts.

The counts were tabulated, and the following peak hours were identified for study.

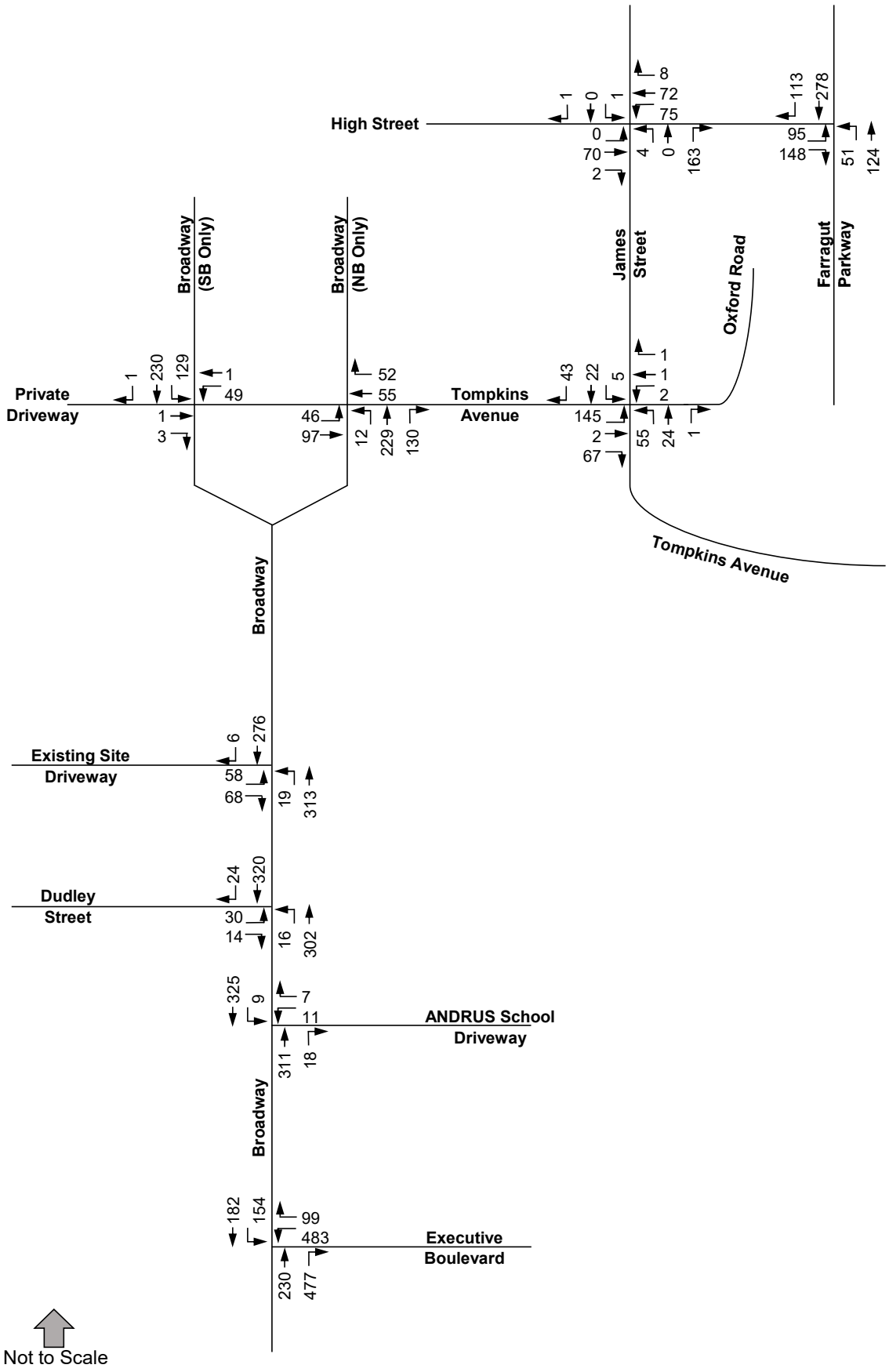
- Weekday AM Peak-Hour: 7:45 – 8:45 AM
- Weekday PM Peak-Hour: 2:45 – 3:45 PM

Where they overlapped, the 2022 and 2023 counts were compared, the higher volumes were used, and traffic volumes between intersections were balanced, where appropriate[3]. No seasonal adjustment was applied as these counts were taken in and September March 2023, months typically representative of average or higher traffic activity. Driveway counts at the Graham School were compared to the counts taken in September 2022 and it was determined that the counts in 2022 were to be used, as peak hour driveway volumes were higher. The existing counts were balanced (when logical), and the existing peak-hour traffic volumes for the weekday AM and PM peak hours are provided on **Figures 3 and 4**.

[3] For example, counts between the ANDRUS school driveway intersection and Dudley Street intersection were balanced as there are no roadways in-between the intersections. Counts were not balanced, for example, in between the intersection of James Street and Tompkins Avenue and the intersection of James Street and High Street.



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Existing Traffic Volumes AM Peak Hour	Figure 3

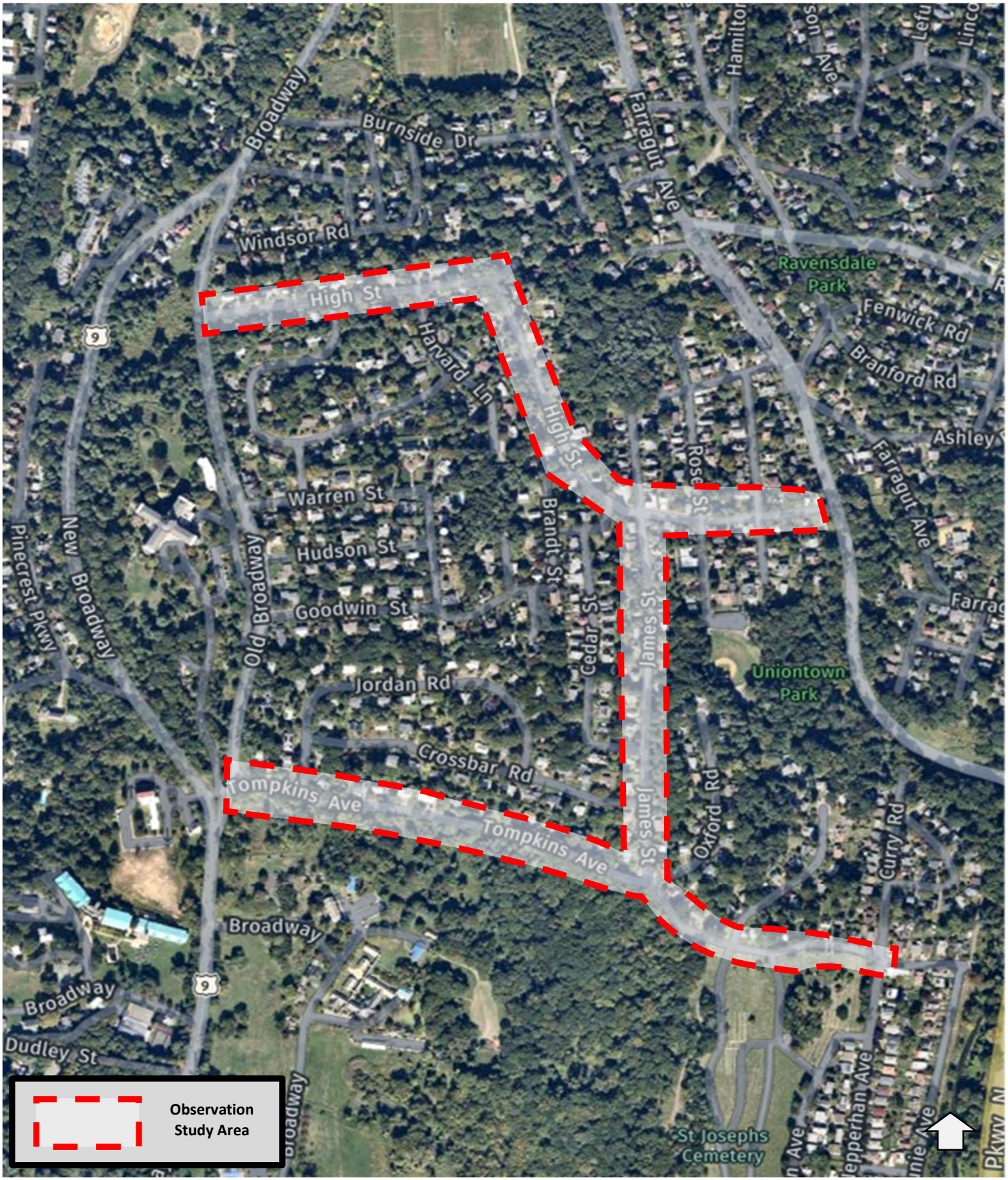


Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Existing Traffic Volumes PM Peak Hour	Figure 4

3.5 High Street, James Street & Tompkins Avenue Traffic Observations

The Saw Mill River Parkway is a highly traveled urban principal arterial expressway that provides access throughout Westchester County, originating in Katonah and traveling through Yonkers before ending in the Bronx. This roadway is heavily congested during the AM and PM peak hours, as many commuters use it to travel, primarily southbound, to work. As a result of this congestion in the peak hours, commuters traveling to/from Yonkers have, in the past, exited the parkway early, and instead, traveled on residential roadways through the Village of Hastings-on-Hudson and City of Yonkers to avoid congestion.

These trip diversions, in turn, resulted in congestion and frustration on the part of Hasting's Uniontown residents. To address the situation, the Village retained a traffic engineer to study the cause and extent of the issue, as well as to recommend measures to remedy it. To ensure that the Project will not have a similar effect on this section of the Village, Kimley-Horn conducted observations of traffic operating conditions during the morning and afternoon peak periods from 7:30 – 9:00 AM and from 3:15 – 4:45 PM on Thursday March 9th and Thursday March 30th, 2023. A map showing the area of traffic observations conducted can be found on **Figure 5.**



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Traffic Observation Area	Figure 5

Methodologies and recorded information include counting the number of parked vehicles on each roadway, observing traffic conditions, reporting pedestrian movements, and recording any observed potentially hazardous conditions. Observations recorded from each study period can be found below:

3.5.1 March 9th, 2023 - AM Peak Hour (7:30 – 9:00 AM)

Traffic observations began at 7:30 AM, and nine (9) cars were counted along James Street, three (3) on High Street (all parked on / some of curb), and three (3) on Tompkins Avenue. During the initial observations, vehicles looking to make a left-turn onto James Street, from High Street, are no longer permitted due to a sign restricting the movement at peak hours. It is also worth noting that a police officer was waiting on the dead-end High Street approach, looking to ticket motorists who did not obey the signage restriction. During the observation period, the officer issued a violation to one motorist who made the illegal movement.

A number of pedestrians, mostly children, along High and James Street were observed walking to school or their bus pick up locations. Pedestrians walked either on the grass (as sidewalks are not available on most roads) or on the sides of roads. An occasional vehicle was observed to be traveling at a what appeared to be a higher-than-permitted (25mph) rate of speed on James Street. With the narrow roadway and parked vehicles, when cars approach each other from opposite directions on James Street, vehicles were observed to pull over and sit behind a parked vehicle a number of times to let an opposing motorist pass.

It was observed that the westbound left-turn is restricted at three roadways off High Street: James, Cedar, and Warren. This is to prohibit any movement back towards Tompkins Avenue, and mandate travelers on High Street to travel westbound to Old Broadway, where they must travel north for a few hundred feet, before turning onto Broadway in order to travel southbound to Yonkers. During the observations, a considerable number of motorists entering High Street from Farragut Parkway were observed to be traveling through to Broadway.

In comparison to the 7:30 AM initial observations, observations at a lot calmer with less activity). During these observations, the police car was no longer in posted on James Street, but no left-turns onto James Street were observed.

3.5.2 March 9th, 2023 - PM Peak Hour (3:15 – 4:45 PM)

Traffic observations began at 3:15 PM, and six (6) cars were counted parked along James Street, two (2) on High Street (all parked on / some of curb), and three (3) on Tompkins Avenue. During this observation period, traffic was low, comparable to the 8:30 AM observation period, and some vehicles were observed to be traveling wat what appeared to be faster that the posted 25-mph limit. Pedestrians and children were

observed, some students walking home from school or the bus, and some adults walking on the roadways. At times, 4 to 7 were observed turning left onto James Street from Tompkins Avenue, one after the other, before heading up James Street and turning right onto High Street. These vehicles followed closely behind each other, forcing southbound motorists to wait in the parking pockets.

At 3:45 PM, a similar number of parked vehicles were counted: three (3) cars were counted along James Street, four (4) on High Street, and three (3) on Tompkins Avenue. Similar levels of pedestrian activity were recorded, but conditions were calmer. The waves, or groups of cars traveling northbound on James Street were no longer observed. The largest group of vehicles traveling northbound was three at a time.

At 4:30 PM, a similar number of cars were counted: two (3) cars were counted along James Street, four (4) on High Street, and three (3) on Tompkins Avenue. Almost no pedestrian activity was recorded, and there was a minimal level of traffic activity.

3.5.3 March 30th, 2023 - AM Peak Hour (7:30 – 9:00 AM)

Traffic observations began at 7:30 AM, when seven (7) cars were parked along the east side of High Street, west of James Street. During this initial observation, children were seen walking to their bus stops along the grass or sides of the roads. Compared to the investigations along High Street, east of James Street, conditions are better on this section of the road. Roads are wider, allowing parked vehicles to not block lanes entirely. Signage is prevalent and easily observable. Roads are far less steep allowing for an easier time for motorists to navigate this section of roadway. Along Tompkins Avenue, southeast of James Street, safe traffic conditions were observed. Pedestrians were not observed, and parked vehicles are prohibited. Vehicles were observed to travel at speeds faster that appeared to be faster than the posted 25-mph speed limit.

At 8:00 AM, six (6) parked cars were observed along the east side of High Street, west of James Street. During this observation period, groups of 3 to 4 cars were observed traveling through High Street to Old Broadway, however, lower numbers of children and pedestrians were observed. During this period, on Tompkins Avenue, similar conditions were observed to the 7:30 AM period. Again, some motorists appeared to be traveling at speeds greater than the 25-mph speed limit.

At 8:30 AM, four (4) parked cars were observed along the east side of High Street, west of James Street. During this observation period, lower amounts of traffic and pedestrians were observed on High Street. During this period, on Tompkins Avenue, similar conditions were observed to the other periods, albeit with lower traffic volumes.

3.5.4 March 30th, 2023 - PM Peak Hour (3:15 – 4:45 PM)

Traffic observations were again conducted beginning at 3:15 PM, when seven (7) cars were parked along the east side of High Street, west of James Street. During this initial observation, multiple school buses were seen driving along High Street and its neighboring roads. Children were seen exiting buses and walking along the grass or sides of roads to their homes. Every motorist followed the directions set by the stop indication on the bus. Along Tompkins Avenue, southeast of James Street, similar traffic conditions were observed in the PM peak hour compared to the AM peak hour. No pedestrians were observed, and parked vehicles are prohibited. Vehicles were observed to travel at speeds that appeared to be faster than the posted 25-mph speed limit, however, mainly now traveling in the opposite direction (towards Yonkers).

At 3:45 PM, 6 parked cars were observed along the east side of High Street, west of James Street. Closer to Broadway, along High Street, vehicles were now parked out-front of the residences. Pedestrians were also seen walking their dogs along these roads. Conditions on this stretch of High Street were not optimal, given the narrow width of the roadways, and pedestrians walking in the roadway. Closer to James Street, conditions were better with less parking and fewer pedestrians observed. . During this period, on Tompkins Avenue, similar conditions were observed to the 3:15 PM period.

At 4:15 PM and 4:30 PM, 5 parked cars were observed along the east side of High Street, west of James Street. During this observation, low amounts of traffic were observed traveling through High Street. Some of the parked vehicles along High Street had also departed. There were also lower levels of pedestrian traffic. During this period, on Tompkins Avenue, similar conditions were observed to the other periods.

3.5.5 Observation Takeaways

Takeaways from both set of traffic observations were as follows:

- Parked vehicles limit the capacity of the roadways and present obstacles for walking;
- Compliance with the left-turn restriction on High Street at James Street was enforced and effective;
- Some level of cut-through traffic still exists in the neighborhood and there appears to be some non-compliance with the posted speed limits;
- The observations indicate, however, that, with relatively low levels of traffic and pedestrian activity, past problems on these roadways have largely been resolved.

3.6 Crash Analysis

A crash history for the study intersections was obtained from the NYSDOT for the most recent five-year period (from January 1, 2018, through March 6th, 2023). As indicated in Table 2, a review of the data indicates that a total of 41 crashes occurred at the study intersections and 8 crashes occurred on roadway segments between intersections.

Table 2 - Crash Summary
1/1/2018 to 03/06/2023

Location	No. of Crashes	Severity		Crashes involving:	
		Injury	Fatalities	Pedestrians	Bicyclists
Crashes at Study Intersections					
Broadway and Executive Boulevard	22	12	0	0	0
Broadway and Andrus Driveway	0	0	0	0	0
Broadway and Dudley Street	0	0	0	0	0
Broadway and Graham School Driveway	0	0	0	0	0
Broadway and Tompkins Avenue	1	0	0	0	0
Tompkins Avenue and James Street/Oxford Road	2	1	0	0	0
James Street and Crossbar Road	1	1	0	1	0
High Street and James Street	1	0	0	0	0
High Street and Rose Street	2	0	0	0	0
High Street and Prince Street	1	1	0	0	0
Farragut Parkway and High Street	11	1	0	0	0
TOTAL at Intersections	41	16	0	1	0
Crashes between Intersections					
Broadway between Executive Boulevard and Graham School	4	2	0	0	0
Broadway between Graham School Driveway and Tompkins Avenue	2	0	0	0	0
Topkins Avenue between Broadway and James Street/Oxford Road	2	0	0	0	0
TOTAL between Intersections	**8**	**2**	**0**	**0**	**0**
TOTAL in Study Area	**49**	**18**	**0**	**1**	**0**

Of the intersection crashes, more than 75% occurred at two intersections. 22 crashes occurred at pr near the intersection of Broadway with Executive Boulevard, and 11 crashes occurred at or near the intersection of Farragut Parkway with High Street. The following intersections have had one or two intersections over the past 5 years:

- Broadway and Tompkins Avenue
- Tompkins Avenue and James Street
- James Street and Crossbar Road
- High Street and James Street
- High Street and Rose Street
- High Street and Prince Street

Along the roadway segments, four of the eight crashes occurred on Broadway in the approximately 0.4-mile segment between Executive Boulevard and the Graham School Driveway. Two crashes occurred on Broadway in the approximately 0.25-mile segment between Tompkins Avenue and the Graham School Driveway. Two crashes occurred on Tompkins Avenue between Broadway and James Street. It is worth nothing that, over the past 5 years, there have been no reported crashes at the intersection of the Graham School Driveway with Broadway.

The accident data reveals that there was a significant drop in the number of crashes in 2020 (88.5% fewer than the average for the other years, likely associated with significantly lower traffic volumes because of the pandemic). In addition, when the data from 2020 is excluded, it is noted that the number of crashes in the Uniontown neighborhood has fallen by 47% since the implementation of the traffic calming measures on High Street (AM peak-period turn restrictions) late in 2021.

As indicated in **Table 3**, injuries occurred in 16 of the 41 intersection crashes and 2 of the 8 roadway-segment crashes. There was one crash which involved a pedestrian (at the intersection of James Road and Crossbar Road in June of 2021), 4 were single-vehicle, fixed-object crashes and 13 involved more than one motor vehicle. None of the crashes resulted in any fatalities.

Of the injury crashes, 9 occurred at the intersection of Broadway with Executive Boulevard, 3 occurred on Executive Boulevard, 2 occurred on Broadway and 4 occurred in the Uniontown neighborhood (one each on James Street, Tompkins Avenue, High Street and Farragut Parkway). Depending on the precise date of the installation of the turn-restriction signs on High Street, it would appear that none of these four crashes occurred after the signs were installed.

Table 3 - Crash Severity 1/1/2018 to 03/06/2023					
Location	**No. of Crashes**	**Severity**		**Crashes involving:**	
		Injury	**Fatalities**	**Pedestrians**	**Bicyclists**
Crashes at Study Intersections					
Broadway and Executive Boulevard	22	12	0	0	0
Broadway and Andrus Driveway	0	0	0	0	0
Broadway and Dudley Street	0	0	0	0	0
Broadway and Graham School Driveway	0	0	0	0	0
Broadway and Tompkins Avenue	1	0	0	0	0
Tompkins Avenue and James Street/Oxford Road[2]	2	1	0	0	0
James Street and Crossbar Road	1	1	0	1	0
High Street and James Street	1	0	0	0	0
High Street and Rose Street	2	0	0	0	0
High Street and Prince Street	1	1	0	0	0
Farragut Parkway and High Street	11	1	0	0	0
TOTAL at Intersections	41	16	0	1	0
Crashes between Intersections					
Broadway between Executive Boulevard and Graham School	4	2	0	0	0
Broadway between Graham School Driveway and Tompkins Avenue	2	0	0	0	0
Tompkins Avenue between Broadway and James Street/Oxford Road	2	0	0	0	0
TOTAL between Intersections	**8**	**2**	**0**	**0**	**0**
TOTAL in Study Area	**49**	**18**	**0**	**1**	**0**

Tables indicating a breakdown of the accident types and apparent contributing factors are included in the appendix. The leading crash types were Fixed Object (12), Rear-end (11) and Right Angle (10), there was only a single accident reported that involved a pedestrian and no accidents reported that involved a cyclist.

The leading crash-contributing factors were driver inattention (9), failure to Yield right of way (5) and slippery pavement (5). Unsafe speed was listed as a cause in only 2 of the accidents and road rage as a factor in only 1. Other crashes included contributing factors such as: driverless vehicles, backing unsafely, sleepiness, following too closely.

4.0 FUTURE NO-BUILD CONDITIONS

The future No-Build conditions are the forecast traffic conditions that are expected to occur without the proposed development in the year 2027. This includes background traffic growth and traffic associated with any other known planned/approved developments, as described below.

4.1 Background Traffic Growth

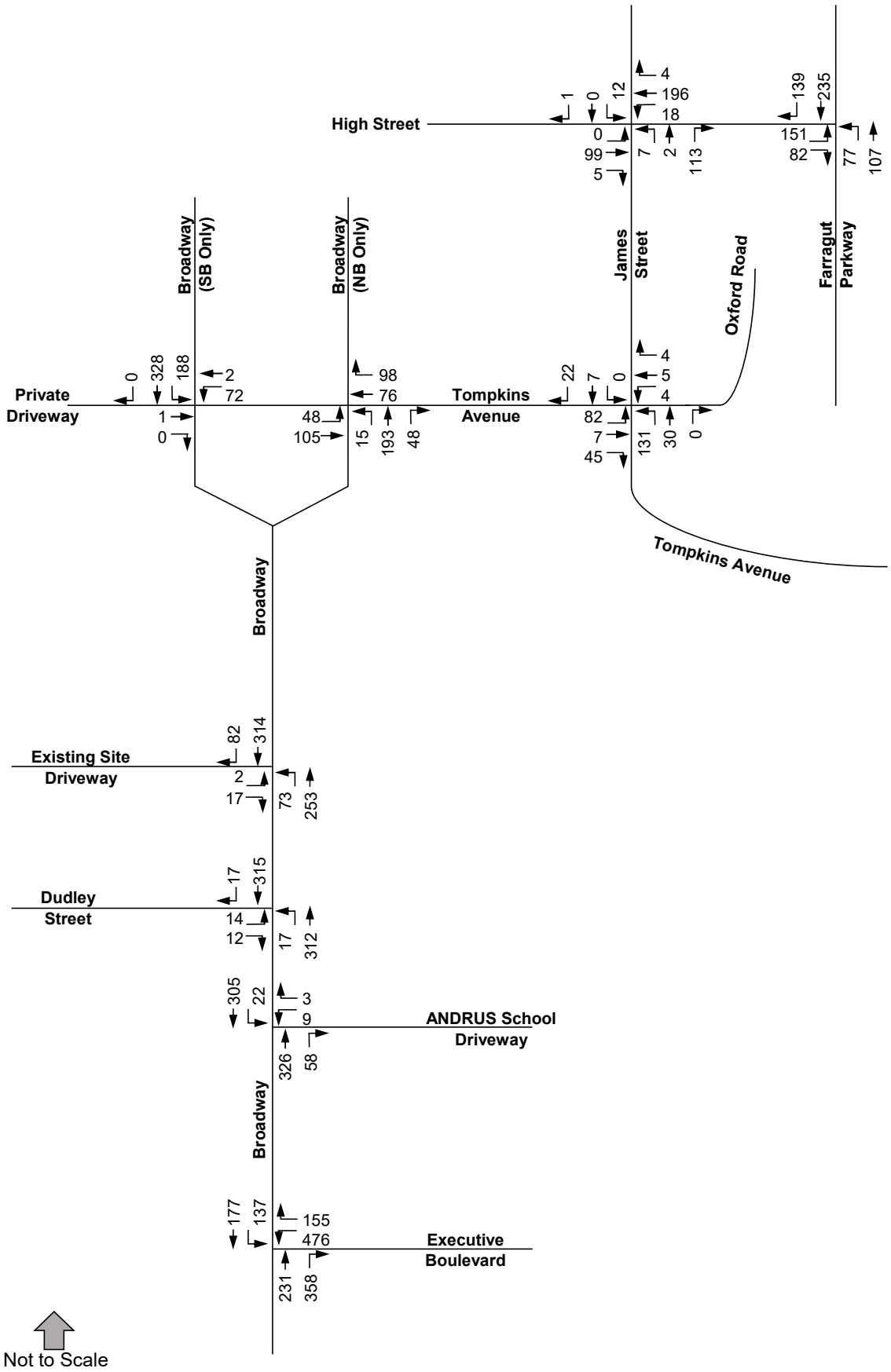
Background traffic growth represents typical traffic growth not associated with any planned development. Growth rate information obtained from the NYSDOT indicated an annual growth rate of 0.57% for roads in Westchester County. A growth factor of 1.0% was applied to the adjusted-existing volumes to represent background growth in the Year 2027 (1.041% total), when the Project is anticipated to be completed. The grown traffic volumes are shown on **Figures 6 & 7,** for the weekday AM and weekday PM peak hours.

4.2 Vicinity Developments

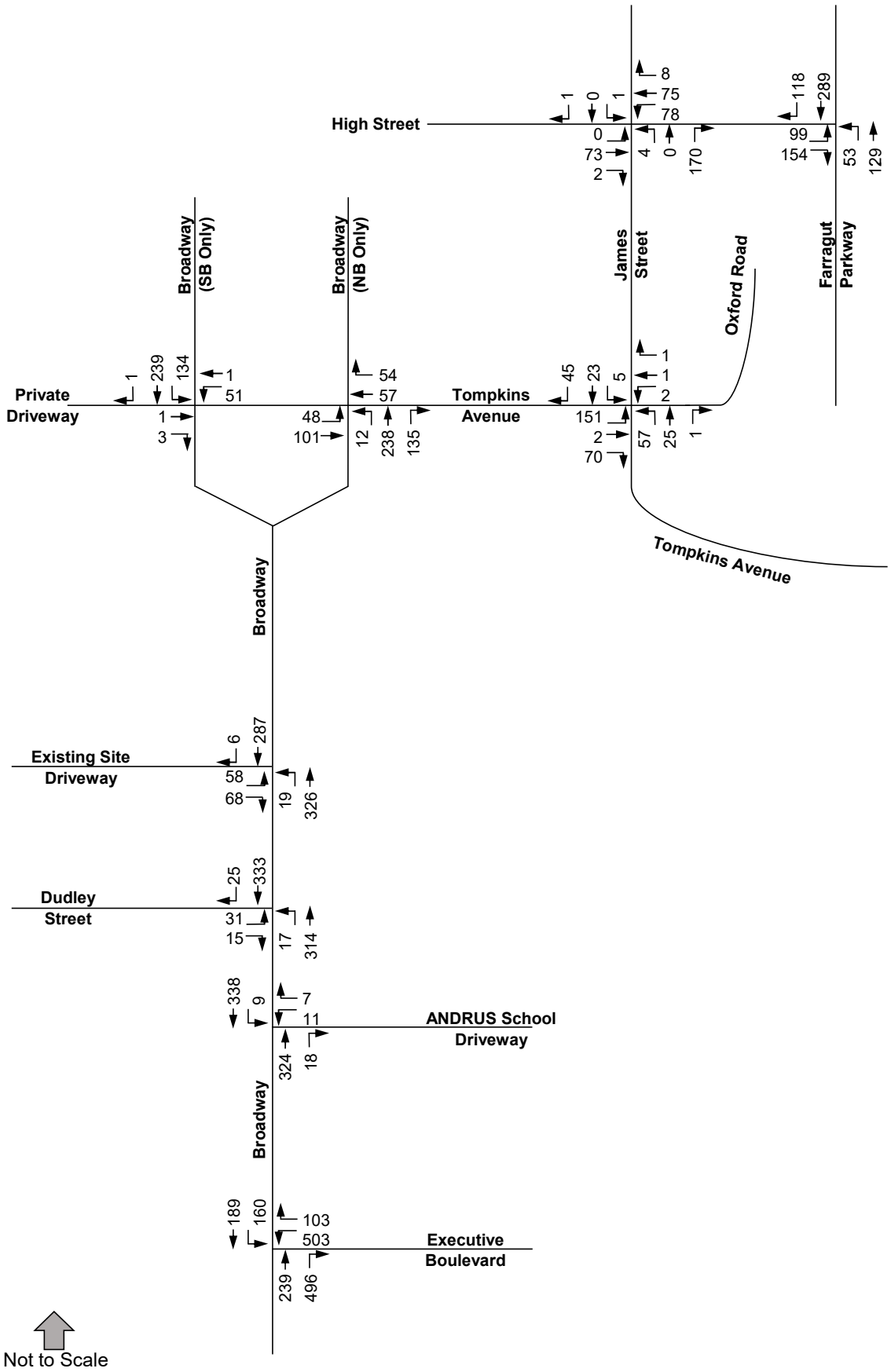
The City of Yonkers and the Village of Hastings-on-Hudson were contacted in order to learn about planned/approved developments that could add traffic to the study area. The municipalities identified the following three (3) proposed vicinity developments for inclusion in the traffic study.

- 1050 North Broadway (3 movie studio buildings totaling 48,726 sf of sound stage space and 61,267 sf of accessory support space) at a vacant site on the east side of Broadway, directly north of Odell Terrace, in the City of Yonkers.
- Alder Manor (67,000 sf event space & 25-key hotel) at the Alder Manor site located on the west side of Broadway (US 9) in the City of Yonkers.
- 1 Warburton Avenue (21 two- and three-bedroom townhouses that range from 2,100 to 2,500 square feet) on a riverfront site along the Hudson River in the Village of Hastings-on-Hudson.

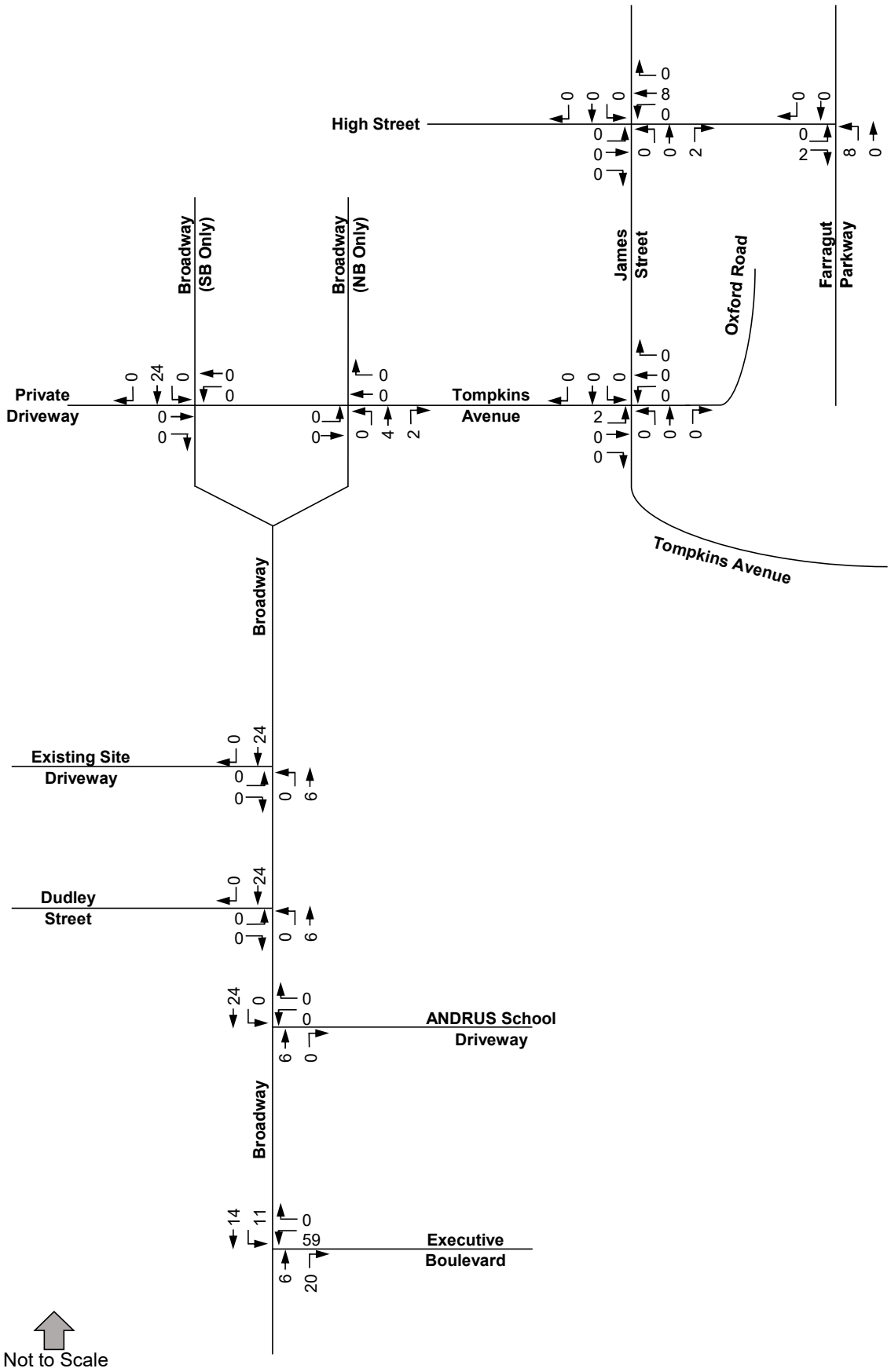
Where available, the vicinity development traffic volumes were taken from traffic studies prepared for the project. If a traffic study was not available, traffic volumes were estimated based on published data contained in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, Eleventh Edition. The vicinity development volumes for the three peak hours are shown on **Figures 8 & 9.**



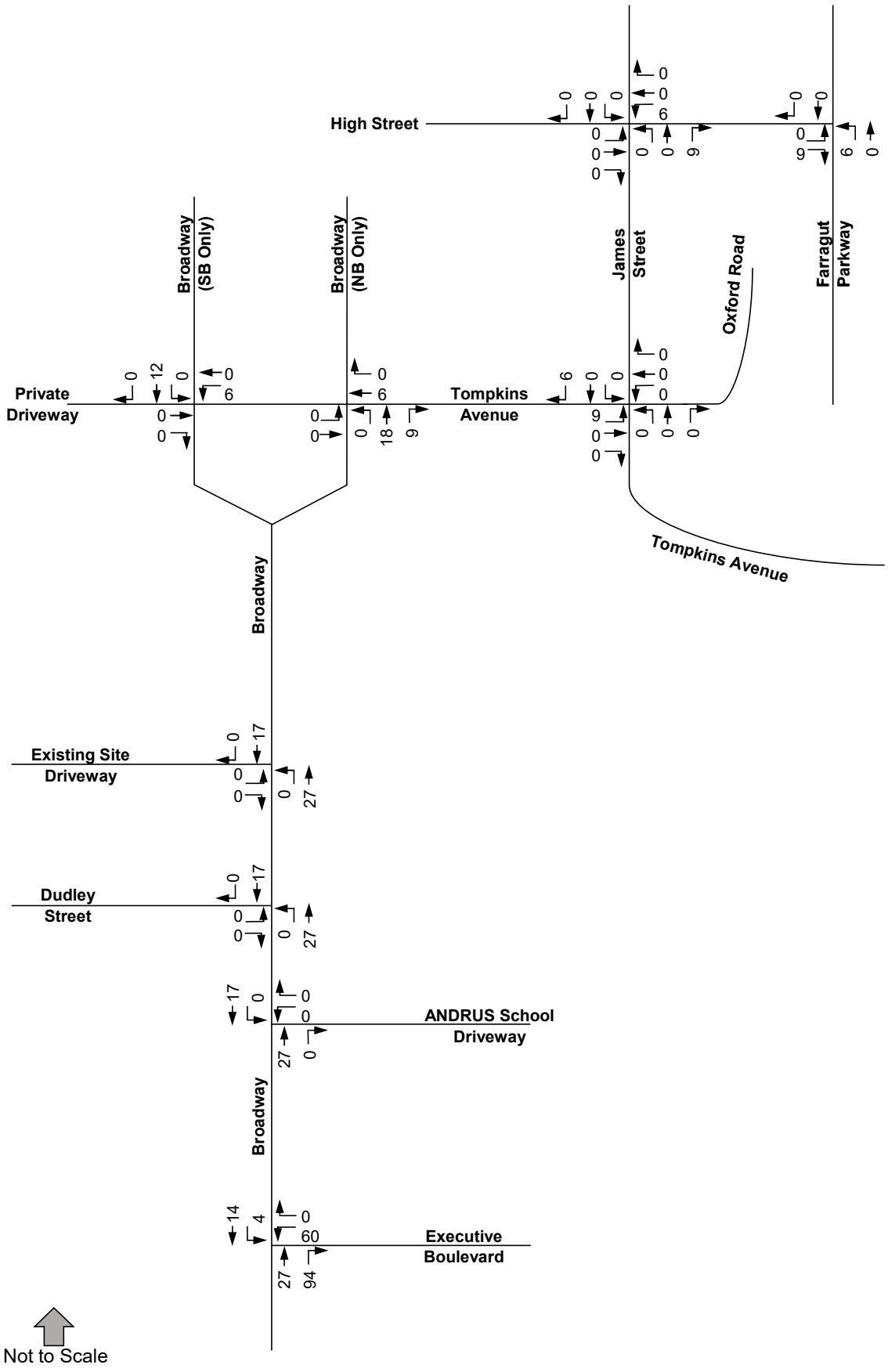
Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Grown Traffic Volumes AM Peak Hour	Figure 6



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Grown Traffic Volumes PM Peak Hour	Figure 7



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Vicinity Development Volumes AM Peak Hour	Figure 8

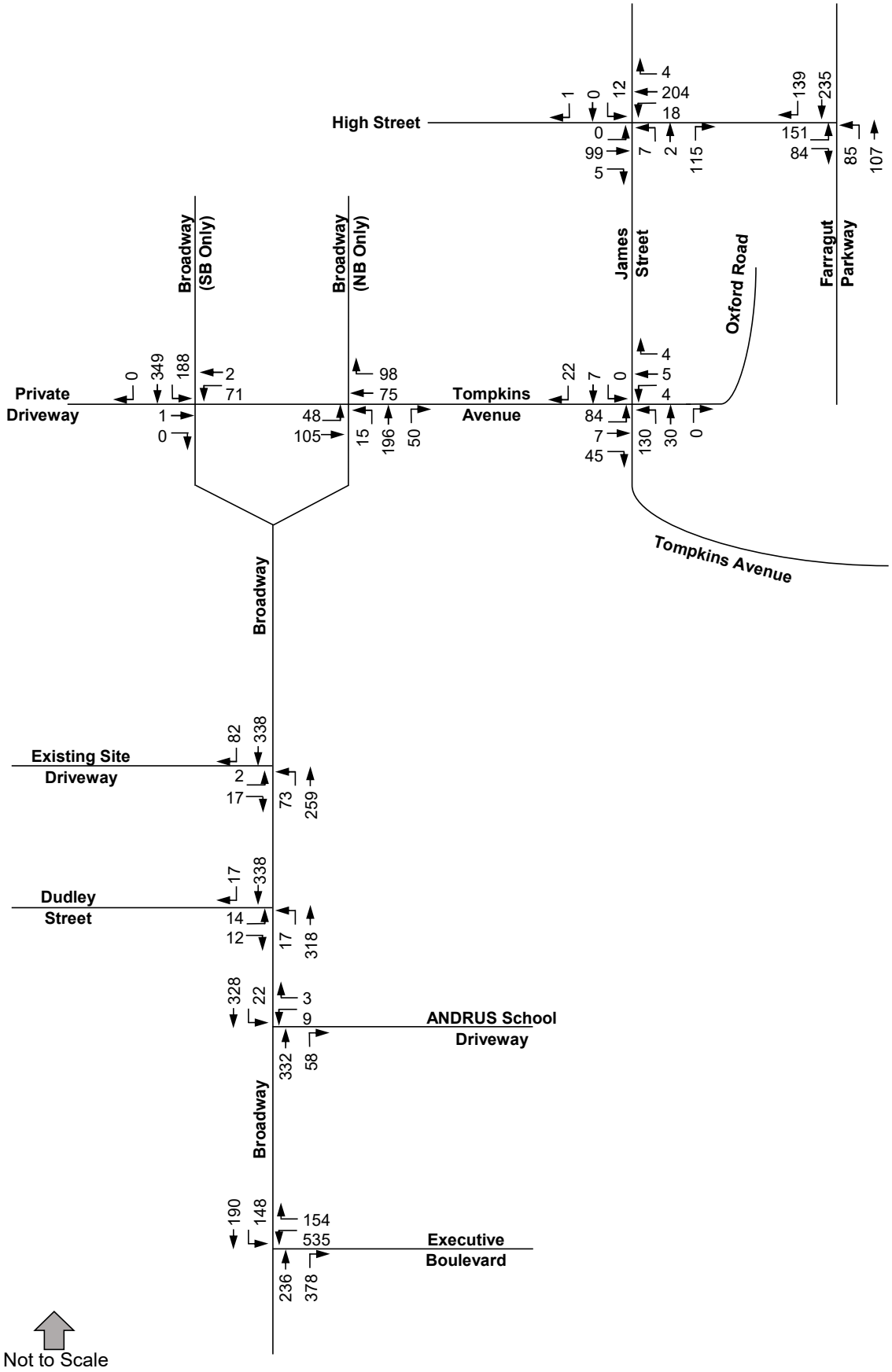


Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Vicinity Development Volumes PM Peak Hour	Figure 9

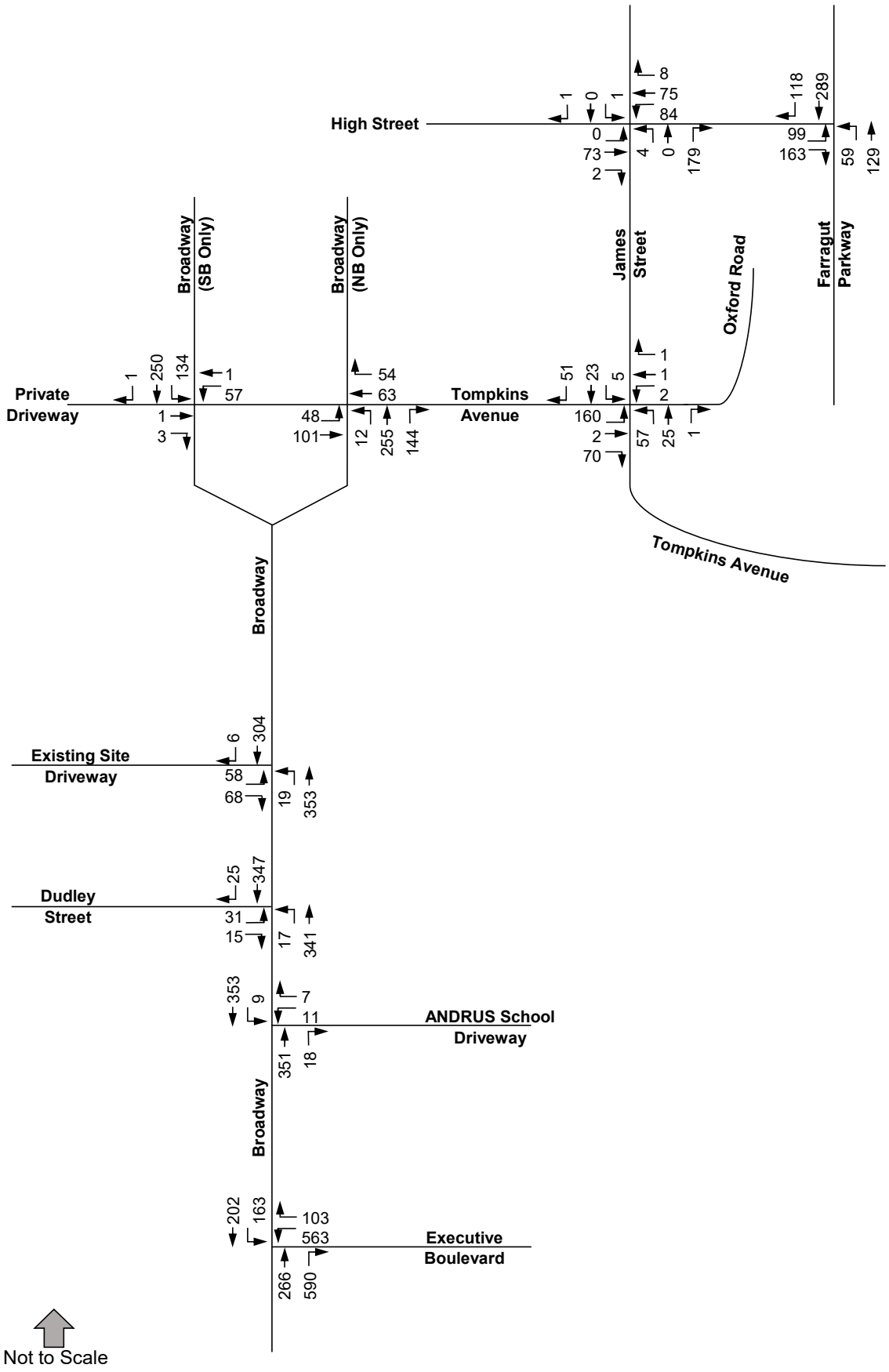
4.3 No-Build Traffic Volumes

The vicinity development volumes (shown on **Figures 8 & 9**) were added to the Grown traffic volumes (shown on **Figures 6 & 7**) to represent the future conditions without the Project ("No-Build"). The No-Build volumes for the Weekday AM peak hours and Weekday PM peak hour are provided on **Figures 10 & 11.**

Compared to the Existing adjusted volumes, the No-Build volumes represent an increase of 8.8% during the AM peak hour and 11% during the PM peak hour. These increases are considered to be conservative.



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	No-Build Traffic Volumes AM Peak Hour	Figure 10



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	No-Build Traffic Volumes PM Peak Hour	Figure 11

5.0 PROJECT TRAFFIC

Project traffic is the number of vehicle trips forecast to be generated by the proposed development. The Project traffic is calculated and dispersed throughout the road network and onto the study intersections by applying the trip generations to the trip distributions to get the trip assignments.

5.1 Description of Movie Studio Operations

The primary and single purpose of the Project is to produce movie and television features. This is typically a six-month (+/-), multi-step process which is described below.

MONTHS 1 & 2 (show prep.)
Weekdays, Monday through Friday, 30 cars are expected at the site daily. Approximately 75% of these vehicles are expected to arrive between 9 am and 10 am and to depart between 6 pm and 7 pm, with the remaining 25% arriving and departing in the hour before or after. During this stage of the process, there is little or no truck activity (other than the typical delivery and trash activity associated with any business). There will only be a nominal amount of traffic activity on weekends (two or 3 cars at most).

MONTHS 3 & 4 (show prep/set construction)
Weekdays, Monday through Friday, 50 cars are expected at the site daily. Approximately 75% of these vehicles are expected to arrive between 7 am and 8 am and to depart between 7 pm and 8 pm, with the remaining 25% arriving and departing in the hour before or after. During this stage of the process, two (2) semi-trailers (Grip & Electric, Costume) will arrive at the site and stay until this stage of the work is complete, when they will depart. Six (6) to 8 cube trucks (Camera, Props, Set Dec, Special Effects, Talent trailers, Catering) will also arrive at and generally stay on the site for this stage of the work. Again, there will only be a nominal amount of traffic activity on weekends).

MONTH 5 (filming)
Weekdays, Monday through Friday, 50 cars are expected at the site daily. Approximately 50% of these vehicles are expected to arrive between 7 am and 8 am and to depart between 7 pm and 8 pm, with the remaining 50% arriving and departing in the hour before or after. During this stage of the process, one (1) semi-trailer will arrive and stay at the site. Three (3) cube trucks will also arrive at and generally stay on the site for this stage of the work. There will be little or no traffic on weekends.

MONTH 6 (breakdown)
Weekdays, Monday through Friday, 30 cars are expected at the site daily. Approximately 75% of these vehicles are expected to arrive between 9 am and 10 am and to depart between 6 pm and 7 pm, with the remaining 25% arriving and departing in the hour before or after. During this stage of the process, there is little or no truck activity (other than the typical delivery and trash activity associated with any business). There will be only nominal weekend traffic.

If a TV or film production is being filmed predominantly in the studio sound stages, the trucks will remain on the studio lot for the entirety of the production, with no in or out trips for several months. If a TV or film production splits time between the sound stages and "on location" filming, the trucks will intermittently drive onto the studio lot (on average, 5 days per month, with no activity on weekends).

Although there will be 6 sound stages, the maximum number of projects in production at any given time would be 2 and production activity would be staggered (on different schedules).

Although it is only possible to generalize (as each project is unique), it is expected that four (4) good-sized productions will occur on the studio lot in the course of each year (each requiring the use of all three stages). Incoming and outgoing shows will be staggered and rarely have the same move in and move out dates. On balance, with an average of 4 productions on the lot each year, actual filming will occur 4 out of 12 months, on average.

Based on the above description, Kimley-Horn prepared an assessment of how much traffic could be generated by having two projects in production simultaneously. The results of this analysis, which consider most, if not all, of the potential scheduling overlaps, are presented in **Table 4**.

Table 4 - Movie Studio Project Trips

Production 1 / Production 2		Month 1 / Month 6	Month 2 / Month 1	Month 3 / Month 2	Month 4 / Month 3	Month 5 / Month 4	Month 6 / Month 5	Average
7:00 AM	*8:00 AM*	0	0	38	75	63	0	29
8:00 AM	*9:00 AM*	3	3	14	25	25	3	12
9:00 AM	*10:00 AM*	45	45	23	0	13	45	29
10:00 AM	*11:00 AM*	12	12	6	1	1	12	7
11:00 AM	*12:00 PM*	0	0	0	0	0	0	0
12:00 PM	*1:00 PM*	0	0	1	1	1	0	1
1:00 PM	*2:00 PM*	1	1	1	1	1	1	1
2:00 PM	*3:00 PM*	1	1	1	1	1	1	1
3:00 PM	*4:00 PM*	0	0	0	1	1	0	0
4:00 PM	*5:00 PM*	1	1	1	1	1	1	1
5:00 PM	*6:00 PM*	8	8	4	0	0	8	5
6:00 PM	*7:00 PM*	45	45	29	13	25	45	34
7:00 PM	*8:00 PM*	8	8	41	75	63	8	34
8:00 PM	*9:00 PM*	0	0	6	13	13	0	5
7:00 AM	*9:00 PM*	124	124	165	207	208	124	159
		Represents Peak Hour of Traffic in Study						
		Represents Peak Hour of Traffic to Site						
		Represents Total Traffic to Site in Day						

As can be seen from Table 4, the facility is projected to generate between 124 and 208 trips per day with 2 simultaneous productions, depending on what stage of production is in operation. During the busiest hours, traffic volumes are projected to range from 38 to 75 vehicles. Further, the absolute busiest hours, when 75 trips would be generated, occur from 7:00 a.m. to 8:00 a.m. and from 7:00 p.m. to 8:00 p.m.[4], when passing traffic on Broadway is 10.3% and 43.6% lower than the weekday AM and PM commute peaks[5].

In terms of truck traffic, based on the six-month process described above, it can be assumed that during Months 1, 2 & 6 there will be a max of 4 truck trips a day (2-in and 2-out). During Months 3 & 4, there will be a max of 14 truck trips a day (12-in and 2 out). During Month 5, there will be a max of 8 truck trips a day (6-in and 2 out). While the max potential trips per day will only occur only potentially once per month, it was assumed that the peak hour truck traffic for both the AM and PM peak hours will be 3 truck trips (with a 37/63 split between the south and north on Broadway).

5.2 ITE Trip Generation

To corroborate the projections, a review of the Institute of Transportation Engineers' (ITE) publication, *Trip Generation Manual, 11th Edition*, was conducted, revealing that a movie production studio might fall into the category of Land Use Codes 130 Industrial Park.

An industrial Park development is described in the ITE publication as being…

> *characterized by a mix of manufacturing, service, and warehouse facilities with a wide variation in the proportion of each type of use*

The bulk of activity associated with the 239,000-sf studio will be the making of movies and television features in the 182,000 sf of stages, mill and warehouse space. The remaining space, 57,000 sf of office space, is divided between administration, non-stage production activities and talent space. Because of the fragmented nature of media production, only certain portions of the buildings will see active use at any given time (e.g. the warehouse and mill space predominantly during show prep and break down, the sound stages predominantly during set up and filming). The calculated peak-hour trips, based on ITE data are presented in **Table 5**, below[6].

[4] When production would be occurring in months 3 and 4
[5] 10.3% and 43.6% were calculated using NYSDOT ATR Traffic Counts and September 2022 Graham School Driveway. See appendix for calculation details.
[6] These trip projections were further corroborated by calculating the projected peak-hour trips based on 120 employees associated with two simultaneous productions for General Light Industrial use (LUC 110), Industrial Park use (LUC 130), Manufacturing use (LUC 140) and Warehouse use (LUC (150) – see appendix.

Table 5 – ITE Trip Generations				
ITE Land Use Code	Land Use	Size (SF)	Total Trips	
			AM Peak Hour	PM Peak Hour
130	Industrial Park	239,000	81	81

Trips based on ITE *Trip Generation Manual*, 11th Edition.

As indicated in Table 5, ITE data indicates that the proposed studio will generate 81 trips during the weekday AM peak hour and PM peak hours of passing traffic on Broadway. Since the ITE values were higher than the maximum Studio-based values, the ITE values were used for analysis purposes.

It is noted that the proposed studio operator indicates that many of the studio employees typically use public transit, and the studio will provide a shuttle bus service for employees traveling by train to and from Metro-North Railroad's Greystone and/or Hastings-on-Hudson stations[7]. However, no credit was taken from the above ITE Trip projections.

5.3 Trip Distribution and Assignment (Passenger Cars)

Based on employee travel information provided by the Applicant, it is estimated that 65% of the studio traffic that drives to the site would arrive and depart to/from the south, and 35% will be oriented to/from the north.

Trip arrival and departure distributions, which show how Project-generated trips will travel to and from the site, have been forecast by evaluating the existing traffic patterns and volumes on the area roadways combined with the information provided by the applicant. Virtual travel times were reviewed using Google maps to ascertain how motorists will travel between the site and the trip origins/destinations. Due to the turning restriction along High Street, not permitting left-turns onto James Street, separate arrival patterns were determined for both peak hours. No restriction is in place for vehicles exiting the site traveling on James Street, and thus the same departure patterns were used for each peak hour. It was determined that average motorists or passenger cars will travel to/from the site on these patterns:

- *Arrival Distribution (AM Peak Hour)*
    - 65% from the south traveling through the intersections of Broadway and Dudley Street and the ANDRUS School Driveway.
        - 50% from Executive Boulevard and vehicles traveling northbound on Nepperhan Avenue and the Saw Mill River Parkway
        - 15% from Broadway and Warburton Avenue south of Executive Boulevard.

[7] Depending on the stage of shooting, demand, and train schedules.

- 35% from the north
  - 15% from Broadway traveling southbound from the Village of Hastings-on-Hudson
  - 20% traveling southbound from the Saw Mill River Parkway
    - 6% of these travelers were estimated to exit off the Saw Mill River Parkway, and travel on Farragut Parkway and through on High Street before heading southbound on Broadway.
    - 14% of these travelers were estimated to exit off the Saw Mill River Parkway, and travel on Hearst Street to Nepperhan Avenue, before turning left onto Tompkins Avenue and traveling westbound to Broadway.

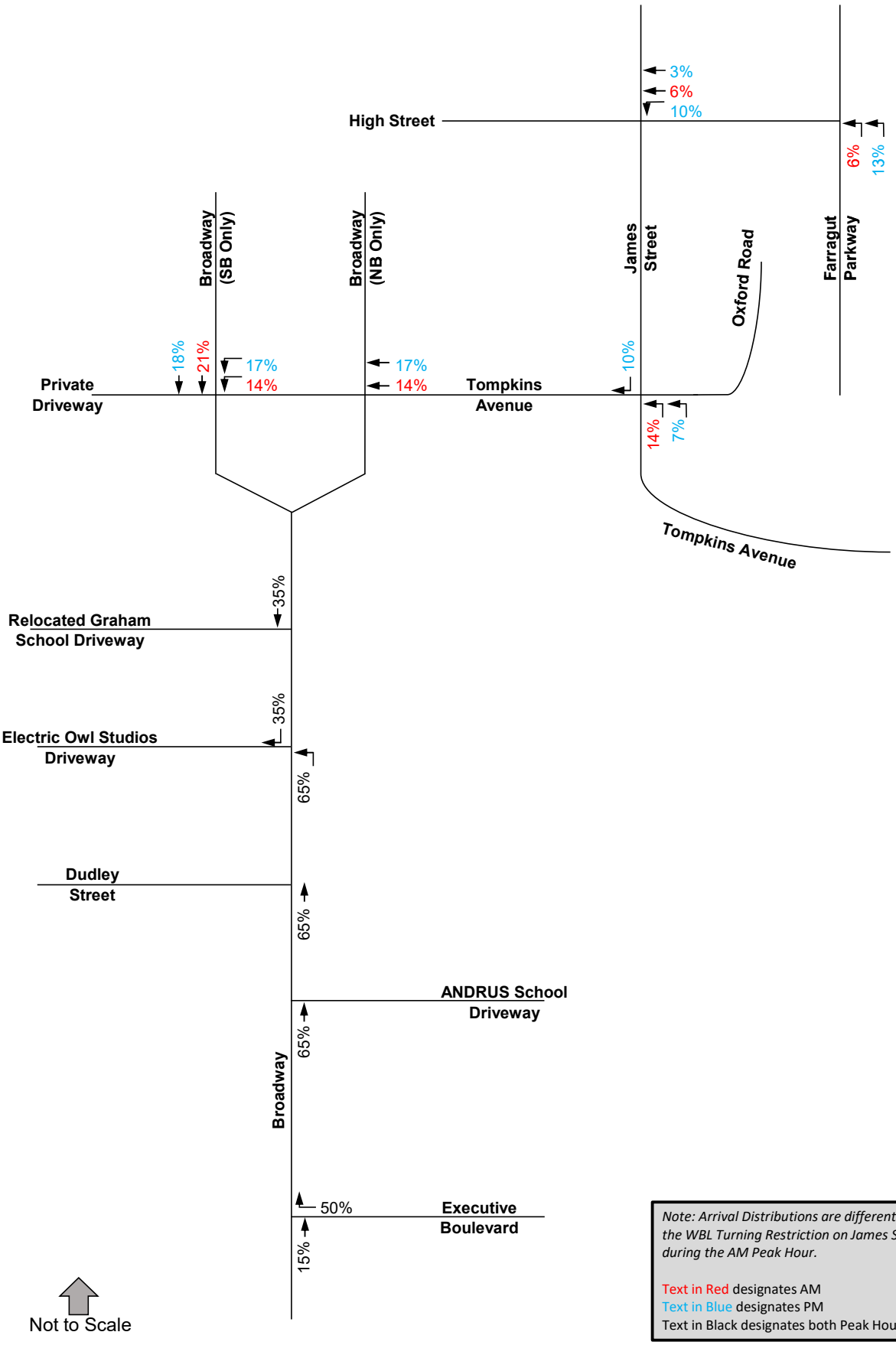
- *Arrival Distribution (PM Peak Hour)*
  - 65% from the south traveling through the intersections of Broadway and Dudley Street and the ANDRUS School Driveway.
    - 50% from Executive Boulevard and vehicles traveling northbound on Nepperhan Avenue and the Saw Mill River Parkway
    - 15% from Broadway and Warburton Avenue south of Executive Boulevard.
  - 35% from the north
    - 15% from Broadway traveling southbound from the Village of Hastings-on-Hudson
    - 20% traveling southbound from the Saw Mill River Parkway
      - 13% of these travelers were estimated to exit off the Saw Mill River Parkway, and travel on Farragut Parkway.
        - 3% of travelers would travel through on High Street before heading southbound on Broadway.
        - 10% of travelers would make a left on James Street before heading westbound on Tompkins Avenue to Broadway.
      - 7% of these travelers were estimated to exit off the Saw Mill River Parkway, and travel on Hearst Street to Nepperhan Avenue, before turning left onto Tompkins Avenue and traveling westbound to Broadway.

- *Departure Distribution (Both Peak Hours)*
  - 65% to the south traveling through the intersections of Broadway and Dudley Street and the ANDRUS School Driveway.
    - 50% to Executive Boulevard and vehicles southbound on Nepperhan Avenue and the Saw Mill River Parkway.
    - 15% to Broadway and Warburton Avenue south of Executive Boulevard.
  - 35% to the north
    - 18% along Broadway traveling northbound to the Village of Hastings-on-Hudson
    - 17% traveling to the Saw Mill River Parkway northbound

It was estimated that all 17% of motorists heading northbound on the Saw Mill River Parkway would turn right onto Tompkins Avenue, before making an eastbound left and traveling north on James Street. From there, they would make the northbound-right onto High Street, and then to the Farragut Parkway. From there they would make a left-turn onto the Saw Mill River Parkway.

The passenger car trip distribution rates for the Weekday AM peak hours and Weekday PM peak hour are provided on **Figures 12 & 13.**

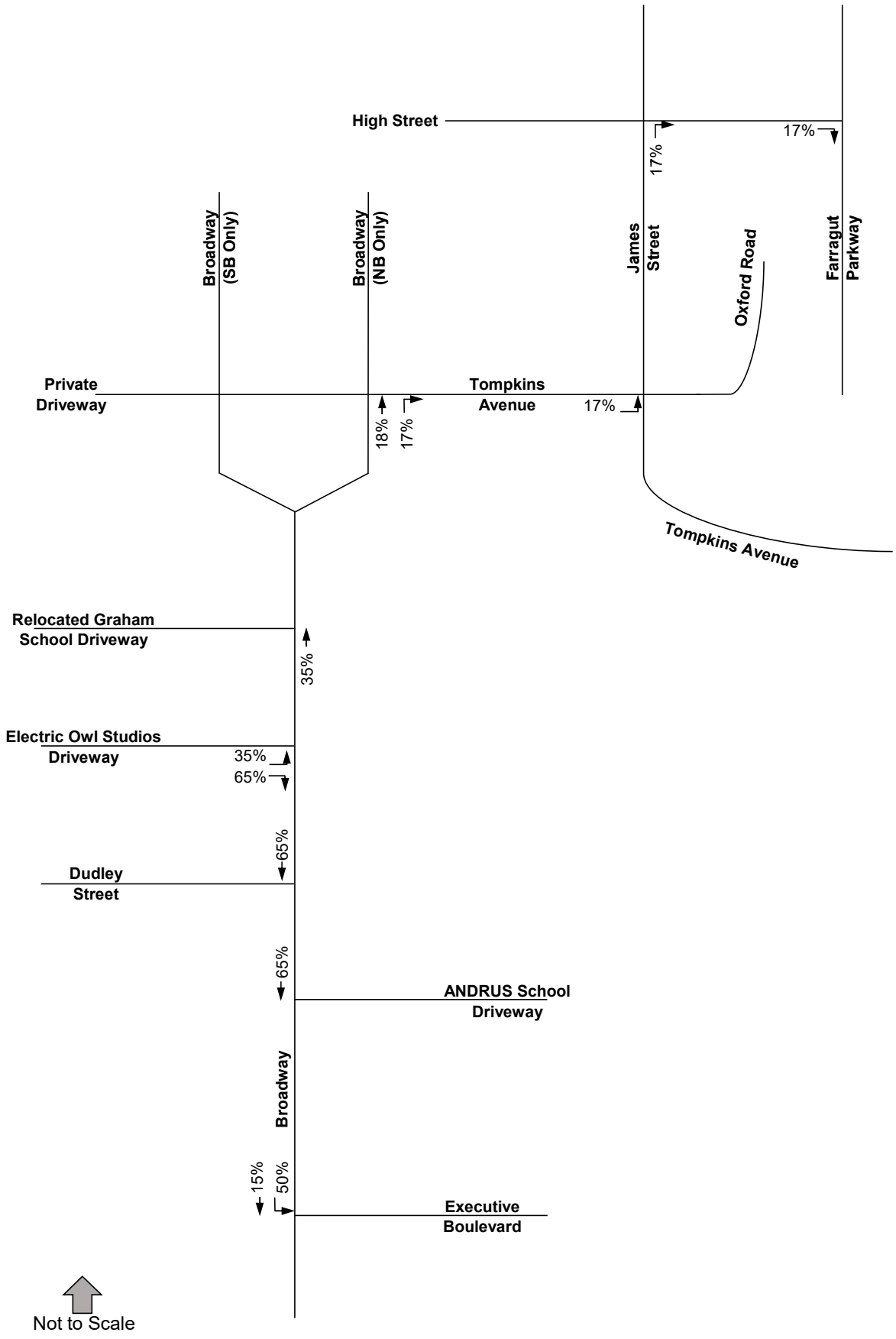
These rates were applied to the passenger car project trips, as explained in *5.1 Trip Generation*, to produce the project trips associated with employees of the studio.



Note: Arrival Distributions are different due to the WBL Turning Restriction on James Street during the AM Peak Hour.

Text in Red designates AM
Text in Blue designates PM
Text in Black designates both Peak Hours

Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Arrival Distribution Passenger Cars AM & PM Peak Hours	Figure 12



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Departure Distribution Passenger Cars AM & PM Peak Hours	Figure 13

5.4 Trip Distribution and Assignment (Trucks)

As mentioned in section *5.1 Trip Generation*, based on the typical schedule of a movie studio, infrequent project-specific truck deliveries will be made, as well as more frequent refuse truck and everyday deliveries can be expected to visit the site.

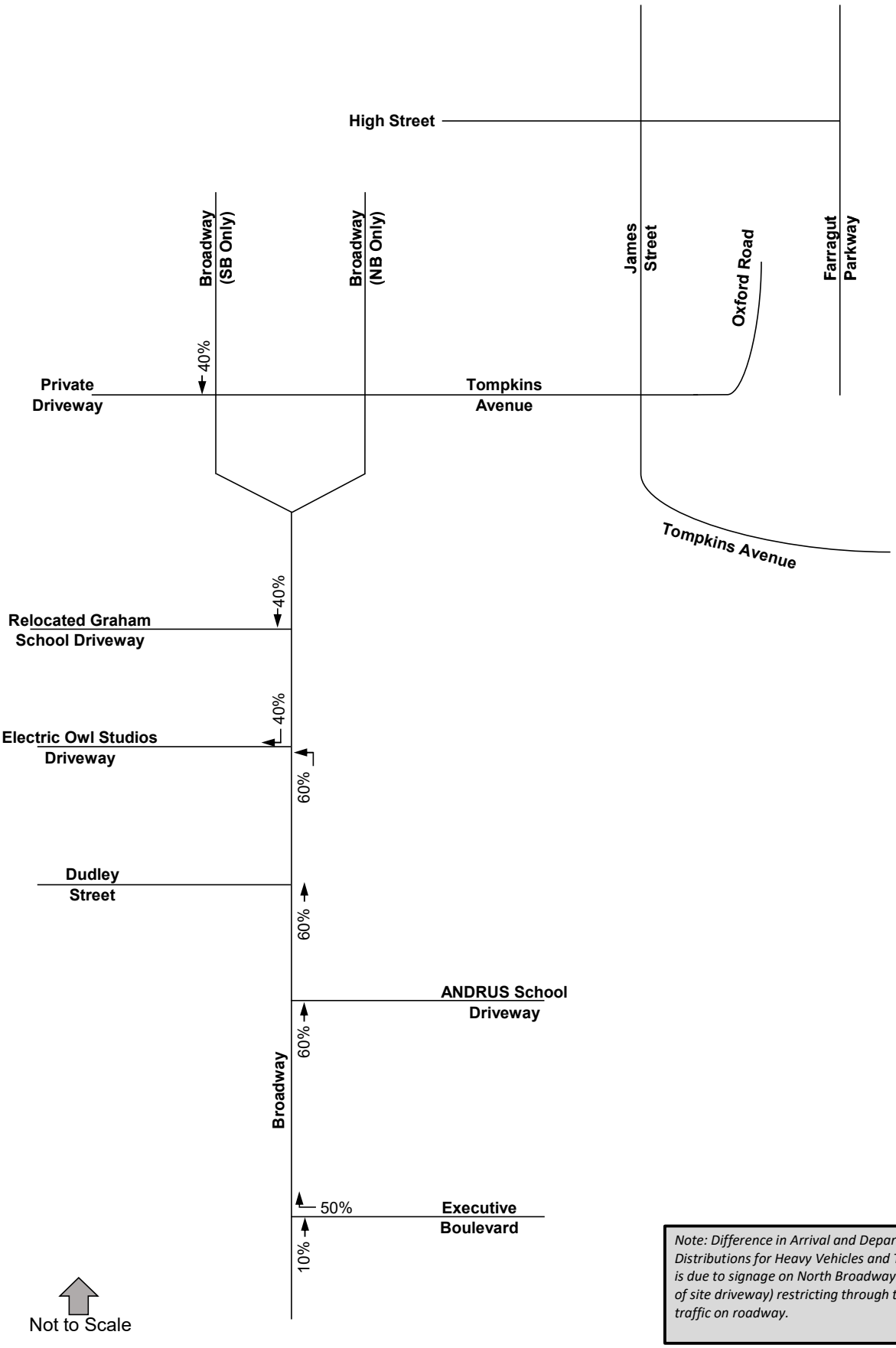
Separate trip arrival and departure distributions for Trucks have been forecast by evaluating the existing traffic patterns and truck restrictions on nearby roadways. Due to the truck restriction traveling southbound on Broadway into Yonkers[8], arrival and departure percentages to/from the site will be considerably different, but the percentages will be the same in each peak hour. It is also worth noting that the Saw Mill River parkway is for passenger cars only truck traffic was determined to travel to/from the site on these patterns:

- *Arrival Distribution (Both Peak Hours)*
    - 60% from the south traveling through the intersections of Broadway and Dudley Street and the ANDRUS School Driveway.
        - 50% from Executive Boulevard and traveling northbound on Nepperhan Avenue.
        - 10% from Broadway south of Executive Boulevard.
    - 40% from the north
        - 40% from Broadway traveling southbound through the Village of Hastings-on-Hudson on US Route 9
- *Departure Distribution (Both Peak Hours)*
    - 15% to the south traveling through the intersections of Broadway and Dudley Street and the ANDRUS School Driveway.
        - 5% to Executive Boulevard to make local delivery in South Westchester Executive Park.
        - 10% to make a local delivery along North Broadway.
    - 85% to the north
        - 85% along Broadway traveling northbound through the Village of Hastings-on-Hudson

The truck trip distribution rates for the Weekday AM peak hours and Weekday PM peak hour are provided on **Figures 14 & 15.**

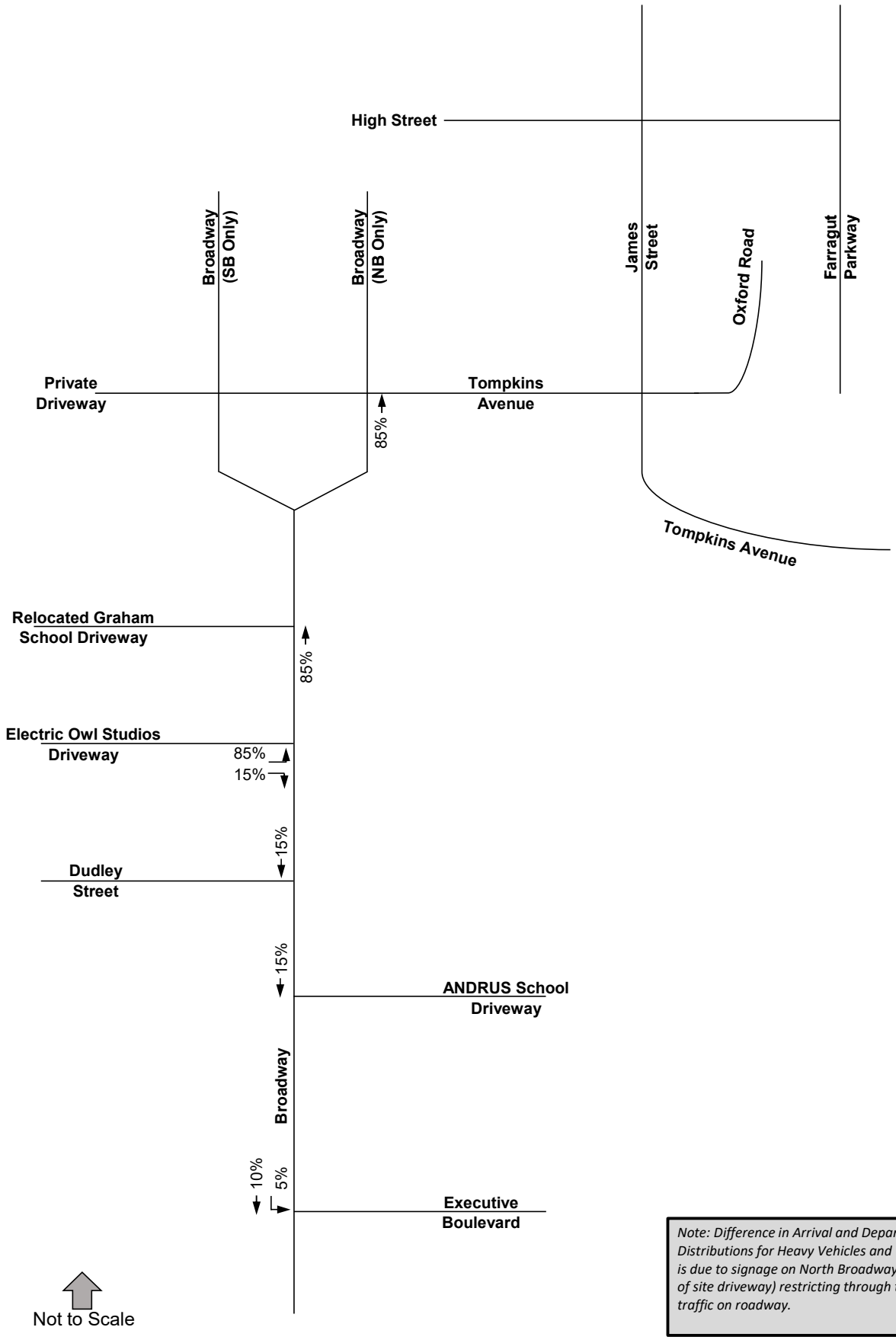
These rates were applied to the truck project trips, as explained in s*ection 5.1 Trip Generation*, to produce the project trips associated truck trips to/from the studio.

[8] Trucks are only permitted to travel south on North Broadway to make local deliveries, not to travel through the corridor past the downtown.



Note: Difference in Arrival and Departure Distributions for Heavy Vehicles and Trucks is due to signage on North Broadway (south of site driveway) restricting through truck traffic on roadway.

Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Arrival Distribution Trucks AM & PM Peak Hours	Figure 14

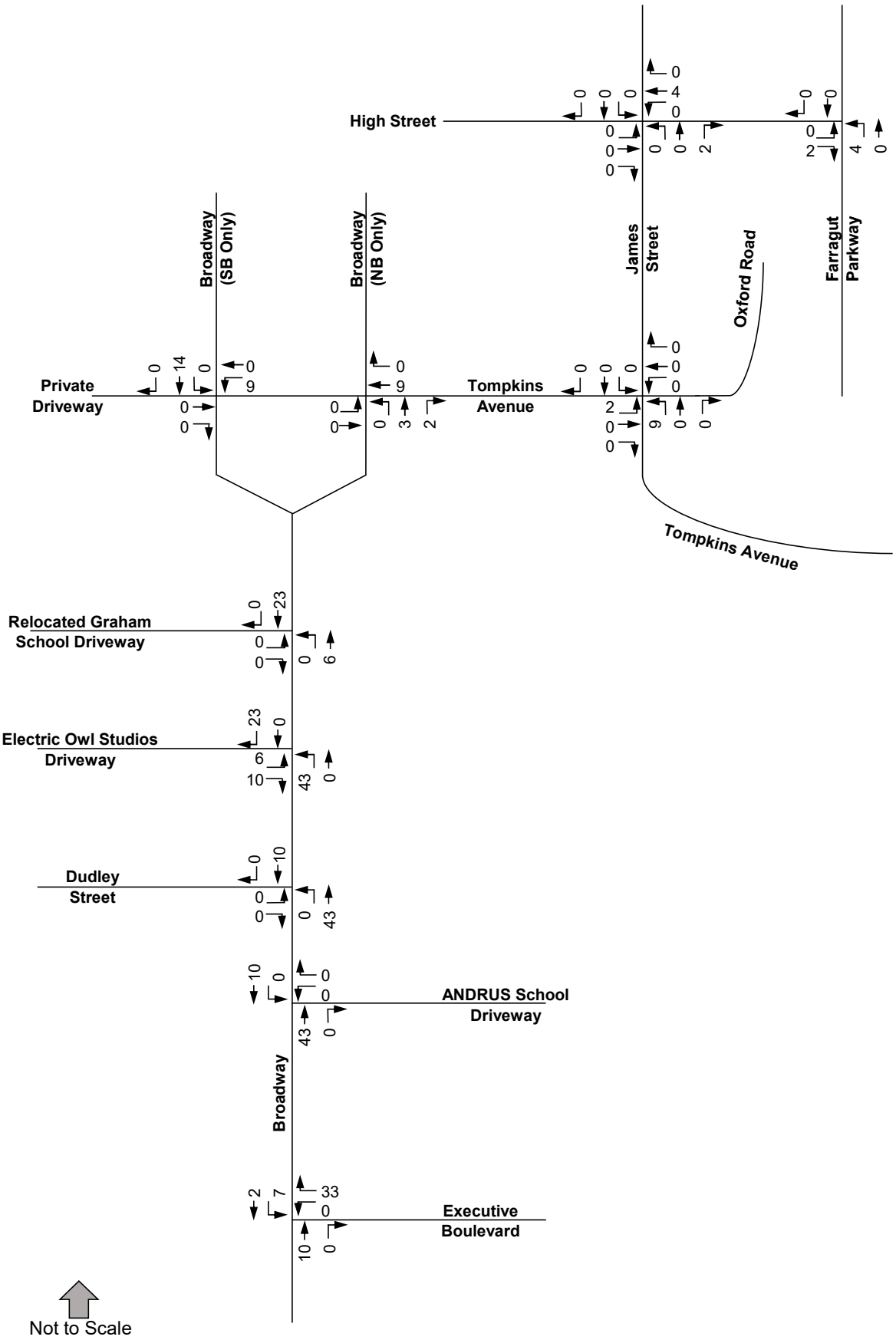


Note: Difference in Arrival and Departure Distributions for Heavy Vehicles and Trucks is due to signage on North Broadway (south of site driveway) restricting through truck traffic on roadway.

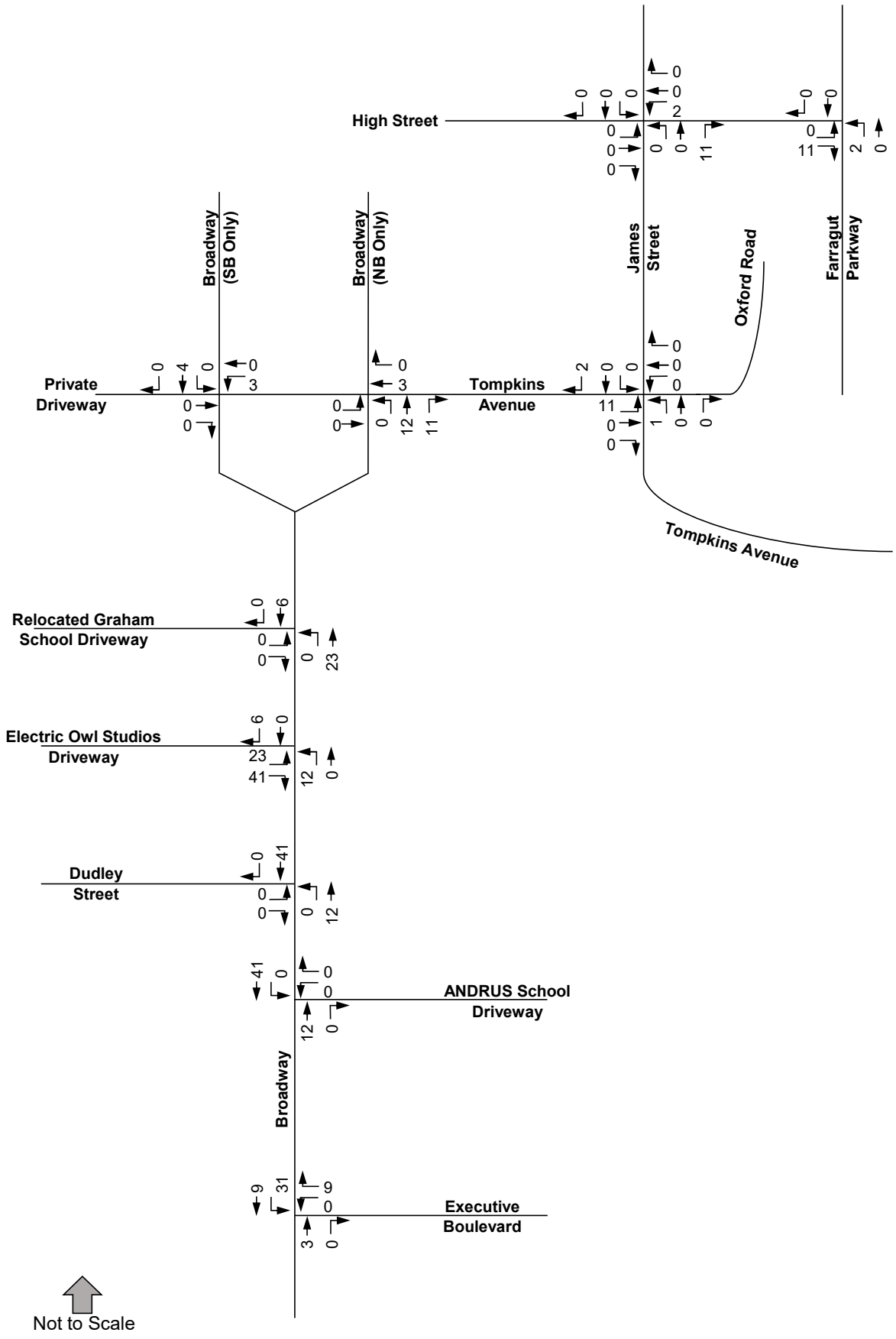
Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Departure Distribution Trucks AM & PM Peak Hours	Figure 15

The trip assignments detailed in *Sections 5.3 and 5.4 Trip Distribution & Assignment (Passenger Cars), and Trip Distribution & Assignment (Trucks)* were combined and make up the Project Trip Volumes. The Project Trips for the Weekday AM peak hour and Weekday PM peak hour are provided on **Figures 16 & 17.**

As can be seen from Figures 16 and 17, other than at the site driveway, at most, 52 vehicles will be added to any roadway in the busiest hour (less than 1 vehicle per minute). At most, 14 vehicles will be added to any of the roadways in the Uniontown neighborhood (slightly less than 1 vehicle every 4 minutes).



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Project Trips AM Peak Hour	Figure 16



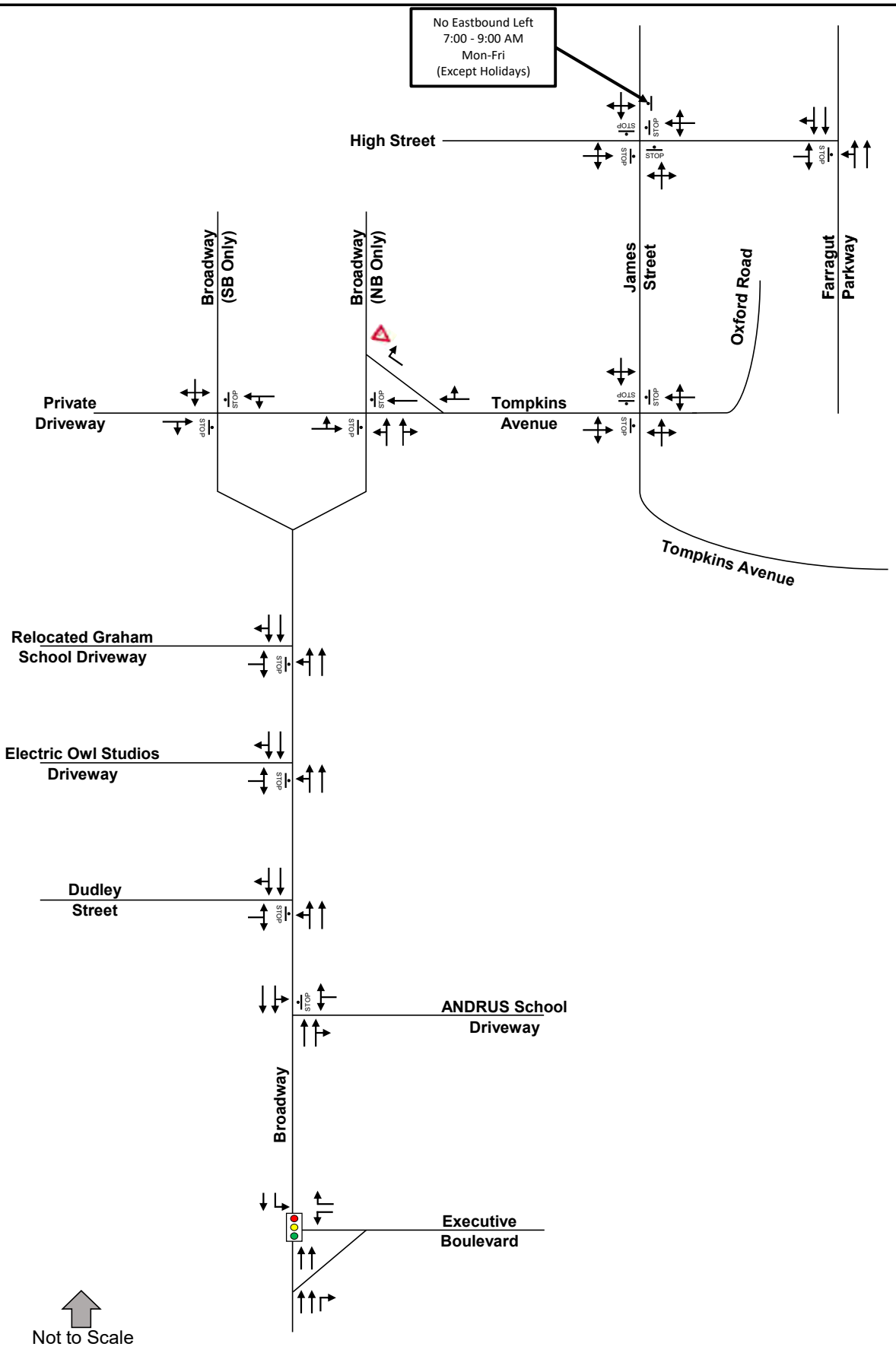
Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Project Trips PM Peak Hour	Figure 17

6.0 FUTURE BUILD TRAFFIC CONDITIONS

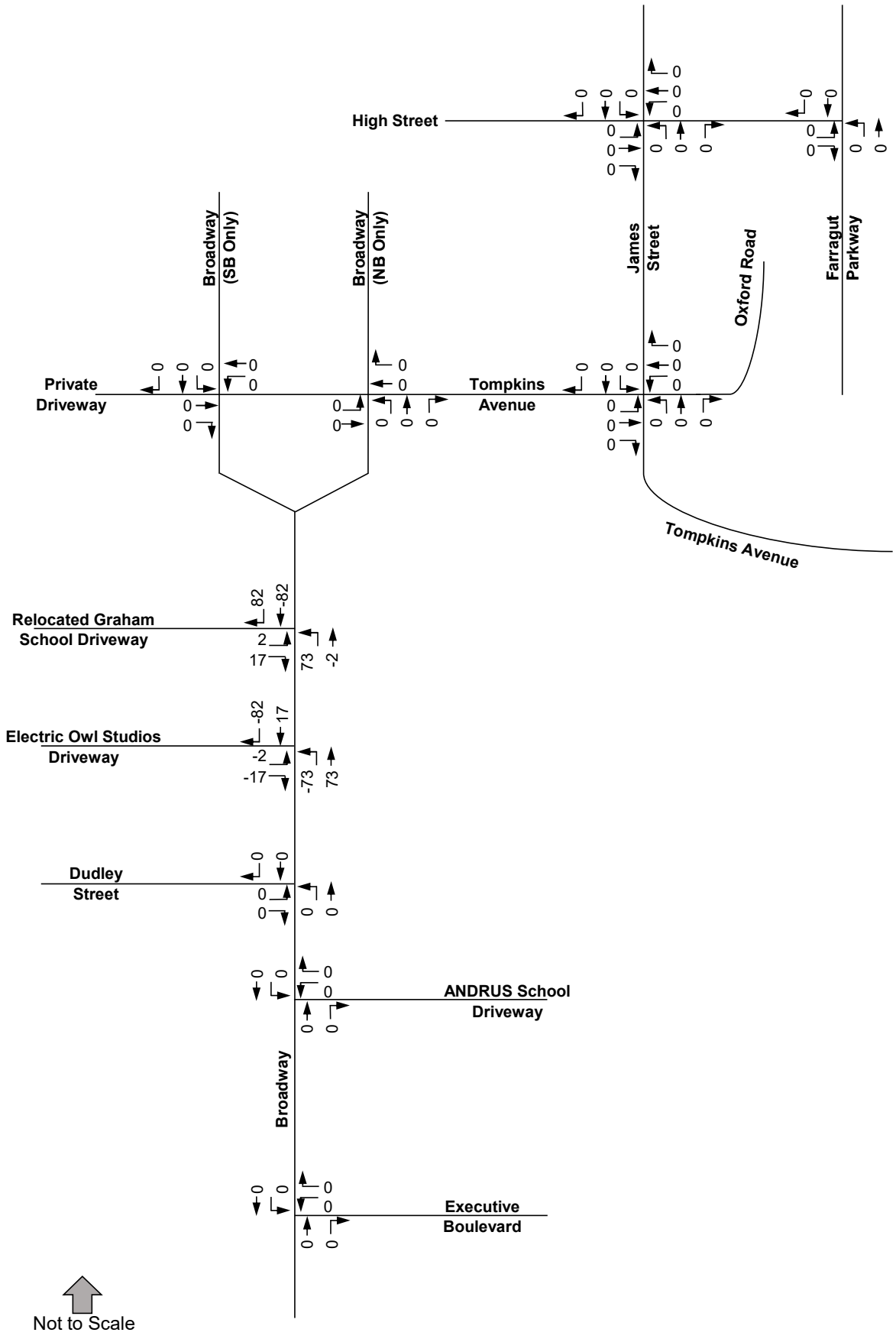
6.1 Relocated Site Volumes

The Applicant proposes to subdivide the property in half and construct the movie studio and its operations on the southern subdivided parcel. All trips looking to access the proposed studio would do so at the proposed site driveway, approximately 80' north of the existing Graham School Driveway. The existing driveway will be demolished. The proposed Electric Owl Studios driveway will also be wider in nature, and approach Broadway at an almost right angle.

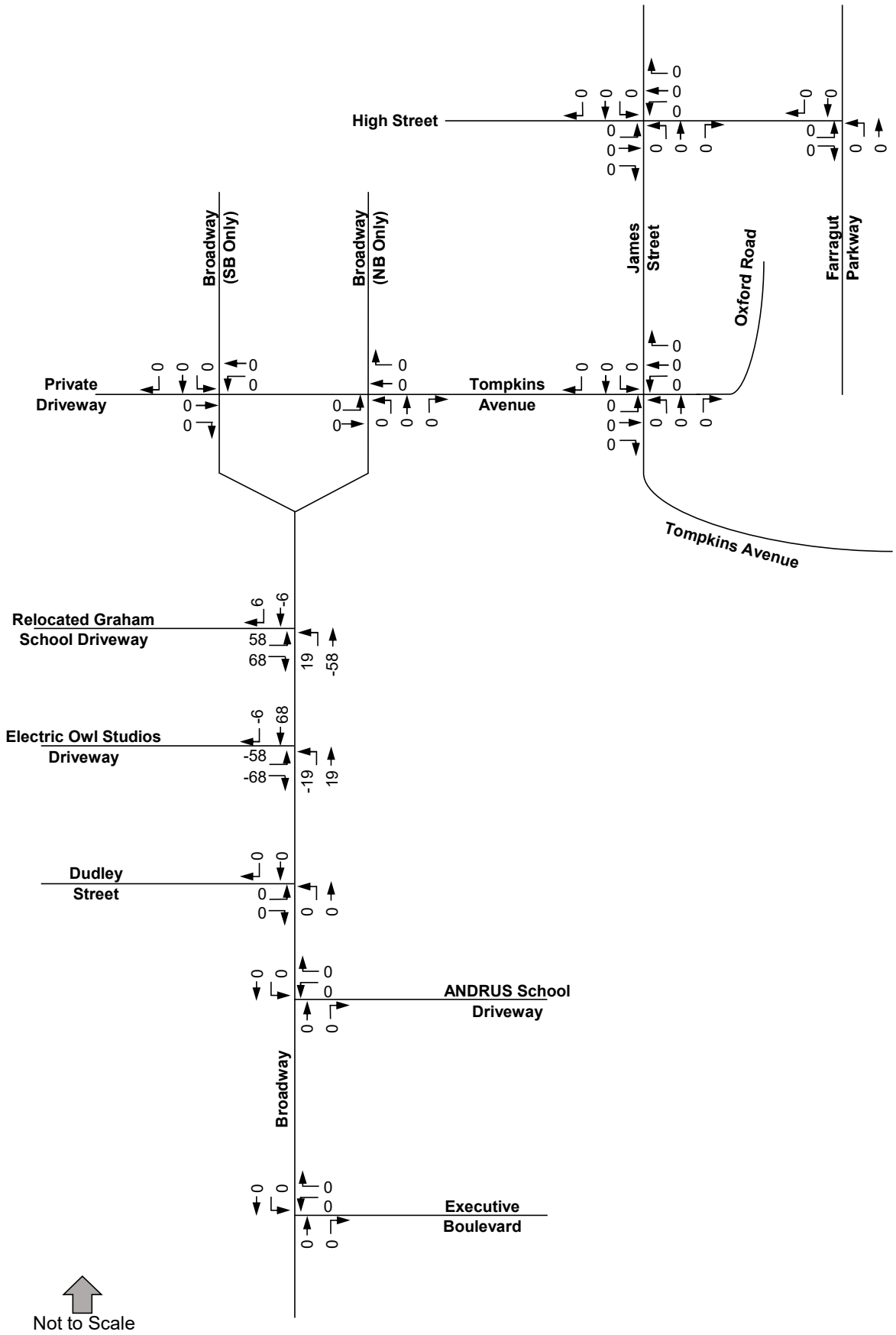
The Graham School will retain its existing operations on the northern subdivided parcel. A new driveway, approximately 200' north of the existing driveway will be constructed to serve the Graham School. It too will also be approximately 90 degrees to Broadway with a width of approximately 26 feet. It is assumed that the operations of the school will not change during the subdivision process and relocation. The trips that currently access the Graham School Driveway will be the same when the new driveway is created, and trips are relocated. A depiction of the updated intersection geometry can be seen **Figure 18.** The Relocated School Trips for the Weekday AM peak hour and Weekday PM peak hour are provided on **Figure 19 & and Figure 20.**



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Proposed Intersection Geometry	Figure 18



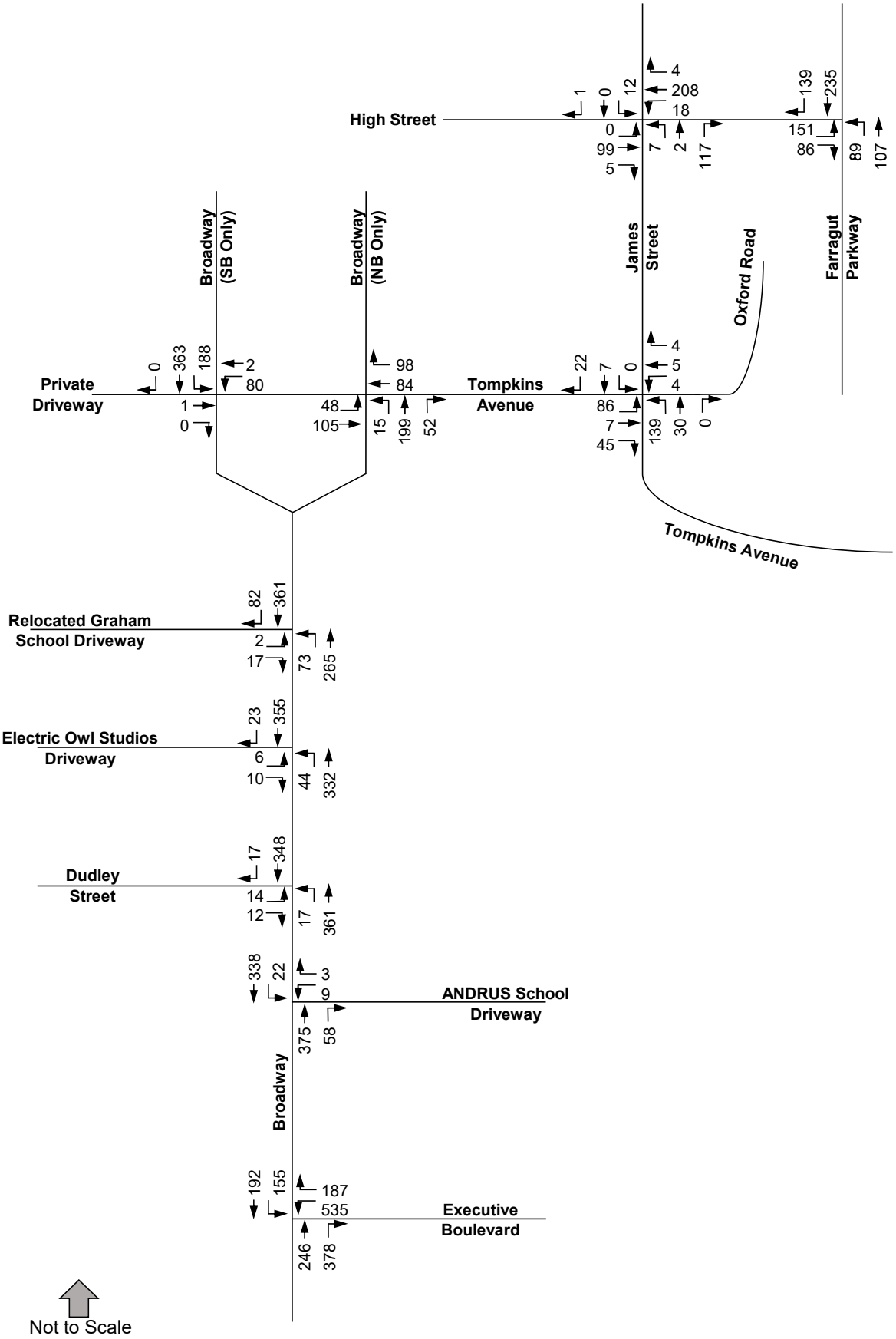
Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Relocated Site Trips AM Peak Hour	Figure 19



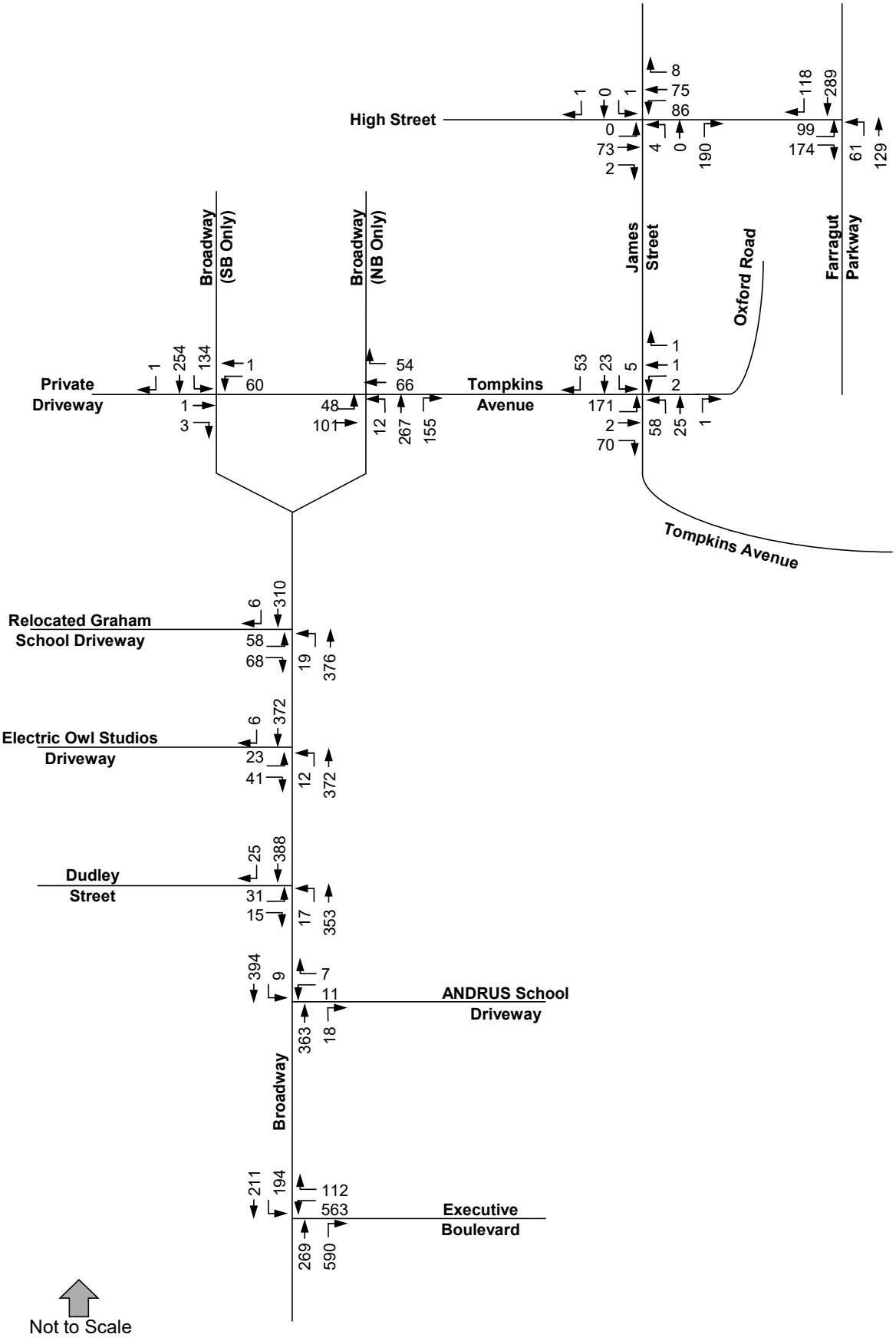
Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Relocated Site Trips PM Peak Hour	Figure 20

6.2 Build Volumes

The Future Build conditions are defined as the forecast traffic conditions on the roadway network in the year 2027, with the proposed development. The future traffic volumes with the Project were determined by adding the relocated school trips shown on **Figures 18 & 19** and the new Project trips shown on **Figures 16 & 17** to the No-Build volumes (shown on **Figures 10 & 11**) resulting in the Build traffic volumes shown on **Figures 21 & 22.**



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Build Traffic Volumes AM Peak Hour	Figure 21



Kimley»Horn	Electric Owl Studios Village of Hastings-on-Hudson New York	Build Traffic Volumes PM Peak Hour	Figure 22

7.0 CAPACITY ANALYSIS

7.1 Intersection Capacity Analysis

An intersection capacity analysis was conducted with the Existing, No-Build and Build peak-hour traffic volumes (shown on Figures 3 & 4, 10 & 11, and 20 & 21, respectively) to assess the quality of the traffic flow at the study intersections.

The criteria used to analyze the study intersections is based on the evaluation criteria contained in the Transportation Research Board's *Highway Capacity Manual* ("HCM") 6th Edition. The term "Level of Service" ("LOS") is used to denote the different operating conditions that occur at an intersection under various traffic volume loads. It is a qualitative measure that considers a number of factors including roadway geometry, speed, travel delay, and freedom to maneuver. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions.

Synchro 11 software was used to model the study intersections based on the parameters mentioned above. Synchro 11 software is widely used by traffic engineering professionals, is approved for use by the NYSDOT, and is consistent with the procedures in the HCM.

The LOS designations, which are based on delay, are reported differently for signalized and unsignalized intersections. For signalized intersections, LOS is based on the average control delay per vehicle for the various lane group movements within the intersection. LOS can be reported for individual turning movements, approaches, or for the intersection as a whole. For unsignalized intersections, the analysis assumes that traffic on the mainline is not affected by traffic on the side streets. Thus, the LOS designation is for the critical movement exiting the side street, which is generally the left turn out of the side street or site driveway. For the purposes of this analysis, control delay is defined as the total elapsed time that includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The control delay criteria for the range of service levels for signalized and unsignalized intersections are shown below in **Table 6**.

Table 6 – LOS Criteria

Level-of-Service (LOS)	Control Delay Per Vehicle	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0 seconds	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds	>10.0 and ≤ 15.0 seconds
C	>20.0 and ≤ 35.0 seconds	>15.0 and ≤ 25.0 seconds
D	>35.0 and ≤ 55.0 seconds	>25.0 and ≤ 35.0 seconds
E	>55.0 and ≤ 80.0 seconds	>35.0 and ≤ 50.0 seconds
F	>80.0 seconds	>50.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*.

The results of the intersection analysis for the Existing, No-Build and the Build volume conditions for the peak hours are summarized in **Tables 7 to 9** below. The Synchro worksheets are provided in the Appendix.

Table 7 – Existing Conditions - Intersection Capacity Analysis Results[1]

Intersection	Movement/ Approach	AM Peak Hour		PM Peak Hour	
		Delay (secs)	LOS	Delay (secs)	LOS
N Broadway and Executive Boulevard (Signalized)	WB L	37.1	D	37.7	D
	WB R	4.2	A	4.1	A
	NB T	22.4	C	24.1	C
	NB R	5.2	A	5.9	A
	SB L	14.2	B	15.9	B
	SB T	13.3	B	14.3	B
	INT	**19.3**	**B**	**19.7**	**B**
N Broadway and Andrus Driveway (Unsignalized	WB LR	13.0	B	12.1	B
	NB TR	0.0	A	0.0	A
	SB LT	0.6	A	0.3	A
N Broadway and Dudley Street (Unsignalized)	EB LR	11.4	B	13.4	B
	NB LT	0.5	A	0.5	A
	SB TR	0.0	A	0.0	A
N Broadway and Graham School Driveway (Unsignalized)	EB LR	10.5	B	13.0	B
	NB LT	2.2	A	0.6	A
	SB TR	0.0	A	0.0	A
Broadway and Tompkins Avenue (West)[2] (Unsignalized)	EB TR	19.6	C	10.7	B
	WB LT	25.5	D	15.6	C
	SB LTR	3.7	A	3.3	A
Broadway and Tompkins Avenue (East) (Unsignalized)	EB LT	13.4	B	15.4	C
	WB TR	11.5	B	11.9	B
	NB LTR	0.5	A	0.3	A
Tompkins Avenue and James Street[3] (Unsignalized)	EB LTR	14.2	B	13.0	B
	WB LTR	2.3	A	1.8	A
	NB LTR	6.3	A	5.2	A
	SB LTR	9.5	A	9.6	A
High Street and James Street (Unsignalized)	EB LTR	8.6	A	8.2	A
	WB LTR	10.0	A	9.0	A
	NB LTR	8.5	A	8.2	A
	SB LTR	8.5	A	7.6	A
Farragut Parkway and High Street (Unsignalized)	EB LR	23.1	C	15.8	C
	NB LT	3.7	A	2.6	A
	SB TR	0.0	A	0.0	A

1. Delay is the average delay per vehicle in seconds. LOS is "Level of Service"
2. Synchro Critical gap adjusted to reflect no opposing northbound vehicles and no activity on the opposing driveway.
3. Due to the unusual nature of this intersection (Stop-Controlled on three of four approaches), the intersection configuration was modified to best model the operation of the intersection by assigning free-flow conditions to the Oxford Avenue approach (which has only 13 vehicles per hour). See Synchro Capacity Analysis (Appended) for more details.

Table 8 – No-Build Conditions - Intersection Capacity Analysis Results[1]					
Intersection	**Movement/ Approach**	**AM Peak Hour**		**PM Peak Hour**	
		Delay (secs)	**LOS**	**Delay (secs)**	**LOS**
N Broadway and Executive Boulevard (Signalized)	WB L	38.4	D	40.5	D
	WB R	3.8	A	3.8	A
	NB T	25.1	C	26.6	C
	NB R	5.9	A	7.1	A
	SB L	16.5	B	18.4	B
	SB T	15.2	B	16.2	B
	INT	**21.1**	**C**	**21.6**	**C**
N Broadway and Andrus Driveway (Unsignalized	WB LR	13.5	B	12.7	B
	NB TR	0.0	A	0.0	A
	SB LT	0.6	A	0.2	A
N Broadway and Dudley Street (Unsignalized)	EB LR	12.0	B	14.2	B
	NB LT	0.5	A	0.4	A
	SB TR	0.0	A	0.0	A
N Broadway and Graham School Driveway (Unsignalized)	EB LR	10.8	B	13.7	B
	NB LT	2.2	A	0.5	A
	SB TR	0.0	A	0.0	A
Broadway and Tompkins Avenue (West)[2] (Unsignalized)	EB TR	20.9	C	11.0	B
	WB LT	29.0	D	16.6	C
	SB LTR	3.7	A	3.2	A
Broadway and Tompkins Avenue (East) (Unsignalized)	EB LT	13.8	B	16.6	C
	WB TR	11.7	B	12.6	B
	NB LTR	0.5	A	0.2	A
Tompkins Avenue and James Street[3] (Unsignalized)	EB LTR	14.7	B	14.9	B
	WB LTR	2.3	A	1.8	A
	NB LTR	6.3	A	5.2	A
	SB LTR	9.5	A	9.7	A
High Street and James Street (Unsignalized)	EB LTR	8.7	A	8.3	A
	WB LTR	10.4	B	9.2	A
	NB LTR	8.6	A	8.4	A
	SB LTR	8.6	A	7.7	A
Farragut Parkway and High Street (Unsignalized)	EB LR	27.8	D	17.3	C
	NB LT	4.0	A	2.8	A
	SB TR	0.0	A	0.0	A

1. Delay is the average delay per vehicle in seconds. LOS is “Level of Service”
2. Synchro Critical gap adjusted to reflect no opposing northbound vehicles and no activity on the opposing driveway.
3. Due to the unusual nature of this intersection (Stop-Controlled on three of four approaches), the intersection configuration was modified to best model the operation of the intersection by assigning free-flow conditions to the Oxford Avenue approach (which has only 13 vehicles per hour). See Synchro Capacity Analysis (Appended) for more details.

Table 9 - Build Conditions - Intersection Capacity Analysis Results[1]					
Intersection	Movement/ Approach	AM Peak Hour		PM Peak Hour	
		Delay (secs)	LOS	Delay (secs)	LOS
N Broadway and Executive Boulevard (Signalized)	WB L	38.4	D	40.2	D
	WB R	3.8	A	3.8	A
	NB T	25.3	C	27.1	C
	NB R	5.9	A	7.2	A
	SB L	16.7	B	19.8	B
	SB T	15.2	B	16.4	B
	INT	**20.8**	**C**	**21.6**	**C**
N Broadway and Andrus Driveway (Unsignalized	WB LR	14.2	B	13.1	B
	NB TR	0.0	A	0.0	A
	SB LT	0.6	A	0.2	A
N Broadway and Dudley Street (Unsignalized)	EB LR	12.3	B	15.0	B
	NB LT	0.4	A	0.4	A
	SB TR	0.0	A	0.0	A
N Broadway and Graham School Driveway (Unsignalized)	EB LR	10.9	B	13.7	B
	NB LT	2.2	A	0.5	A
	SB TR	0.0	A	0.0	A
Broadway and Tompkins Avenue (West)[2] (Unsignalized)	EB TR	21.3	C	11.0	B
	WB LT	32.1	D	16.9	C
	SB LTR	3.7	A	3.2	A
Broadway and Tompkins Avenue (East) (Unsignalized)	EB LT	14.0	B	17.2	C
	WB TR	12.0	B	12.9	B
	NB LTR	0.5	A	0.2	A
Tompkins Avenue and James Street[3] (Unsignalized)	EB LTR	15.2	C	15.4	C
	WB LTR	2.3	A	1.8	A
	NB LTR	6.4	A	5.2	A
	SB LTR	9.5	A	9.7	A
High Street and James Street (Unsignalized)	EB LTR	8.7	A	8.4	A
	WB LTR	10.5	B	9.3	A
	NB LTR	8.7	A	8.5	A
	SB LTR	8.7	A	7.7	A
Farragut Parkway and High Street (Unsignalized)	EB LR	29.0	D	17.6	C
	NB LT	4.1	A	2.9	A
	SB TR	0.0	A	0.0	A
N Broadway and Electric Owl Studios Driveway (Unsignalized)	EB LR	11.9	B	12.6	B
	NB LT	1.1	A	0.3	A
	SB TR	0.0	A	0.0	A

1. Delay is the average delay per vehicle in seconds. LOS is “Level of Service”
2. Synchro Critical gap adjusted to reflect no opposing northbound vehicles and no activity on the opposing driveway.
3. Due to the unusual nature of this intersection (Stop-Controlled on three of four approaches), the intersection configuration was modified to best model the operation of the intersection by assigning free-flow conditions to the Oxford Avenue approach (which has only 13 vehicles per hour). See Synchro Capacity Analysis (Appended) for more details.

A descriptive summary of the Synchro analysis results shown in **Tables 7** to **9** for the study intersections is provided below.

Broadway and Executive Boulevard

- Under Existing conditions at this signalized intersection, operating conditions are similar on all approaches during the weekday AM peak hour and PM peak hour. In both peak hours, the westbound left movement operates at a LOS “D.” The northbound through movement operates at a LOS “C.” The overall intersection operates at a LOS “B” in both peak hours. All other movements in both peak hours operate at a LOS “B” or better.
- In the future under No-Build conditions (without the proposed development, but with forecast increases in existing traffic volumes and vicinity development volumes) compared to the existing conditions, almost all movements operate at the same LOS or better. The overall intersection, in both peak hours, is projected to operates at a LOS “C” because of delay increases of less than 2 seconds.
- Under future Build conditions (with the proposed development added), compared to No-Build conditions, all movements will operate at the same LOS, including the overall intersection, in both peak hours. The average intersection delay during the AM peak hour at this intersection will be 20.8 seconds (down 0.3 seconds from No-Build) while the average intersection delay during the PM peak hour will be 21.6 seconds (unchanged from the No-Build). The intersection has more than adequate capacity to accommodate Project traffic.

Broadway & ANDRUS School Driveway

- Under existing conditions in the AM & PM peak hours at this unsignalized intersection, the westbound left-right movement operates at a LOS “B” in both the AM and PM peak hours. All other movements operate at LOS “A.”
- In the future under No-Build conditions (without the proposed development, but with forecast increases in existing traffic volumes and vicinity development volumes) all movements will operate at the Levels of Services that they do today.
- Under future Build conditions (with the proposed development added), all movements will continue to operate at the same Levels of Services as they do today. The intersection has more than adequate capacity to accommodate Project traffic.

Broadway & Dudley Street

- Under existing conditions in the AM & PM peak hours at this unsignalized intersection, the eastbound left-right movement operates at a LOS “B” in both the AM and PM peak hours. All other movements operate at LOS “A.”
- In the future under No-Build conditions (without the proposed development, but with forecast increases in existing traffic volumes and vicinity development volumes) all movements will operate at the Levels of Services that they do today.
- Under future Build conditions (with the proposed development added), all movements will continue to operate at the same Levels of Services as they do today. The intersection has more than adequate capacity to accommodate Project traffic.

Broadway & Graham School Driveway

- Under existing conditions in the AM & PM peak hours at this unsignalized intersection, the eastbound left-right movement operates at a LOS “B” in both the AM and PM peak hours. All other movements operate at LOS “A.”
- In the future under No-Build conditions (without the proposed development, but with forecast increases in existing traffic volumes and vicinity development volumes) all movements will operate at the Levels of Services that they do today.
- Under future Build conditions (with the proposed development added and driveway relocated), all movements will continue to operate at the same Levels of Services as they do today. The intersection has more than adequate capacity to accommodate Project traffic.

Broadway & Tompkins Avenue (West)/Church Driveway

- Under existing conditions in the AM & PM peak hours at this unsignalized intersection, the eastbound through-right movement operates at a LOS “C” in the AM and a LOS “B” in PM peak hours. The westbound left-through movement operates at a LOS “D” in the AM and a LOS “C” in PM peak hours. The southbound left-through-right movement operates at a LOS “A” in both peak hours.
- In the future under No-Build conditions (without the proposed development, but with forecast increases in existing traffic volumes and vicinity development volumes), all movements will operate at the Levels of Services that they do today.
- Under future Build conditions (with the proposed development added and driveway relocated), all movements will continue to operate at the same Levels of Services as they do today. The intersection has more than adequate capacity to accommodate Project traffic.

Broadway & Tompkins Avenue (East)

- Under existing conditions in the AM & PM peak hours at this unsignalized intersection, the eastbound left-through movement operates at a LOS “B” in the AM and a LOS “C” in PM peak hours. The westbound through-right movement operates at a LOS “B” in both peak hours. The northbound left-through-right movement operates at a LOS “A” in both peak hours.
- In the future under No-Build conditions (without the proposed development, but with forecast increases in existing traffic volumes and vicinity development volumes), all movements will operate at the Levels of Services that they do today.
- Under future Build conditions (with the proposed development added and driveway relocated), all movements will continue to operate at the same Levels of Services as they do today. The intersection has more than adequate capacity to accommodate Project traffic.

Tompkins Avenue and James Street / Oxford Road

- Under existing conditions in the AM & PM peak hours at this unsignalized intersection, the eastbound left-through-right movement operates at a LOS “B” in the AM and PM peak hour. All other movements operates at LOS “A” in all peak hours.
- In the future under No-Build conditions (without the proposed development, but with forecast increases in existing traffic volumes and vicinity development volumes), all movements will operate at the Levels of Services that they do today.
- Under future Build conditions (with the proposed development added and driveway relocated), the eastbound left-through-right will operate at a LOS “C” in both peak hours due to a 0.5-second increase in delay on the approach due to added project traffic. All other movements will continue to operate at the same Levels of Services as they do today. The intersection has more than adequate capacity to accommodate Project traffic.

High Street and James Street

- Under existing conditions in the AM & PM peak hours at this unsignalized intersection, all movements operates at LOS “A” in all peak hours.
- In the future under No-Build conditions, (without the proposed development, but with forecast increases in existing traffic volumes and vicinity development volumes), the westbound left-through-right movement will operate at a LOS “B” in the AM peak hour due to a 0.4-second increase in delay (not attributable to the Project). All other movements continue to operate at LOS “A” in all peak hours.
- Under future Build conditions (with the proposed development added and driveway relocated), all movements will continue to operate at the same Levels of Services as they do under the No-Build conditions. The intersection has more than adequate capacity to accommodate Project traffic.

Farragut Parkway and High Street

- Under existing conditions in the AM & PM peak hours at this unsignalized intersection, the eastbound left-right movement operates at a LOS “C” in both the AM and PM peak hours. All other movements operate at LOS “A.”
- In the future under No-Build conditions, (without the proposed development, but with forecast increases in existing traffic volumes and vicinity development volumes), the eastbound left-right movement will operate at a LOS “D” in the AM peak hour due to a 4.7-second increase in delay (not attributable to the Project). All other movements operate at the same LOS as they do today.
- Under future Build conditions (with the proposed development added and driveway relocated), all movements will continue to operate at the same Levels of Services as they do under the No-Build conditions. The intersection has more than adequate capacity to accommodate Project traffic.

Broadway & Electric Owl Studio Driveway

- Under future Build conditions (with the proposed development added and driveway constructed), the eastbound left-right movement will operate at a LOS “B” in both the AM and PM peak hours. All other movements will operate at LOS “A.” The intersection will have more than adequate capacity to accommodate Project traffic.

Based on the above findings, it is concluded that the Project will not have a significant adverse impact on operating conditions at any of the study intersections.

8.0 ELECTRIC OWL STUDIO ACCESS

8.1 Sight Distance Analysis

An automatic traffic recorder was placed along Broadway, from September 13th to September 18th in order to gather the traffic volumes and current 85th percentile speeds traveling on Broadway in front of the project site. The 85th percentile speed traveling from Yonkers to Hastings (northbound) was found to be 44 mph. The 85th percentile speed traveling from Hastings to Yonkers (southbound) was found to be 42 mph[9].

The NYSDOT offers 2 sight distance standards:

- Intersection Sight Distance (ISD), which is desired
- Stopping Sight Distance (SSD), which is mandatory

Table 10, details both the required intersection sight distances and stopping sight distances looking left and right from the proposed two driveways on Broadway.

Table 10 – Site Driveway Sight Distances

Driveway	Looking Left				Looking Right			
	Mandatory SSD		*Desirable ISD*		*Mandatory SSD*		*Desirable ISD*	
	Calc.	*Satisfies?*	*Calc.*	*Satisfies?*	*Calc.*	*Satisfies?*	*Calc.*	*Satisfies?*
Existing Driveway	*305'*	*Yes[1]*	*405'*	*Yes[1]*	*380'*	*Yes[1]*	*490'*	*Yes[1]*
Proposed Driveway	*305'*	Yes[1]	*405'*	*Yes[1]*	*380'*	*Yes[1]*	*490'*	*Yes[1]*

[1] Condition can be met if brick wall is moved back from the road Condition and any obstructing vegetation is removed

Based on observations conducted along the property's frontage in Broadway in the vicinity of both driveway locations, it has been determined that more than adequate intersection and stopping sight distances can be provided in both directions as long as the existing brick wall along Broadway is moved back and any vegetation that might interfere with sightlines is removed. Detailed Sightline plans will need to be prepared to indicate how this can be accomplished.

Based on an evaluation of the above information, it is concluded that both driveways can be designed to meet the sight distance requirements of the NYSDOT.

[9] The posted speed limit on Broadway is 30-mph in Yonkers and 25-mph in Hastings

8.2 Truck Access

Designated routes will be used by tractor trailers to and from the studio site. The routes identified will be suitable to accommodate the largest delivery truck (WB-50) to serve the studio. Loading docks onsite have been sized for WB-50 tractor trailers. Tractor trailers will remain onsite for most of the filming time, approximately 4 - 6 months, with equipment used in the process. Smaller box trucks will be used for typical delivery items and will not be kept onsite, but will instead arrive, drop off their deliveries, and depart.

A review of the roadways serving the site was conducted to determine which routes would best serve the studio facility. It is worth noting that while WB-50s are able to enter from Yonkers in the south, no through truck traffic is permitted heading southbound on North Broadway in the City of Yonkers. In this case, vehicles traveling southbound will need to leave the site and head north on Broadway before traveling on Ashford Avenue in the Village of Dobbs Ferry to access arterials traveling southbound. The following approach and departure routes (also shown on the appended figures) were determined (see below) to be suitable to accommodate WB-50 tractor trailers.

Designated Route for WB-50 Tractor Trailers Arriving at the Proposed Studio Site from the South

1. WB-50 Tractor Trailers shall be required[10] to take I-87 Exit 6 (Tuckahoe Road)
2. Take Tuckahoe Road west to Saw Mill River Road (NYS 9A)
3. Turn right onto Saw Mill River Road (NYS 9A)
4. Take Saw Mill River Road north to Odell Avenue
5. Turn left onto Odell Avenue
6. Turn right onto Nepperhan Avenue
7. Turn left onto Executive Boulevard
8. Take Executive Boulevard west to N Broadway
9. Turn right onto N Broadway
10. Turn left into the Studio Site

Designated Route for WB-50 Tractor Trailers Departing from the Proposed Studio Site to the South

1. WB-50 Tractor Trailers are not permitted to take Broadway southbound from the Studio Site (“No Thru Truck Traffic”)
2. Instead, WB-50 Tractor Trailers shall[13] be required to turn left onto Broadway from the Studio Site
3. Take Broadway north through the Villages of Hasting to the Village of Dobbs Ferry
4. Turn right onto Ashford Avenue
5. Turn right onto Saw Mill River Road
6. Turn left onto I-87 southbound

[10] The studio will instruct all of its drivers and vendors to use the designated routes

Designated Route for WB-50 Tractor Trailers Arriving at the Proposed Studio Site from the North

1. WB-50 Tractor Trailers shall be required[211] to take NYS Thruway (I-287/I-87) Exit 9
2. Trucks from the east will turn left onto White Plains Road and then left onto Broadway
3. Trucks from the west will simply turn left onto Broadway
4. Take Broadway South through the Villages of Irvington, Dobbs Ferry, and Hastings
5. Turn right into the Studio Site

Designated Route for WB-50 Tractor Trailers Departing from the Proposed Studio Site to the North

1. WB-50 Tractor Trailers shall be required[14] to turn left onto Broadway from the Studio Site
2. Take Broadway north through Villages of Hastings, Dobbs Ferry, and Irvington
3. Turn right onto I-87/I-287 eastbound or right onto NYS 119 and then right onto I-87/I-287 westbound

To confirm that the roadway geometries on the above routes would be sufficient to accommodate the largest vehicles expected, Kimley-Horn executed truck turning template analyses using a WB-50 vehicle for all of the more difficult maneuvers, which are available on request. These turning template analyses confirmed that all trucks will be able to use the above routes to access the studio site without unduly interfering with through traffic on Broadway.

The proposed driveway layout is not finalized, but preliminary plans allow for the site to accommodate WB-50 vehicles turning into and out of the site from either direction on Broadway. Provided that the driveway is designed to NYSDOT standards (30 feet wide with 33-foot turning radii), all vehicles expected to travel to or from the studio will be able to be accommodated.

The contemplated second driveway is also preliminary designed in compliance with NYSDOT standards to accommodate the largest vehicles expected to service the school (school buses and SU-30 box trucks).

[11] The studio will instruct all of its drivers and vendors to use the designated routes

9.0 CONCLUSIONS

Based on the detailed analysis provided herein, it is concluded that the proposal to develop new multi-media production studios at the Graham School property, and to relocate the Graham School's driveway will not have a significant adverse impact on area traffic operating conditions.

Appendix

- Accident Analysis Tables
- Broadway Traffic Volume Calculations
- Trip Generation Comparison Tables
- Truck Access Drawings
- Synchro Analysis Reports

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Accident Analysis Tables

Crash Summary by Crash Type 1/1/2018 to 03/06/2023									
Location	**No. of Crashes**								
	Total	**Fixed Object**	**Left-Turn**	**Right-Turn**	**Rear End**	**Right Angle**	**Pedestrian**	**Sideswipe**	**Other / Unknown**
Crashes at Study Intersections									
Broadway and Executive Boulevard	22	6	3	0	8	3	0	0	2
Broadway and Andrus Driveway	0	0	0	0	0	0	0	0	0
Broadway and Dudley Street	0	0	0	0	0	0	0	0	0
Broadway and Graham School Driveway	0	0	0	0	0	0	0	0	0
Broadway and Tompkins Avenue	1	0	0	0	0	0	0	0	1
Tompkins Avenue and James Street/Oxford Road	2	0	0	0	1	0	0	0	1
James Street and Crossbar Road	1	0	0	0	0	0	1	0	0
High Street and James Street	1	0	0	0	0	1	0	0	0
High Street and Rose Street	2	1	0	0	0	1	0	0	0
High Street and Prince Street	1	0	0	0	0	1	0	0	0
Farragut Parkway and High Street	11	1	1	0	1	4	0	0	4
TOTAL at Intersections	41	8	4	0	10	10	1	0	8
Crashes between Study Intersections									
Broadway between Executive Boulevard and Andrus Main Driveway	4	3	0	0	1	0	0	0	0
Broadway between Graham School Driveway and Tompkins Avenue	2	0	0	0	0	0	0	2	0
Topkins Avenue between Broadway and James Street/Oxford Road	2	1	0	0	0	0	0	0	1
TOTAL between Intersections	8	4	0	0	1	0	0	2	1
TOTAL in Study Area	**49**	**12**	**4**	**0**	**11**	**10**	**1**	**2**	**9**

Crash Summary by Contributing Factor
1/1/2018 to 03/06/2023

Location	No. of Crashes														
	Total	Road Rage	Backing Unsafely	Driver Inattention	Driverless Vehicle	Drowsy	Failure to yield ROW	Following too Closely	Obstruction to Sight	Pavement Slippery	Mechnical Issue	Traffic Control Devices	Turning Improper	Unsafe Speed	N/A / Unknown
Crashes at Study Intersections															
Broadway and Executive Boulevard	22	1	1	6	0	1	3	0	1	4	1	0	1	1	2
Broadway and Andrus Driveway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Broadway and Dudley Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Broadway and Graham School Driveway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Broadway and Tompkins Avenue	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Tompkins Avenue and James Street/Oxford Road	2	0	0	0	0	0	0	1	0	0	0	0	0	0	1
James Street and Crossbar Road	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
High Street and James Street	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
High Street and Rose Street	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1
High Street and Prince Street	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Farragut Parkway and High Street	11	0	0	0	0	0	1	1	1	0	0	0	1	0	7
TOTAL at Intersections	41	1	3	6	0	1	5	2	2	4	1	1	2	1	12
Crashes between Study Intersections															
Broadway between Executive Boulevard and Andrus Main Driveway	4	0	0	2	0	1	0	0	0	1	0	0	0	0	0
Broadway between Graham School Driveway and Tompkins Avenue	2	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Topkins Avenue between Broadway and James Street/Oxford Road	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0
TOTAL between Intersections	8	0	0	3	1	1	0	1	0	1	0	0	0	1	0
TOTAL in Study Area	**49**	**1**	**3**	**9**	**1**	**2**	**5**	**3**	**2**	**5**	**1**	**1**	**2**	**2**	**12**

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Broadway Traffic Volume Calculations

	COUNT_ID	870091_07242017	870091_07242017	870091_07242017
	REGION	8	8	8
	REGION_CODE	8	8	8
	COUNTY_CODE	7	7	7
	STATION	91	91	91
	RCSTA	870091	870091	870091
	FUNCTIONAL_CLASS	14	14	14
	FACTOR_GROUP	30	30	30
	LATITUDE	40.98712	40.98712	40.98712
	LONGITUDE	-73.88179	-73.88179	-73.88179
	SPECIFIC_RECORDER_PLACEMENT	100' N S of High St	100' N S of High St	100' N S of High St
	CHANNEL_NOTES	NB Travel Lane	SB Travel Lane	
	DATA_TYPE	Volume Statistics	Volume Statistics	Volume Statistics
	VEHICLE_AXLE_CODE	1	1	1
	YEAR	2017	2017	2017
	MONTH	**7**	**7**	**7**
	DAY_OF_FIRST_DATA	24	24	24
	FEDERAL_DIRECTION	**Northbound**	**Southbound**	**Combined Total**
	FULL_COUNT			Y
	AVG_WKDAY_INTERVAL_1	16	26	42
	AVG_WKDAY_INTERVAL_2	6	9	15
	AVG_WKDAY_INTERVAL_3	4	4	8
	AVG_WKDAY_INTERVAL_4	3	5	8
	AVG_WKDAY_INTERVAL_5	8	4	12
	AVG_WKDAY_INTERVAL_6	32	16	48
	AVG_WKDAY_INTERVAL_7	80	65	145
	AVG_WKDAY_INTERVAL_8	189	189	378
	AVG_WKDAY_INTERVAL_9	276	280	556
	AVG_WKDAY_INTERVAL_10	248	229	477
	AVG_WKDAY_INTERVAL_11	198	162	360
	AVG_WKDAY_INTERVAL_12	202	179	381
	AVG_WKDAY_INTERVAL_13	232	202	434
	AVG_WKDAY_INTERVAL_14	204	209	413
	AVG_WKDAY_INTERVAL_15	212	220	432
	AVG_WKDAY_INTERVAL_16	240	224	464
	AVG_WKDAY_INTERVAL_17	276	274	**550**
5-6pm	AVG_WKDAY_INTERVAL_18	304	262	566
	AVG_WKDAY_INTERVAL_19	196	239	435
	AVG_WKDAY_INTERVAL_20	144	175	319
	AVG_WKDAY_INTERVAL_21	100	125	225
	AVG_WKDAY_INTERVAL_22	67	105	172
	AVG_WKDAY_INTERVAL_23	56	69	125
	AVG_WKDAY_INTERVAL_24	33	37	70
	AVG_WKDAY_DAILY_TRAFFIC	3326	3309	6635
	SEASONAL_FACTOR	1.101	1.101	1.101
	AXLE_FACTOR	1	1	1
	AADT	3021	3005	6026
	HIGH_HOUR_VALUE	304	304	566
	HIGH_HOUR_INTERVAL	18	18	18
	K_FACTOR			9
	D_FACTOR			54
	FLAG_FIELD			
	BATCH_ID	247563	247563	247563

Peak Hour of Counts is 7:30-8:30 AM

From TMC (see next page)

7:30 - 8:30 AM	7:00 - 8:00 AM
623	559

10.3%
Lower

Peak Hour of Counts is 5:00-6:00 PM

From NYSDOT ATR

5:00 - 6:00 PM	7:00 - 8:00 PM
566	**319**

43.6%
Lower

Leg	US 9						US 9						Graham School Driveway						
Direction	Southbound						NorthBound						Eastbound						
Start Time	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Int Total**
2022/09/15 07:00:00	5	67	0	**72**	0	0	39	2	0	**41**	2	0	0	1	0	**1**	0	0	**114**
2022/09/15 07:15:00	4	83	0	**87**	0	0	45	11	0	**56**	0	0	0	0	0	**0**	0	0	**143**
2022/09/15 07:30:00	14	73	0	**87**	0	0	63	15	0	**78**	9	0	3	0	0	**3**	0	0	**168**
2022/09/15 07:45:00	41	74	0	**115**	0	0	49	24	0	**73**	0	0	3	1	0	**4**	1	0	**192**
2022/09/15 08:00:00	20	91	0	**111**	0	0	62	19	1	**82**	5	0	5	1	0	**6**	0	0	**199**
2022/09/15 08:15:00	7	81	0	**88**	0	0	46	12	0	**58**	0	0	6	0	0	**6**	0	1	**152**
2022/09/15 08:30:00	2	73	0	**75**	0	0	46	5	0	**51**	1	0	7	1	0	**8**	0	0	**134**
2022/09/15 08:45:00	2	64	0	**66**	0	0	43	4	0	**47**	0	0	0	0	0	**0**	0	1	**113**
2022/09/15 14:00:00	1	33	0	**34**	0	0	50	3	0	**53**	0	0	2	3	0	**5**	0	0	**92**
2022/09/15 14:15:00	0	46	0	**46**	0	0	42	8	0	**50**	0	0	1	1	0	**2**	0	0	**98**
2022/09/15 14:30:00	3	47	0	**50**	0	0	70	18	0	**88**	0	0	2	1	0	**3**	0	0	**141**
2022/09/15 14:45:00	5	70	0	**75**	0	0	71	11	0	**82**	0	0	7	3	0	**10**	1	0	**167**
2022/09/15 15:00:00	1	81	0	**82**	0	0	71	7	0	**78**	0	1	24	6	0	**30**	0	1	**190**
2022/09/15 15:15:00	0	55	0	**55**	0	0	89	1	0	**90**	0	0	28	32	0	**60**	0	4	**205**
2022/09/15 15:30:00	0	70	0	**70**	0	0	82	0	0	**82**	0	0	9	17	0	**26**	0	1	**178**
2022/09/15 15:45:00	0	58	0	**58**	0	0	61	1	0	**62**	0	0	0	2	0	**2**	0	0	**122**
2022/09/15 16:00:00	1	58	0	**59**	0	0	80	2	0	**82**	0	0	3	9	0	**12**	0	0	**153**
2022/09/15 16:15:00	5	55	0	**60**	0	0	75	1	0	**76**	0	0	3	4	0	**7**	0	0	**143**
2022/09/15 16:30:00	3	67	0	**70**	0	0	52	0	0	**52**	0	0	0	4	0	**4**	0	0	**126**
2022/09/15 16:45:00	0	58	0	**58**	0	0	57	2	0	**59**	0	0	2	5	0	**7**	0	0	**124**
2022/09/15 17:00:00	0	48	0	**48**	0	0	75	0	0	**75**	0	0	1	1	0	**2**	0	0	**125**
2022/09/15 17:15:00	2	69	0	**71**	0	0	67	2	0	**69**	0	0	1	0	0	**1**	0	0	**141**
2022/09/15 17:30:00	2	75	0	**77**	0	0	46	0	0	**46**	0	0	0	5	0	**5**	0	2	**128**
2022/09/15 17:45:00	0	63	0	**63**	0	0	58	0	0	**58**	0	0	2	3	0	**5**	0	0	**126**
Grand Total	118	1559	0	**1677**	0	0	1439	148	1	**1588**	17	1	109	100	0	**209**	2	10	**3474**
% Approach	7.0%	93.0%	0.0%				90.6%	9.3%	0.1%				52.2%	47.8%	0.0%				
% Total	3.4%	44.9%	0.0%	**48.3%**			41.4%	4.3%	0.0%	**45.7%**			3.1%	2.9%	0.0%	**6.0%**			
Motorcycles	1	2	0	**3**			6	1	0	**7**			1	2	0	**3**			**13**
% Motorcycles	0.8%	0.1%	0.0%				0.4%	0.7%	0.0%				0.9%	2.0%	0.0%				**0.4%**
Cars	94	1419	0	**1513**			1341	93	0	**1434**			102	97	0	**199**			**3146**
% Cars	79.7%	91.0%	0.0%				93.2%	62.8%	0.0%				93.6%	97.0%	0.0%				**90.6%**
Single-Unit Trucks	0	31	0	**31**			30	1	1	**32**			1	0	0	**1**			**64**
% Single-Unit Trucks	0.0%	2.0%	0.0%				2.1%	0.7%	100.0%				0.9%	0.0%	0.0%				**1.8%**
Articulated Trucks	0	1	0	**1**			1	0	0	**1**			0	0	0	**0**			**2**
% Articulated Trucks	0.0%	0.1%	0.0%				0.1%	0.0%	0.0%				0.0%	0.0%	0.0%				**0.1%**
Buses	23	103	0	**126**			57	53	0	**110**			5	1	0	**6**			**242**
% Buses	19.5%	6.6%	0.0%				0.0%	35.8%	0.0%				4.6%	1.0%	0.0%				**7.0%**
Bicycles on Road	0	3	0	**3**			4	0	0	**4**			0	0	0	**0**			**7**
% Bicycles on Road	0.0%	0.2%	0.0%				0.3%	0.0%	0.0%				0.0%	0.0%	0.0%				**0.2%**
Pedestrians					0	0					17	1					2	10	
% Pedestrians					0.0%	0.0%					100.0%	100.0%					100.0%	100.0%	
Bicycles on Crosswalk					0	0					0	0					0	0	
% Bicycles on Crosswalk					0.0%	0.0%					0.0%	0.0%					0.0%	0.0%	

Kimley»Horn
New York

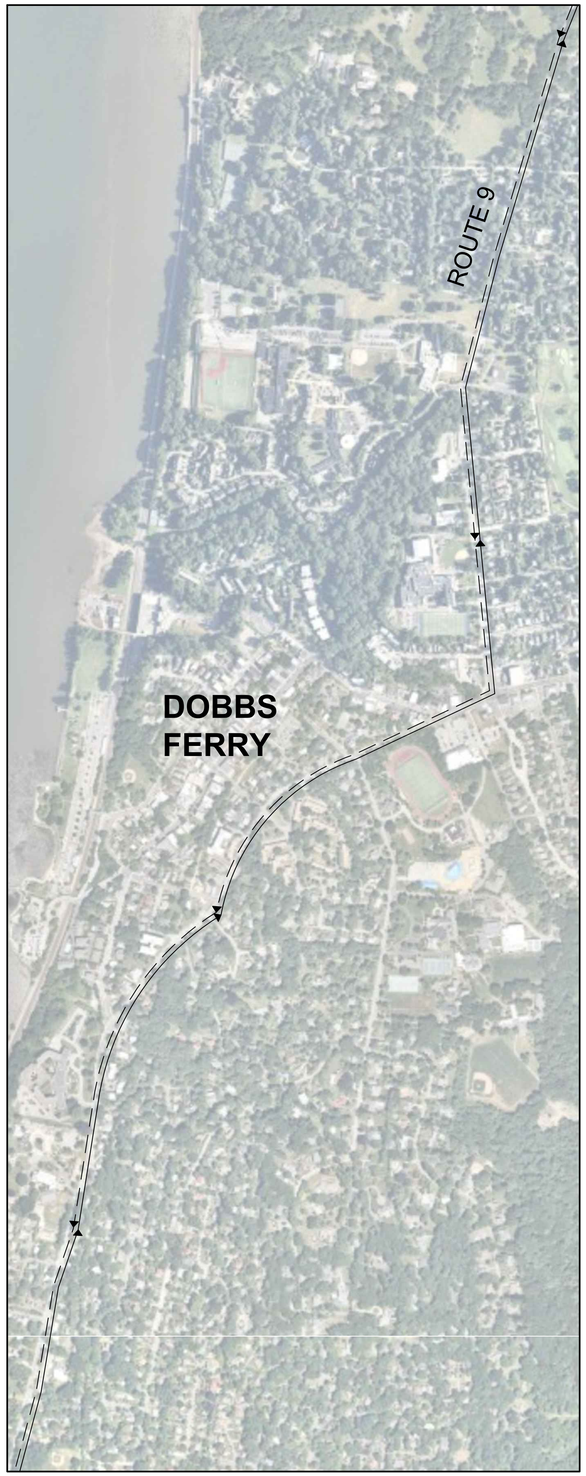
Trip Generation Comparison Tables

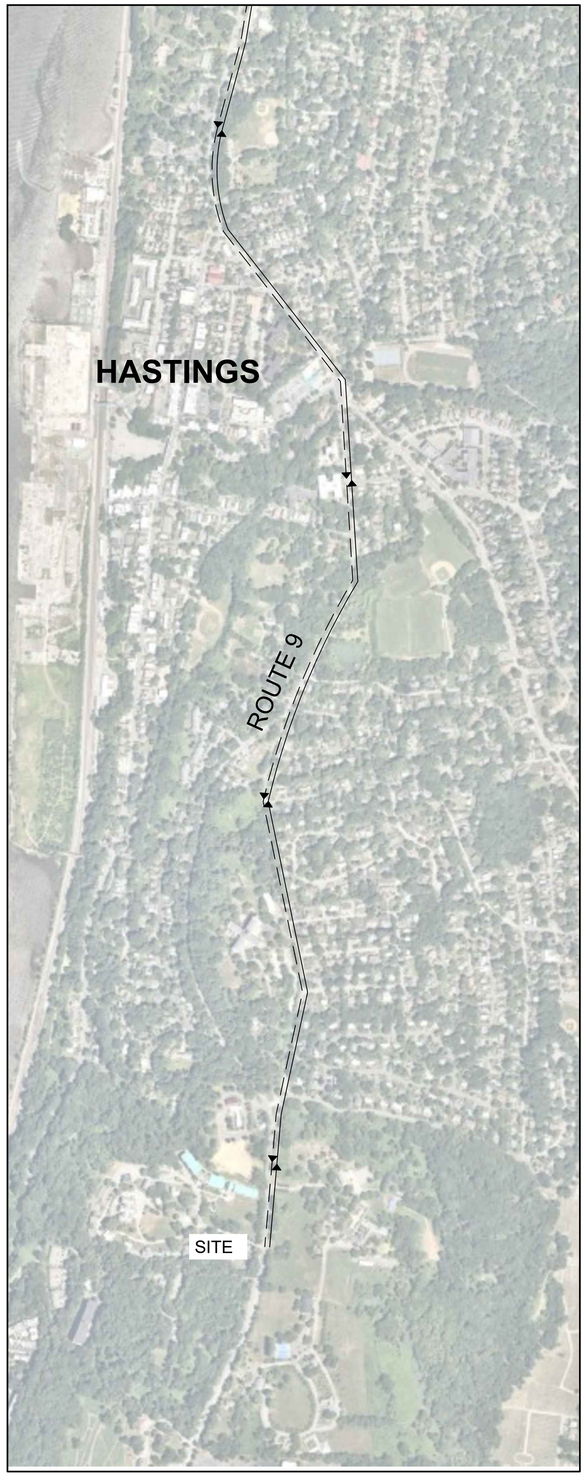
Peak Hour Trip Generation Table (Employees)							
Size	Unit	Land Use	LUC Code (ITE)	AM Peak Hour			
				Average Rate	Total Trips	In	Out
120	Employees	General Light Industrial	110	0.53	64	53	11
		Industrial Park	130	0.44	53	45	7
		Manufacturing	140	0.32	38	28	10
		Land Use	LUC Code (ITE)	PM Peak Hour			
				Average Rate	Total Trips	In	Out
		General Light Industrial	110	0.49	59	13	46
		Industrial Park	130	0.42	50	10	40
		Manufacturing	140	0.31	37	14	23

Kimley»Horn
New York

Truck Access Drawings

K:\WHP_TPTO\112701000_1 SoBroadway_Hastings_NY\9. Traffic\Safety\Vehicle Maneuvering\xTITL - XXXXXXXX (24x36).dwg





NORTH

GRAPHIC SCALE IN FEET
0 250 500 1000

TRUCK ACCESS ROUTE - IN

TRUCK ACCESS ROUTE - OUT

NO.	REVISIONS	DATE	BY

NOT FOR CONSTRUCTION

Kimley»Horn

© 2022 KIMLEY-HORN ENGINEERING AND LANDSCAPE ARCHITECTURE OF NEW YORK, P.C.
1 HORTH BROADWAY, SUITE 505, SUITE 505
WHITE PLAINS, NY 10601
PHONE: 914-368-8200
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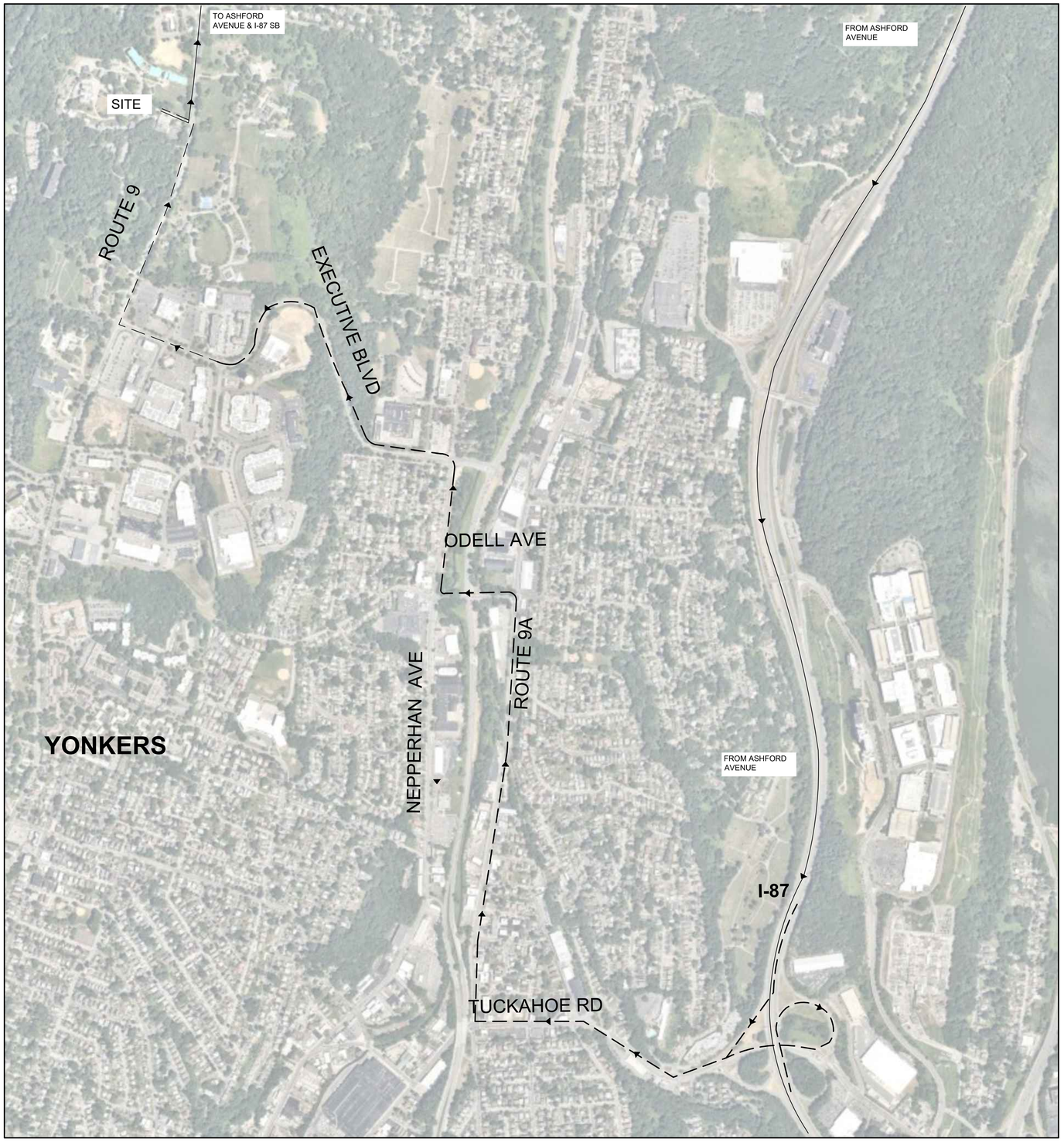
KHA PROJECT	112701000
DATE	4/6/2023
SCALE:	AS SHOWN
DESIGNED BY:	WHS
DRAWN BY:	WHS
CHECKED BY:	TJC

TRUCK ACCESS MAP NORTH

PROPOSED PRODUCTION STUDIO
1 SOUTH BROADWAY
HASTINGS-ON-HUDSON, NY 10706
TOWN OF GREENBURGH NEW YORK

SHEET NUMBER
T1.0

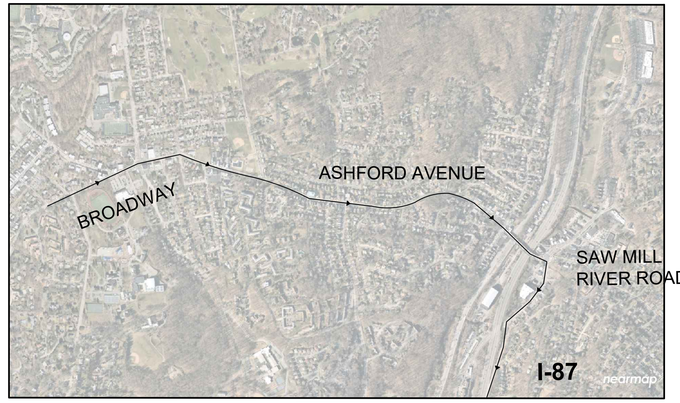


GRAPHIC SCALE IN FEET
0 250 500 1000

TRUCK ACCESS ROUTE - IN

TRUCK ACCESS ROUTE - OUT

NORTH



GRAPHIC SCALE IN FEET
0 500 1000 2000

NO.	REVISIONS	DATE	BY

NOT FOR CONSTRUCTION

Kimley»Horn

1 NORTH LEXINGTON AVE., SUITE 505
WHITE PLAINS, NY 10601
PHONE: 914-368-8200
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KHA PROJECT	112701000
DATE	4/6/2023
SCALE:	AS SHOWN
DESIGNED BY:	WHS
DRAWN BY:	WHS
CHECKED BY:	TJC

TRUCK ACCESS MAP SOUTH

PROPOSED PRODUCTION STUDIO
1 SOUTH BROADWAY
HASTINGS-ON-HUDSON, NY 10706
TOWN OF GREENBURGH NEW YORK

SHEET NUMBER
T1.1

Kimley»Horn
New York

Synchro Analysis Reports

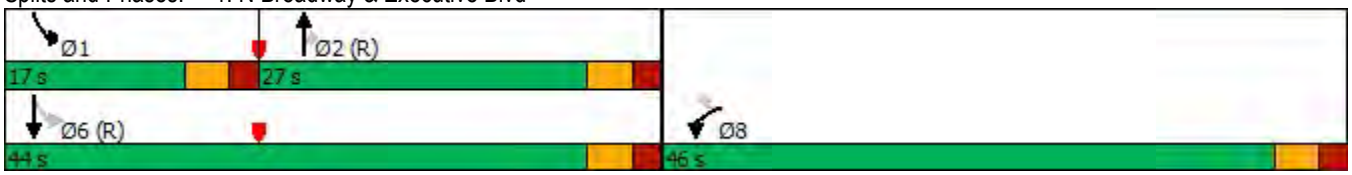
Existing, No-Build and Build

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	457	149	222	344	132	170
Future Volume (vph)	457	149	222	344	132	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	10	10
Grade (%)	4%		0%			0%
Storage Length (ft)	0	0		190	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1660	1275	3149	1545	1440	1673
Flt Permitted	0.950				0.530	
Satd. Flow (perm)	1658	1258	3149	1511	802	1673
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		154		355		
Link Speed (mph)	30		30			30
Link Distance (ft)	1006		655			1051
Travel Time (s)	22.9		14.9			23.9
Confl. Peds. (#/hr)	1	2		1	1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	20%	7%	8%	17%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	471	154	229	355	136	175
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.0	26.0	26.0	26.0	10.0	26.0
Total Split (s)	46.0	46.0	27.0	27.0	17.0	44.0
Total Split (%)	51.1%	51.1%	30.0%	30.0%	18.9%	48.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	31.6	31.6	33.6	33.6	48.4	48.4
Actuated g/C Ratio	0.35	0.35	0.37	0.37	0.54	0.54
v/c Ratio	0.81	0.28	0.19	0.45	0.27	0.19
Control Delay	37.1	4.2	22.4	5.2	14.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	4.2	22.4	5.2	14.2	13.3
LOS	D	A	C	A	B	B
Approach Delay	29.0		12.0			13.7
Approach LOS	C		B			B
Queue Length 50th (ft)	239	0	45	0	37	49
Queue Length 95th (ft)	305	33	88	69	85	105

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	926		575			971
Turn Bay Length (ft)				190		
Base Capacity (vph)	756	656	1176	786	517	899
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.23	0.19	0.45	0.26	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 19.3		Intersection LOS: B	
Intersection Capacity Utilization 62.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: N Broadway & Executive Blvd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	3	313	58	22	293
Future Volume (Veh/h)	9	3	313	58	22	293
Sign Control	Stop		Free			Free
Grade	0%		-1%			3%
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	10	3	364	67	26	341
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1051			
pX, platoon unblocked						
vC, conflicting volume	620	216			431	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620	216			431	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			98	
cM capacity (veh/h)	410	789			1125	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	243	188	140	227
Volume Left	10	0	0	26	0
Volume Right	3	0	67	0	0
cSH	461	1700	1700	1125	1700
Volume to Capacity	0.03	0.14	0.11	0.02	0.13
Queue Length 95th (ft)	2	0	0	2	0
Control Delay (s)	13.0	0.0	0.0	1.7	0.0
Lane LOS	B			A	
Approach Delay (s)	13.0	0.0		0.6	
Approach LOS	B				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	12	16	300	303	16
Future Volume (Veh/h)	13	12	16	300	303	16
Sign Control	Stop			Free	Free	
Grade	-3%			-4%	4%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	14	13	18	333	337	18
Pedestrians	4					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	552	182	359			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	552	182	359			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	97	98	98			
cM capacity (veh/h)	460	833	1157			

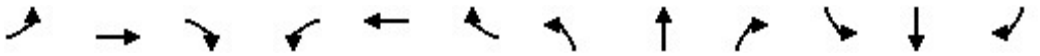
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	27	129	222	225	130
Volume Left	14	18	0	0	0
Volume Right	13	0	0	0	18
cSH	586	1157	1700	1700	1700
Volume to Capacity	0.05	0.02	0.13	0.13	0.08
Queue Length 95th (ft)	4	1	0	0	0
Control Delay (s)	11.4	1.3	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	11.4	0.5		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	17	70	243	302	82
Future Volume (Veh/h)	2	17	70	243	302	82
Sign Control	Stop			Free	Free	
Grade	0%			-5%	5%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	18	76	264	328	89
Pedestrians	6			1		
Lane Width (ft)	12.0			10.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	662	216	423			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	662	216	423			
tC, single (s)	7.5	7.0	4.6			
tC, 2 stage (s)						
tF (s)	3.8	3.4	2.5			
p0 queue free %	99	98	92			
cM capacity (veh/h)	304	772	979			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	20	164	176	219	198
Volume Left	2	76	0	0	0
Volume Right	18	0	0	0	89
cSH	669	979	1700	1700	1700
Volume to Capacity	0.03	0.08	0.10	0.13	0.12
Queue Length 95th (ft)	2	6	0	0	0
Control Delay (s)	10.5	4.6	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	10.5	2.2		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

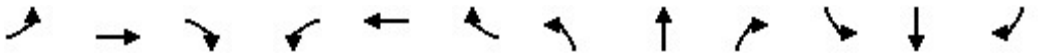


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	69	2	0	0	0	0	181	315	0
Future Volume (Veh/h)	0	1	0	69	2	0	0	0	0	181	315	0
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-5%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	1	0	88	3	0	0	0	0	232	404	0
Pedestrians		3						1			4	
Lane Width (ft)		16.0						0.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	876	871	408	870	871	4	407			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	876	871	408	870	871	4	407			0		
tC, single (s)	7.1	6.5	6.2	*6.6	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	4.0	3.3	2.2			2.3		
p0 queue free %	100	100	100	67	99	100	100			85		
cM capacity (veh/h)	236	248	645	265	248	1081	1158			1585		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1	91	636
Volume Left	0	88	232
Volume Right	0	0	0
cSH	248	265	1585
Volume to Capacity	0.00	0.34	0.15
Queue Length 95th (ft)	0	37	13
Control Delay (s)	19.6	25.5	3.7
Lane LOS	C	D	A
Approach Delay (s)	19.6	25.5	3.7
Approach LOS	C	D	

Intersection Summary				
Average Delay	6.5			
Intersection Capacity Utilization	44.2%	ICU Level of Service	A	
Analysis Period (min)	15			

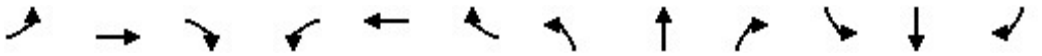
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	101	0	0	73	94	14	185	46	0	0	0
Future Volume (Veh/h)	46	101	0	0	73	94	14	185	46	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		5%			-2%			2%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	51	112	0	0	81	104	16	206	51	0	0	0
Pedestrians		1									2	
Lane Width (ft)		15.0									0.0	
Walking Speed (ft/s)		3.5									3.5	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	178	290	1	320	264	130	1			257		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	178	290	1	320	264	130	1			257		
tC, single (s)	7.6	6.7	6.9	7.5	6.8	7.0	5.8			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.1	3.3	3.0			2.2		
p0 queue free %	91	81	100	100	87	88	99			100		
cM capacity (veh/h)	593	592	1088	520	606	886	1185			1320		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	163	185	119	154
Volume Left	51	0	16	0
Volume Right	0	104	0	51
cSH	592	737	1185	1700
Volume to Capacity	0.28	0.25	0.01	0.09
Queue Length 95th (ft)	28	25	1	0
Control Delay (s)	13.4	11.5	1.2	0.0
Lane LOS	B	B	A	
Approach Delay (s)	13.4	11.5	0.5	
Approach LOS	B	B		

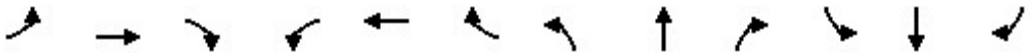
Intersection Summary				
Average Delay	7.2			
Intersection Capacity Utilization	38.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	43	7	0	7	21	126	0	29	4	4	5
Future Volume (Veh/h)	79	43	7	0	7	21	126	0	29	4	4	5
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			-1%			2%			-8%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	92	50	8	0	8	24	147	0	34	5	5	6
Pedestrians					3			1			3	
Lane Width (ft)					11.0			15.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	360	349	9	366	335	23	11			37		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	360	349	9	366	335	23	11			37		
tC, single (s)	7.1	6.5	6.4	7.1	6.6	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.5	3.5	4.1	3.3	2.3			2.2		
p0 queue free %	83	90	99	100	98	98	91			100		
cM capacity (veh/h)	533	513	1013	502	515	1054	1551			1582		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	150	32	181	16
Volume Left	92	0	147	5
Volume Right	8	24	34	6
cSH	540	836	1551	1582
Volume to Capacity	0.28	0.04	0.09	0.00
Queue Length 95th (ft)	28	3	8	0
Control Delay (s)	14.2	9.5	6.3	2.3
Lane LOS	B	A	A	A
Approach Delay (s)	14.2	9.5	6.3	2.3
Approach LOS	B	A		

Intersection Summary				
Average Delay	9.5			
Intersection Capacity Utilization	35.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	95	5	17	188	4	7	2	109	12	0	1
Future Volume (vph)	0	95	5	17	188	4	7	2	109	12	0	1
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	0	125	7	22	247	5	9	3	143	16	0	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	132	274	155	17
Volume Left (vph)	0	22	9	16
Volume Right (vph)	7	5	143	1
Hadj (s)	0.00	0.09	-0.46	0.33
Departure Headway (s)	4.6	4.6	4.4	5.4
Degree Utilization, x	0.17	0.35	0.19	0.03
Capacity (veh/h)	739	756	752	599
Control Delay (s)	8.6	10.0	8.5	8.5
Approach Delay (s)	8.6	10.0	8.5	8.5
Approach LOS	A	A	A	A

Intersection Summary				
Delay		9.2		
Level of Service		A		
Intersection Capacity Utilization		33.9%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	145	79	74	103	226	134
Future Volume (Veh/h)	145	79	74	103	226	134
Sign Control	Stop			Free	Free	
Grade	-10%			2%	-3%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	181	99	92	129	282	168
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	614	225	450			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	614	225	450			
tC, single (s)	6.8	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	53	87	92			
cM capacity (veh/h)	389	773	1100			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	280	135	86	188	262
Volume Left	181	92	0	0	0
Volume Right	99	0	0	0	168
cSH	472	1100	1700	1700	1700
Volume to Capacity	0.59	0.08	0.05	0.11	0.15
Queue Length 95th (ft)	94	7	0	0	0
Control Delay (s)	23.1	6.1	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	23.1	3.7		0.0	
Approach LOS	C				

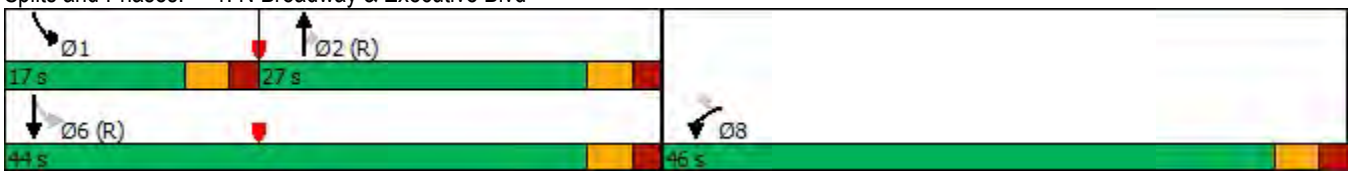
Intersection Summary			
Average Delay	7.7		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	483	99	230	477	154	182
Future Volume (vph)	483	99	230	477	154	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	10	10
Grade (%)	4%		0%			0%
Storage Length (ft)	0	0		190	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1644	1297	3209	1589	1416	1689
Flt Permitted	0.950				0.518	
Satd. Flow (perm)	1644	1278	3209	1551	770	1689
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		104		502		
Link Speed (mph)	30		30			30
Link Distance (ft)	1006		655			1051
Travel Time (s)	22.9		14.9			23.9
Confl. Peds. (#/hr)		3		2	2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	18%	5%	5%	19%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	508	104	242	502	162	192
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.0	26.0	26.0	26.0	10.0	26.0
Total Split (s)	46.0	46.0	27.0	27.0	17.0	44.0
Total Split (%)	51.1%	51.1%	30.0%	30.0%	18.9%	48.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	33.4	33.4	31.0	31.0	46.6	46.6
Actuated g/C Ratio	0.37	0.37	0.34	0.34	0.52	0.52
v/c Ratio	0.83	0.19	0.22	0.58	0.34	0.22
Control Delay	37.7	4.1	24.1	5.9	15.9	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	4.1	24.1	5.9	15.9	14.3
LOS	D	A	C	A	B	B
Approach Delay	32.0		11.8			15.1
Approach LOS	C		B			B
Queue Length 50th (ft)	255	0	52	0	48	57
Queue Length 95th (ft)	337	27	93	84	102	115

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	926		575			971
Turn Bay Length (ft)				190		
Base Capacity (vph)	748	638	1106	863	486	874
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.16	0.22	0.58	0.33	0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 19.7		Intersection LOS: B	
Intersection Capacity Utilization 65.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: N Broadway & Executive Blvd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	7	311	18	9	325
Future Volume (Veh/h)	11	7	311	18	9	325
Sign Control	Stop		Free			Free
Grade	0%		-1%			3%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	13	8	370	21	11	387
Pedestrians						1
Lane Width (ft)						10.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1051			
pX, platoon unblocked						
vC, conflicting volume	596	196			391	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	596	196			391	
tC, single (s)	6.8	6.9			4.4	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	97	99			99	
cM capacity (veh/h)	435	817			1089	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	21	247	144	140	258
Volume Left	13	0	0	11	0
Volume Right	8	0	21	0	0
cSH	529	1700	1700	1089	1700
Volume to Capacity	0.04	0.15	0.08	0.01	0.15
Queue Length 95th (ft)	3	0	0	1	0
Control Delay (s)	12.1	0.0	0.0	0.7	0.0
Lane LOS	B			A	
Approach Delay (s)	12.1	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	14	16	302	320	24
Future Volume (Veh/h)	30	14	16	302	320	24
Sign Control	Stop			Free	Free	
Grade	-3%			-4%	4%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	36	17	19	364	386	29
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	624	210	418			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	624	210	418			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.3			
p0 queue free %	91	98	98			
cM capacity (veh/h)	408	778	1106			

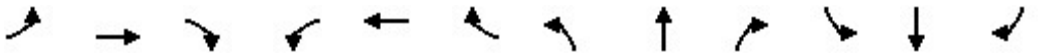
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	53	140	243	257	158
Volume Left	36	19	0	0	0
Volume Right	17	0	0	0	29
cSH	481	1106	1700	1700	1700
Volume to Capacity	0.11	0.02	0.14	0.15	0.09
Queue Length 95th (ft)	9	1	0	0	0
Control Delay (s)	13.4	1.3	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	13.4	0.5		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	68	19	313	276	6
Future Volume (Veh/h)	58	68	19	313	276	6
Sign Control	Stop			Free	Free	
Grade	0%			-5%	5%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	68	80	22	368	325	7
Pedestrians	6					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	562	172	338			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	562	172	338			
tC, single (s)	6.8	7.0	5.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.7			
p0 queue free %	85	90	98			
cM capacity (veh/h)	448	834	930			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	148	145	245	217	115
Volume Left	68	22	0	0	0
Volume Right	80	0	0	0	7
cSH	597	930	1700	1700	1700
Volume to Capacity	0.25	0.02	0.14	0.13	0.07
Queue Length 95th (ft)	24	2	0	0	0
Control Delay (s)	13.0	1.6	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	13.0	0.6		0.0	
Approach LOS	B				

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	35.4%	ICU Level of Service	A	
Analysis Period (min)	15			

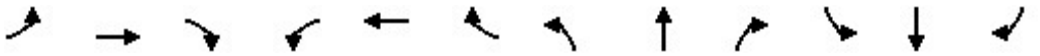


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	3	49	1	0	0	0	0	129	230	1
Future Volume (Veh/h)	0	1	3	49	1	0	0	0	0	129	230	1
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-5%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1	4	60	1	0	0	0	0	157	280	1
Pedestrians		1									3	
Lane Width (ft)		16.0									12.0	
Walking Speed (ft/s)		3.5									3.5	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	599	596	282	599	596	3	282			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	599	596	282	599	596	3	282			0		
tC, single (s)	7.1	6.5	6.2	*6.6	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	4.0	3.3	2.2			2.3		
p0 queue free %	100	100	99	85	100	100	100			90		
cM capacity (veh/h)	382	378	761	401	378	1084	1290			1585		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	5	61	438
Volume Left	0	60	157
Volume Right	4	0	1
cSH	633	401	1585
Volume to Capacity	0.01	0.15	0.10
Queue Length 95th (ft)	1	13	8
Control Delay (s)	10.7	15.6	3.3
Lane LOS	B	C	A
Approach Delay (s)	10.7	15.6	3.3
Approach LOS	B	C	

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	35.8%	ICU Level of Service	A	
Analysis Period (min)	15			

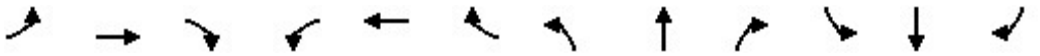
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	97	0	0	55	52	12	229	130	0	0	0
Future Volume (Veh/h)	46	97	0	0	55	52	12	229	130	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		5%			-2%			2%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	53	111	0	0	63	60	14	263	149	0	0	0
Pedestrians											2	
Lane Width (ft)											0.0	
Walking Speed (ft/s)											3.5	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	193	440	0	421	366	208	0			412		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	193	440	0	421	366	208	0			412		
tC, single (s)	7.6	6.9	6.9	7.5	6.6	7.0	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.2	3.3	3.5	4.1	3.4	2.2			2.2		
p0 queue free %	91	76	100	100	89	92	99			100		
cM capacity (veh/h)	620	471	1091	424	548	786	1636			1158		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	164	123	146	280
Volume Left	53	0	14	0
Volume Right	0	60	0	149
cSH	511	643	1636	1700
Volume to Capacity	0.32	0.19	0.01	0.17
Queue Length 95th (ft)	34	18	1	0
Control Delay (s)	15.4	11.9	0.8	0.0
Lane LOS	C	B	A	
Approach Delay (s)	15.4	11.9	0.3	
Approach LOS	C	B		

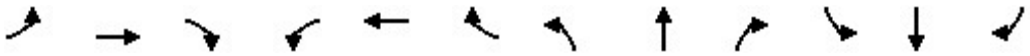
Intersection Summary				
Average Delay	5.7			
Intersection Capacity Utilization	31.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	67	2	5	22	43	55	1	24	1	2	1
Future Volume (Veh/h)	145	67	2	5	22	43	55	1	24	1	2	1
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			-1%			2%			-8%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	175	81	2	6	27	52	66	1	29	1	2	1
Pedestrians					9						7	
Lane Width (ft)					11.0						12.0	
Walking Speed (ft/s)					3.5						3.5	
Percent Blockage					1						1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	224	176	2	204	162	32	3			39		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	224	176	2	204	162	32	3			39		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	73	88	100	99	96	95	96			100		
cM capacity (veh/h)	647	684	1045	648	689	1033	1562			1572		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	258	85	96	4
Volume Left	175	6	66	1
Volume Right	2	52	29	1
cSH	660	860	1562	1572
Volume to Capacity	0.39	0.10	0.04	0.00
Queue Length 95th (ft)	46	8	3	0
Control Delay (s)	13.9	9.6	5.2	1.8
Lane LOS	B	A	A	A
Approach Delay (s)	13.9	9.6	5.2	1.8
Approach LOS	B	A		

Intersection Summary				
Average Delay	11.1			
Intersection Capacity Utilization	35.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	70	2	75	72	8	4	0	163	1	0	1
Future Volume (vph)	0	70	2	75	72	8	4	0	163	1	0	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	0	83	2	89	86	10	5	0	194	1	0	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	85	185	199	2
Volume Left (vph)	0	89	5	1
Volume Right (vph)	2	10	194	1
Hadj (s)	0.10	0.13	-0.52	-0.20
Departure Headway (s)	4.7	4.6	4.0	4.6
Degree Utilization, x	0.11	0.23	0.22	0.00
Capacity (veh/h)	733	749	843	719
Control Delay (s)	8.2	9.0	8.2	7.6
Approach Delay (s)	8.2	9.0	8.2	7.6
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.5			
Level of Service	A			
Intersection Capacity Utilization	33.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	148	51	124	278	113
Future Volume (Veh/h)	95	148	51	124	278	113
Sign Control	Stop			Free	Free	
Grade	-10%			2%	-3%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	104	163	56	136	305	124
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	547	214	429			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	547	214	429			
tC, single (s)	6.9	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.3			
p0 queue free %	76	79	95			
cM capacity (veh/h)	431	791	1099			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	267	101	91	203	226
Volume Left	104	56	0	0	0
Volume Right	163	0	0	0	124
cSH	597	1099	1700	1700	1700
Volume to Capacity	0.45	0.05	0.05	0.12	0.13
Queue Length 95th (ft)	58	4	0	0	0
Control Delay (s)	15.8	4.9	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	15.8	2.6		0.0	
Approach LOS	C				

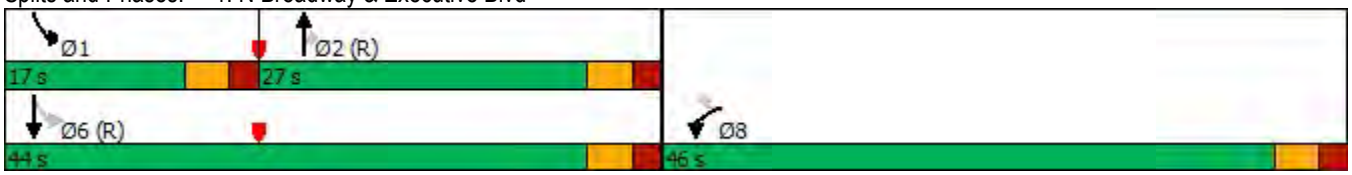
Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	535	154	236	378	148	190
Future Volume (vph)	535	154	236	378	148	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	10	10
Grade (%)	4%		0%			0%
Storage Length (ft)	0	0		190	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1660	1275	3149	1545	1440	1673
Flt Permitted	0.950				0.514	
Satd. Flow (perm)	1658	1258	3149	1511	778	1673
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		159		390		
Link Speed (mph)	30		30			30
Link Distance (ft)	1006		655			1051
Travel Time (s)	22.9		14.9			23.9
Confl. Peds. (#/hr)	1	2		1	1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	20%	7%	8%	17%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	552	159	243	390	153	196
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.0	26.0	26.0	26.0	10.0	26.0
Total Split (s)	46.0	46.0	27.0	27.0	17.0	44.0
Total Split (%)	51.1%	51.1%	30.0%	30.0%	18.9%	48.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	35.0	35.0	29.6	29.6	45.0	45.0
Actuated g/C Ratio	0.39	0.39	0.33	0.33	0.50	0.50
v/c Ratio	0.86	0.27	0.23	0.51	0.33	0.23
Control Delay	38.4	3.8	25.1	5.9	16.5	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	3.8	25.1	5.9	16.5	15.2
LOS	D	A	C	A	B	B
Approach Delay	30.6		13.3			15.8
Approach LOS	C		B			B
Queue Length 50th (ft)	273	0	54	0	48	62
Queue Length 95th (ft)	376	33	93	72	96	118

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	926		575			971
Turn Bay Length (ft)				190		
Base Capacity (vph)	756	659	1035	758	479	836
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.24	0.23	0.51	0.32	0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: N Broadway & Executive Blvd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	3	332	58	22	328
Future Volume (Veh/h)	9	3	332	58	22	328
Sign Control	Stop		Free			Free
Grade	0%		-1%			3%
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	10	3	386	67	26	381
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1051			
pX, platoon unblocked						
vC, conflicting volume	662	226			453	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	662	226			453	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			98	
cM capacity (veh/h)	386	776			1104	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	257	196	153	254
Volume Left	10	0	0	26	0
Volume Right	3	0	67	0	0
cSH	436	1700	1700	1104	1700
Volume to Capacity	0.03	0.15	0.12	0.02	0.15
Queue Length 95th (ft)	2	0	0	2	0
Control Delay (s)	13.5	0.0	0.0	1.6	0.0
Lane LOS	B			A	
Approach Delay (s)	13.5	0.0		0.6	
Approach LOS	B				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	12	17	318	338	17
Future Volume (Veh/h)	14	12	17	318	338	17
Sign Control	Stop			Free	Free	
Grade	-3%			-4%	4%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	16	13	19	353	376	19
Pedestrians	4					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	604	202	399			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	604	202	399			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	96	98	98			
cM capacity (veh/h)	426	809	1117			

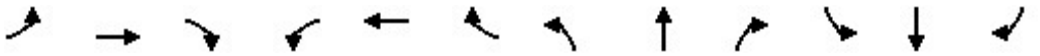
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	29	137	235	251	144
Volume Left	16	19	0	0	0
Volume Right	13	0	0	0	19
cSH	541	1117	1700	1700	1700
Volume to Capacity	0.05	0.02	0.14	0.15	0.08
Queue Length 95th (ft)	4	1	0	0	0
Control Delay (s)	12.0	1.3	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	12.0	0.5		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	17	73	259	338	82
Future Volume (Veh/h)	2	17	73	259	338	82
Sign Control	Stop			Free	Free	
Grade	0%			-5%	5%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	18	79	282	367	89
Pedestrians	6			1		
Lane Width (ft)	12.0			10.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	716	235	462			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	716	235	462			
tC, single (s)	7.5	7.0	4.6			
tC, 2 stage (s)						
tF (s)	3.8	3.4	2.5			
p0 queue free %	99	98	92			
cM capacity (veh/h)	277	750	944			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	20	173	188	245	211
Volume Left	2	79	0	0	0
Volume Right	18	0	0	0	89
cSH	641	944	1700	1700	1700
Volume to Capacity	0.03	0.08	0.11	0.14	0.12
Queue Length 95th (ft)	2	7	0	0	0
Control Delay (s)	10.8	4.6	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	10.8	2.2		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		

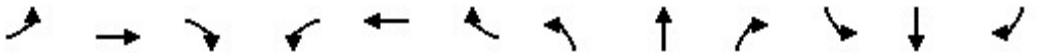


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	71	2	0	0	0	0	188	349	0
Future Volume (Veh/h)	0	1	0	71	2	0	0	0	0	188	349	0
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-5%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	1	0	91	3	0	0	0	0	241	447	0
Pedestrians		3						1			4	
Lane Width (ft)		16.0						0.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	938	932	451	930	932	4	450			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	938	932	451	930	932	4	450			0		
tC, single (s)	7.1	6.5	6.2	*6.6	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	4.0	3.3	2.2			2.3		
p0 queue free %	100	100	100	62	99	100	100			85		
cM capacity (veh/h)	213	227	610	242	227	1081	1117			1585		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1	94	688
Volume Left	0	91	241
Volume Right	0	0	0
cSH	227	242	1585
Volume to Capacity	0.00	0.39	0.15
Queue Length 95th (ft)	0	44	13
Control Delay (s)	20.9	29.0	3.7
Lane LOS	C	D	A
Approach Delay (s)	20.9	29.0	3.7
Approach LOS	C	D	

Intersection Summary				
Average Delay	6.8			
Intersection Capacity Utilization	46.5%	ICU Level of Service	A	
Analysis Period (min)	15			

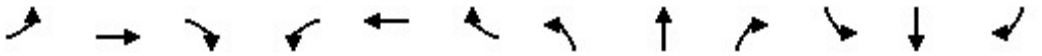
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	105	0	0	75	98	15	196	50	0	0	0
Future Volume (Veh/h)	48	105	0	0	75	98	15	196	50	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		5%			-2%			2%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	53	117	0	0	83	109	17	218	56	0	0	0
Pedestrians		1									2	
Lane Width (ft)		15.0									0.0	
Walking Speed (ft/s)		3.5									3.5	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	188	309	1	338	281	139	1			274		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	188	309	1	338	281	139	1			274		
tC, single (s)	7.6	6.7	6.9	7.5	6.8	7.0	5.8			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.1	3.3	3.0			2.2		
p0 queue free %	91	80	100	100	86	88	99			100		
cM capacity (veh/h)	576	576	1088	498	592	874	1185			1301		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	170	192	126	165
Volume Left	53	0	17	0
Volume Right	0	109	0	56
cSH	576	725	1185	1700
Volume to Capacity	0.29	0.26	0.01	0.10
Queue Length 95th (ft)	31	27	1	0
Control Delay (s)	13.8	11.7	1.2	0.0
Lane LOS	B	B	A	
Approach Delay (s)	13.8	11.7	0.5	
Approach LOS	B	B		

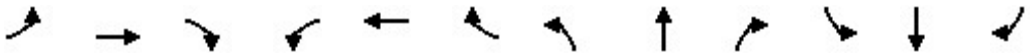
Intersection Summary				
Average Delay	7.3			
Intersection Capacity Utilization	39.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	45	7	0	7	22	130	0	30	4	4	5
Future Volume (Veh/h)	84	45	7	0	7	22	130	0	30	4	4	5
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			-1%			2%			-8%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	98	52	8	0	8	26	151	0	35	5	5	6
Pedestrians					3			1			3	
Lane Width (ft)					11.0			15.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	370	358	9	376	344	24	11			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	370	358	9	376	344	24	11			38		
tC, single (s)	7.1	6.5	6.4	7.1	6.6	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.5	3.5	4.1	3.3	2.3			2.2		
p0 queue free %	81	90	99	100	98	98	90			100		
cM capacity (veh/h)	523	506	1013	492	508	1053	1551			1581		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	158	34	186	16
Volume Left	98	0	151	5
Volume Right	8	26	35	6
cSH	530	841	1551	1581
Volume to Capacity	0.30	0.04	0.10	0.00
Queue Length 95th (ft)	31	3	8	0
Control Delay (s)	14.7	9.5	6.3	2.3
Lane LOS	B	A	A	A
Approach Delay (s)	14.7	9.5	6.3	2.3
Approach LOS	B	A		

Intersection Summary				
Average Delay	9.8			
Intersection Capacity Utilization	36.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	99	5	18	204	4	7	2	115	12	0	1
Future Volume (vph)	0	99	5	18	204	4	7	2	115	12	0	1
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	0	130	7	24	268	5	9	3	151	16	0	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	137	297	163	17
Volume Left (vph)	0	24	9	16
Volume Right (vph)	7	5	151	1
Hadj (s)	0.00	0.09	-0.47	0.33
Departure Headway (s)	4.7	4.6	4.5	5.5
Degree Utilization, x	0.18	0.38	0.20	0.03
Capacity (veh/h)	729	751	737	585
Control Delay (s)	8.7	10.4	8.6	8.6
Approach Delay (s)	8.7	10.4	8.6	8.6
Approach LOS	A	B	A	A

Intersection Summary				
Delay	9.5			
Level of Service	A			
Intersection Capacity Utilization	35.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	151	84	85	107	235	139
Future Volume (Veh/h)	151	84	85	107	235	139
Sign Control	Stop			Free	Free	
Grade	-10%			2%	-3%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	189	105	106	134	294	174
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	660	234	468			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	660	234	468			
tC, single (s)	6.8	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	47	86	90			
cM capacity (veh/h)	359	762	1083			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	294	151	89	196	272
Volume Left	189	106	0	0	0
Volume Right	105	0	0	0	174
cSH	442	1083	1700	1700	1700
Volume to Capacity	0.66	0.10	0.05	0.12	0.16
Queue Length 95th (ft)	118	8	0	0	0
Control Delay (s)	27.8	6.4	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	27.8	4.0		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	563	103	266	590	163	202
Future Volume (vph)	563	103	266	590	163	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	10	10
Grade (%)	4%		0%			0%
Storage Length (ft)	0	0		190	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1644	1297	3209	1589	1416	1689
Flt Permitted	0.950				0.481	
Satd. Flow (perm)	1644	1278	3209	1551	715	1689
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		108		621		
Link Speed (mph)	30		30			30
Link Distance (ft)	1006		655			1051
Travel Time (s)	22.9		14.9			23.9
Confl. Peds. (#/hr)		3		2	2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	18%	5%	5%	19%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	593	108	280	621	172	213
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.0	26.0	26.0	26.0	10.0	26.0
Total Split (s)	46.0	46.0	27.0	27.0	17.0	44.0
Total Split (%)	51.1%	51.1%	30.0%	30.0%	18.9%	48.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	36.7	36.7	27.6	27.6	43.3	43.3
Actuated g/C Ratio	0.41	0.41	0.31	0.31	0.48	0.48
v/c Ratio	0.89	0.18	0.28	0.69	0.40	0.26
Control Delay	40.5	3.8	26.6	7.1	18.4	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	3.8	26.6	7.1	18.4	16.2
LOS	D	A	C	A	B	B
Approach Delay	34.8		13.1			17.2
Approach LOS	C		B			B
Queue Length 50th (ft)	293	0	66	0	58	72
Queue Length 95th (ft)	#436	28	106	98	108	128

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	926		575			971
Turn Bay Length (ft)				190		
Base Capacity (vph)	748	641	983	906	437	811
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.17	0.28	0.69	0.39	0.26

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 21.6		Intersection LOS: C	
Intersection Capacity Utilization 70.2%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: N Broadway & Executive Blvd

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	7	351	18	9	353
Future Volume (Veh/h)	11	7	351	18	9	353
Sign Control	Stop		Free			Free
Grade	0%		-1%			3%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	13	8	418	21	11	420
Pedestrians						1
Lane Width (ft)						10.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1051			
pX, platoon unblocked						
vC, conflicting volume	660	220			439	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	660	220			439	
tC, single (s)	6.8	6.9			4.4	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	97	99			99	
cM capacity (veh/h)	396	789			1043	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	21	279	160	151	280
Volume Left	13	0	0	11	0
Volume Right	8	0	21	0	0
cSH	489	1700	1700	1043	1700
Volume to Capacity	0.04	0.16	0.09	0.01	0.16
Queue Length 95th (ft)	3	0	0	1	0
Control Delay (s)	12.7	0.0	0.0	0.7	0.0
Lane LOS	B			A	
Approach Delay (s)	12.7	0.0		0.2	
Approach LOS	B				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	26.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	15	17	341	347	25
Future Volume (Veh/h)	31	15	17	341	347	25
Sign Control	Stop			Free	Free	
Grade	-3%			-4%	4%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	37	18	20	411	418	30
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	682	227	451			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	682	227	451			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.3			
p0 queue free %	90	98	98			
cM capacity (veh/h)	374	759	1075			

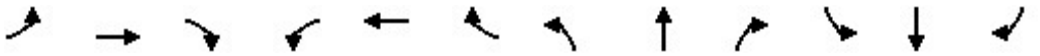
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	55	157	274	279	169
Volume Left	37	20	0	0	0
Volume Right	18	0	0	0	30
cSH	448	1075	1700	1700	1700
Volume to Capacity	0.12	0.02	0.16	0.16	0.10
Queue Length 95th (ft)	10	1	0	0	0
Control Delay (s)	14.2	1.2	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	14.2	0.4		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	68	19	353	304	6
Future Volume (Veh/h)	58	68	19	353	304	6
Sign Control	Stop			Free	Free	
Grade	0%			-5%	5%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	68	80	22	415	358	7
Pedestrians	6					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	619	188	371			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	619	188	371			
tC, single (s)	6.8	7.0	5.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.7			
p0 queue free %	84	90	98			
cM capacity (veh/h)	412	814	898			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	148	160	277	239	126
Volume Left	68	22	0	0	0
Volume Right	80	0	0	0	7
cSH	562	898	1700	1700	1700
Volume to Capacity	0.26	0.02	0.16	0.14	0.07
Queue Length 95th (ft)	26	2	0	0	0
Control Delay (s)	13.7	1.5	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	13.7	0.5		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

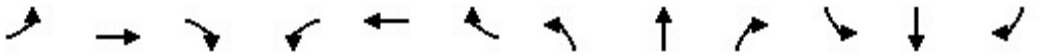


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	3	57	1	0	0	0	0	134	250	1
Future Volume (Veh/h)	0	1	3	57	1	0	0	0	0	134	250	1
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-5%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1	4	70	1	0	0	0	0	163	305	1
Pedestrians		1									3	
Lane Width (ft)		16.0									12.0	
Walking Speed (ft/s)		3.5									3.5	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	636	632	306	636	633	3	307			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	636	632	306	636	633	3	307			0		
tC, single (s)	7.1	6.5	6.2	*6.6	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	4.0	3.3	2.2			2.3		
p0 queue free %	100	100	99	82	100	100	100			90		
cM capacity (veh/h)	360	358	737	380	359	1084	1264			1585		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	5	71	469
Volume Left	0	70	163
Volume Right	4	0	1
cSH	608	380	1585
Volume to Capacity	0.01	0.19	0.10
Queue Length 95th (ft)	1	17	9
Control Delay (s)	11.0	16.6	3.2
Lane LOS	B	C	A
Approach Delay (s)	11.0	16.6	3.2
Approach LOS	B	C	

Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	37.5%	ICU Level of Service	A	
Analysis Period (min)	15			

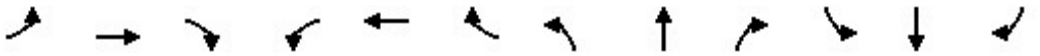
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	101	0	0	63	54	12	255	144	0	0	0
Future Volume (Veh/h)	48	101	0	0	63	54	12	255	144	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		5%			-2%			2%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	55	116	0	0	72	62	14	293	166	0	0	0
Pedestrians											2	
Lane Width (ft)											0.0	
Walking Speed (ft/s)											3.5	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	212	487	0	462	404	232	0			459		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	212	487	0	462	404	232	0			459		
tC, single (s)	7.6	6.9	6.9	7.5	6.6	7.0	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.2	3.3	3.5	4.1	3.4	2.2			2.2		
p0 queue free %	91	74	100	100	86	92	99			100		
cM capacity (veh/h)	585	441	1091	386	521	759	1636			1113		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	171	134	160	312
Volume Left	55	0	14	0
Volume Right	0	62	0	166
cSH	479	609	1636	1700
Volume to Capacity	0.36	0.22	0.01	0.18
Queue Length 95th (ft)	40	21	1	0
Control Delay (s)	16.6	12.6	0.7	0.0
Lane LOS	C	B	A	
Approach Delay (s)	16.6	12.6	0.2	
Approach LOS	C	B		

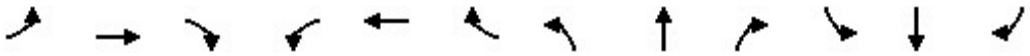
Intersection Summary				
Average Delay	6.0			
Intersection Capacity Utilization	33.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	70	2	5	23	51	57	1	25	1	2	1
Future Volume (Veh/h)	160	70	2	5	23	51	57	1	25	1	2	1
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			-1%			2%			-8%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	193	84	2	6	28	61	69	1	30	1	2	1
Pedestrians					9						7	
Lane Width (ft)					11.0						12.0	
Walking Speed (ft/s)					3.5						3.5	
Percent Blockage					1						1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	240	182	2	212	168	32	3			40		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	240	182	2	212	168	32	3			40		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	69	88	100	99	96	94	96			100		
cM capacity (veh/h)	624	676	1045	636	682	1032	1562			1570		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	279	95	100	4
Volume Left	193	6	69	1
Volume Right	2	61	30	1
cSH	641	867	1562	1570
Volume to Capacity	0.44	0.11	0.04	0.00
Queue Length 95th (ft)	55	9	3	0
Control Delay (s)	14.9	9.7	5.2	1.8
Lane LOS	B	A	A	A
Approach Delay (s)	14.9	9.7	5.2	1.8
Approach LOS	B	A		

Intersection Summary				
Average Delay	11.7			
Intersection Capacity Utilization	37.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	73	2	84	75	8	4	0	179	1	0	1
Future Volume (vph)	0	73	2	84	75	8	4	0	179	1	0	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	0	87	2	100	89	10	5	0	213	1	0	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	89	199	218	2
Volume Left (vph)	0	100	5	1
Volume Right (vph)	2	10	213	1
Hadj (s)	0.10	0.13	-0.52	-0.20
Departure Headway (s)	4.7	4.6	4.1	4.6
Degree Utilization, x	0.12	0.26	0.25	0.00
Capacity (veh/h)	720	738	832	702
Control Delay (s)	8.3	9.2	8.4	7.7
Approach Delay (s)	8.3	9.2	8.4	7.7
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.7			
Level of Service	A			
Intersection Capacity Utilization	34.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	99	163	59	129	289	118
Future Volume (Veh/h)	99	163	59	129	289	118
Sign Control	Stop			Free	Free	
Grade	-10%			2%	-3%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	109	179	65	142	318	130
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	584	224	448			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	584	224	448			
tC, single (s)	6.9	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.3			
p0 queue free %	73	77	94			
cM capacity (veh/h)	404	780	1081			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	288	112	95	212	236
Volume Left	109	65	0	0	0
Volume Right	179	0	0	0	130
cSH	577	1081	1700	1700	1700
Volume to Capacity	0.50	0.06	0.06	0.12	0.14
Queue Length 95th (ft)	69	5	0	0	0
Control Delay (s)	17.3	5.2	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	17.3	2.8		0.0	
Approach LOS	C				

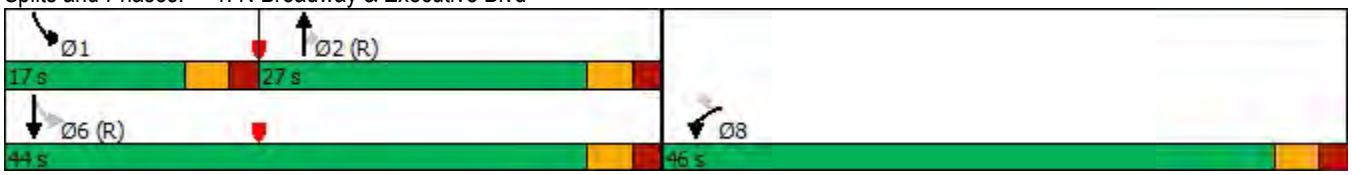
Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	535	187	246	378	155	192
Future Volume (vph)	535	187	246	378	155	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	10	10
Grade (%)	4%		0%			0%
Storage Length (ft)	0	0		190	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1660	1275	3149	1545	1440	1673
Flt Permitted	0.950				0.508	
Satd. Flow (perm)	1658	1258	3149	1511	769	1673
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		193		390		
Link Speed (mph)	30		30			30
Link Distance (ft)	1006		655			1051
Travel Time (s)	22.9		14.9			23.9
Confl. Peds. (#/hr)	1	2		1	1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	20%	7%	8%	17%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	552	193	254	390	160	198
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.0	26.0	26.0	26.0	10.0	26.0
Total Split (s)	46.0	46.0	27.0	27.0	17.0	44.0
Total Split (%)	51.1%	51.1%	30.0%	30.0%	18.9%	48.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	35.0	35.0	29.5	29.5	45.0	45.0
Actuated g/C Ratio	0.39	0.39	0.33	0.33	0.50	0.50
v/c Ratio	0.86	0.32	0.25	0.52	0.35	0.24
Control Delay	38.4	3.8	25.3	5.9	16.7	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	3.8	25.3	5.9	16.7	15.2
LOS	D	A	C	A	B	B
Approach Delay	29.4		13.5			15.9
Approach LOS	C		B			B
Queue Length 50th (ft)	273	0	57	0	51	63
Queue Length 95th (ft)	376	36	97	72	101	119

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	926		575			971
Turn Bay Length (ft)				190		
Base Capacity (vph)	756	678	1031	757	475	836
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.28	0.25	0.52	0.34	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 20.8		Intersection LOS: C	
Intersection Capacity Utilization 68.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: N Broadway & Executive Blvd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	3	375	58	22	338
Future Volume (Veh/h)	9	3	375	58	22	338
Sign Control	Stop		Free			Free
Grade	0%		-1%			3%
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	10	3	436	67	26	393
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1051			
pX, platoon unblocked						
vC, conflicting volume	718	252			503	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	718	252			503	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			98	
cM capacity (veh/h)	355	748			1058	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	291	212	157	262
Volume Left	10	0	0	26	0
Volume Right	3	0	67	0	0
cSH	404	1700	1700	1058	1700
Volume to Capacity	0.03	0.17	0.12	0.02	0.15
Queue Length 95th (ft)	2	0	0	2	0
Control Delay (s)	14.2	0.0	0.0	1.6	0.0
Lane LOS	B			A	
Approach Delay (s)	14.2	0.0		0.6	
Approach LOS	B				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	12	17	361	348	17
Future Volume (Veh/h)	14	12	17	361	348	17
Sign Control	Stop			Free	Free	
Grade	-3%			-4%	4%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	16	13	19	401	387	19
Pedestrians	4					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	639	207	410			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	639	207	410			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	96	98	98			
cM capacity (veh/h)	405	803	1106			

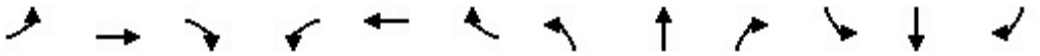
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	29	153	267	258	148
Volume Left	16	19	0	0	0
Volume Right	13	0	0	0	19
cSH	520	1106	1700	1700	1700
Volume to Capacity	0.06	0.02	0.16	0.15	0.09
Queue Length 95th (ft)	4	1	0	0	0
Control Delay (s)	12.3	1.2	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	12.3	0.4		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	10	44	332	355	23
Future Volume (Veh/h)	6	10	44	332	355	23
Sign Control	Stop			Free	Free	
Grade	0%			-5%	5%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	11	48	361	386	25
Pedestrians	6			1		
Lane Width (ft)	12.0			10.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	681	212	417			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	681	212	417			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	96			
cM capacity (veh/h)	361	781	1118			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	18	168	241	257	154
Volume Left	7	48	0	0	0
Volume Right	11	0	0	0	25
cSH	538	1118	1700	1700	1700
Volume to Capacity	0.03	0.04	0.14	0.15	0.09
Queue Length 95th (ft)	3	3	0	0	0
Control Delay (s)	11.9	2.7	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	11.9	1.1		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

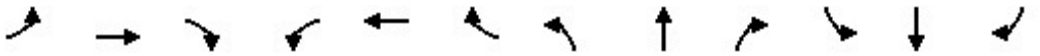


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	80	2	0	0	0	0	188	363	0
Future Volume (Veh/h)	0	1	0	80	2	0	0	0	0	188	363	0
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-5%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	1	0	103	3	0	0	0	0	241	465	0
Pedestrians		3						1			4	
Lane Width (ft)		16.0						0.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	956	950	469	948	950	4	468			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	956	950	469	948	950	4	468			0		
tC, single (s)	7.1	6.5	6.2	*6.6	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	4.0	3.3	2.2			2.3		
p0 queue free %	100	100	100	56	99	100	100			85		
cM capacity (veh/h)	207	221	596	236	222	1081	1100			1585		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1	106	706
Volume Left	0	103	241
Volume Right	0	0	0
cSH	221	236	1585
Volume to Capacity	0.00	0.45	0.15
Queue Length 95th (ft)	0	54	13
Control Delay (s)	21.3	32.1	3.7
Lane LOS	C	D	A
Approach Delay (s)	21.3	32.1	3.7
Approach LOS	C	D	

Intersection Summary				
Average Delay	7.4			
Intersection Capacity Utilization	47.6%	ICU Level of Service	A	
Analysis Period (min)	15			

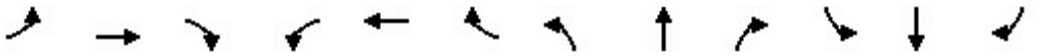
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	105	0	0	84	98	15	199	52	0	0	0
Future Volume (Veh/h)	48	105	0	0	84	98	15	199	52	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		5%			-2%			2%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	53	117	0	0	93	109	17	221	58	0	0	0
Pedestrians		1									2	
Lane Width (ft)		15.0									0.0	
Walking Speed (ft/s)		3.5									3.5	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	194	314	1	342	285	142	1			279		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	194	314	1	342	285	142	1			279		
tC, single (s)	7.6	6.7	6.9	7.5	6.8	7.0	5.8			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.1	3.3	3.0			2.2		
p0 queue free %	91	80	100	100	84	87	99			100		
cM capacity (veh/h)	561	573	1088	494	589	871	1185			1295		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	170	202	128	168
Volume Left	53	0	17	0
Volume Right	0	109	0	58
cSH	569	714	1185	1700
Volume to Capacity	0.30	0.28	0.01	0.10
Queue Length 95th (ft)	31	29	1	0
Control Delay (s)	14.0	12.0	1.2	0.0
Lane LOS	B	B	A	
Approach Delay (s)	14.0	12.0	0.5	
Approach LOS	B	B		

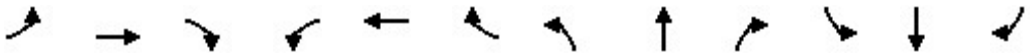
Intersection Summary				
Average Delay	7.4			
Intersection Capacity Utilization	39.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	45	7	0	7	22	139	0	30	4	4	5
Future Volume (Veh/h)	86	45	7	0	7	22	139	0	30	4	4	5
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			-1%			2%			-8%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	100	52	8	0	8	26	162	0	35	5	5	6
Pedestrians					3			1			3	
Lane Width (ft)					11.0			15.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	392	380	9	398	366	24	11			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	392	380	9	398	366	24	11			38		
tC, single (s)	7.1	6.5	6.4	7.1	6.6	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.5	3.5	4.1	3.3	2.3			2.2		
p0 queue free %	80	89	99	100	98	98	90			100		
cM capacity (veh/h)	502	488	1013	472	490	1053	1551			1581		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	160	34	197	16
Volume Left	100	0	162	5
Volume Right	8	26	35	6
cSH	510	829	1551	1581
Volume to Capacity	0.31	0.04	0.10	0.00
Queue Length 95th (ft)	33	3	9	0
Control Delay (s)	15.2	9.5	6.4	2.3
Lane LOS	C	A	A	A
Approach Delay (s)	15.2	9.5	6.4	2.3
Approach LOS	C	A		

Intersection Summary				
Average Delay	10.0			
Intersection Capacity Utilization	37.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	99	5	18	208	4	7	2	117	12	0	1
Future Volume (vph)	0	99	5	18	208	4	7	2	117	12	0	1
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	0	130	7	24	274	5	9	3	154	16	0	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	137	303	166	17
Volume Left (vph)	0	24	9	16
Volume Right (vph)	7	5	154	1
Hadj (s)	0.00	0.09	-0.47	0.33
Departure Headway (s)	4.7	4.6	4.5	5.5
Degree Utilization, x	0.18	0.39	0.21	0.03
Capacity (veh/h)	725	749	734	582
Control Delay (s)	8.7	10.5	8.7	8.7
Approach Delay (s)	8.7	10.5	8.7	8.7
Approach LOS	A	B	A	A

Intersection Summary				
Delay	9.6			
Level of Service	A			
Intersection Capacity Utilization	35.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	151	86	89	107	235	139
Future Volume (Veh/h)	151	86	89	107	235	139
Sign Control	Stop			Free	Free	
Grade	-10%			2%	-3%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	189	108	111	134	294	174
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	670	234	468			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	670	234	468			
tC, single (s)	6.8	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	46	86	90			
cM capacity (veh/h)	352	762	1083			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	297	156	89	196	272
Volume Left	189	111	0	0	0
Volume Right	108	0	0	0	174
cSH	437	1083	1700	1700	1700
Volume to Capacity	0.68	0.10	0.05	0.12	0.16
Queue Length 95th (ft)	124	9	0	0	0
Control Delay (s)	29.0	6.5	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	29.0	4.1		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	17	73	265	361	82
Future Volume (Veh/h)	2	17	73	265	361	82
Sign Control	Stop			Free	Free	
Grade	0%			-3%	3%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	18	79	288	392	89
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	738	240	481			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	738	240	481			
tC, single (s)	7.5	7.0	4.6			
tC, 2 stage (s)						
tF (s)	3.8	3.4	2.5			
p0 queue free %	99	98	92			
cM capacity (veh/h)	269	748	932			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	20	175	192	261	220
Volume Left	2	79	0	0	0
Volume Right	18	0	0	0	89
cSH	635	932	1700	1700	1700
Volume to Capacity	0.03	0.08	0.11	0.15	0.13
Queue Length 95th (ft)	2	7	0	0	0
Control Delay (s)	10.9	4.6	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	10.9	2.2		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	563	112	269	590	194	211
Future Volume (vph)	563	112	269	590	194	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	13	10	10
Grade (%)	4%		0%			0%
Storage Length (ft)	0	0		190	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1644	1297	3209	1589	1416	1689
Flt Permitted	0.950				0.475	
Satd. Flow (perm)	1644	1278	3209	1551	706	1689
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		118		621		
Link Speed (mph)	30		30			30
Link Distance (ft)	1006		655			1051
Travel Time (s)	22.9		14.9			23.9
Confl. Peds. (#/hr)		3		2	2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	18%	5%	5%	19%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	593	118	283	621	204	222
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.0	26.0	26.0	26.0	10.0	26.0
Total Split (s)	46.0	46.0	27.0	27.0	17.0	44.0
Total Split (%)	51.1%	51.1%	30.0%	30.0%	18.9%	48.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	36.8	36.8	26.8	26.8	43.2	43.2
Actuated g/C Ratio	0.41	0.41	0.30	0.30	0.48	0.48
v/c Ratio	0.88	0.20	0.30	0.69	0.48	0.27
Control Delay	40.2	3.8	27.1	7.2	19.8	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.2	3.8	27.1	7.2	19.8	16.4
LOS	D	A	C	A	B	B
Approach Delay	34.2		13.5			18.1
Approach LOS	C		B			B
Queue Length 50th (ft)	290	0	70	0	71	76
Queue Length 95th (ft)	#436	29	107	98	128	133

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	926		575			971
Turn Bay Length (ft)				190		
Base Capacity (vph)	748	646	957	898	436	810
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.18	0.30	0.69	0.47	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 21.6		Intersection LOS: C	
Intersection Capacity Utilization 71.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: N Broadway & Executive Blvd

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	7	363	18	9	394
Future Volume (Veh/h)	11	7	363	18	9	394
Sign Control	Stop		Free			Free
Grade	0%		-1%			3%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	13	8	432	21	11	469
Pedestrians						1
Lane Width (ft)						10.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1051			
pX, platoon unblocked						
vC, conflicting volume	699	228			453	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	699	228			453	
tC, single (s)	6.8	6.9			4.4	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	97	99			99	
cM capacity (veh/h)	374	781			1030	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	21	288	165	167	313
Volume Left	13	0	0	11	0
Volume Right	8	0	21	0	0
cSH	467	1700	1700	1030	1700
Volume to Capacity	0.04	0.17	0.10	0.01	0.18
Queue Length 95th (ft)	4	0	0	1	0
Control Delay (s)	13.1	0.0	0.0	0.7	0.0
Lane LOS	B			A	
Approach Delay (s)	13.1	0.0		0.2	
Approach LOS	B				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	15	17	353	388	25
Future Volume (Veh/h)	31	15	17	353	388	25
Sign Control	Stop			Free	Free	
Grade	-3%			-4%	4%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	37	18	20	425	467	30
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	738	252	500			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	738	252	500			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.3			
p0 queue free %	89	98	98			
cM capacity (veh/h)	344	731	1030			

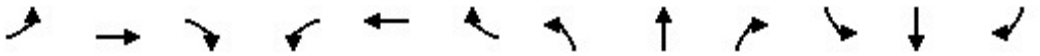
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	55	162	283	311	186
Volume Left	37	20	0	0	0
Volume Right	18	0	0	0	30
cSH	416	1030	1700	1700	1700
Volume to Capacity	0.13	0.02	0.17	0.18	0.11
Queue Length 95th (ft)	11	1	0	0	0
Control Delay (s)	15.0	1.2	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	15.0	0.4		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	41	12	372	372	6
Future Volume (Veh/h)	23	41	12	372	372	6
Sign Control	Stop			Free	Free	
Grade	0%			-5%	5%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	27	48	14	438	438	7
Pedestrians	6					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	694	228	451			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	694	228	451			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	94	99			
cM capacity (veh/h)	365	764	1086			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	75	160	292	292	153
Volume Left	27	14	0	0	0
Volume Right	48	0	0	0	7
cSH	548	1086	1700	1700	1700
Volume to Capacity	0.14	0.01	0.17	0.17	0.09
Queue Length 95th (ft)	12	1	0	0	0
Control Delay (s)	12.6	0.8	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	12.6	0.3		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

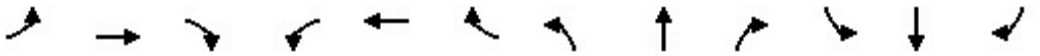


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	3	60	1	0	0	0	0	134	254	1
Future Volume (Veh/h)	0	1	3	60	1	0	0	0	0	134	254	1
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-5%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1	4	73	1	0	0	0	0	163	310	1
Pedestrians		1									3	
Lane Width (ft)		16.0									12.0	
Walking Speed (ft/s)		3.5									3.5	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	641	638	312	641	638	3	312			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	641	638	312	641	638	3	312			0		
tC, single (s)	7.1	6.5	6.2	*6.6	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	4.0	3.3	2.2			2.3		
p0 queue free %	100	100	99	81	100	100	100			90		
cM capacity (veh/h)	357	356	732	377	356	1084	1258			1585		

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	5	74	474
Volume Left	0	73	163
Volume Right	4	0	1
cSH	604	377	1585
Volume to Capacity	0.01	0.20	0.10
Queue Length 95th (ft)	1	18	9
Control Delay (s)	11.0	16.9	3.2
Lane LOS	B	C	A
Approach Delay (s)	11.0	16.9	3.2
Approach LOS	B	C	

Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	37.9%	ICU Level of Service	A	
Analysis Period (min)	15			

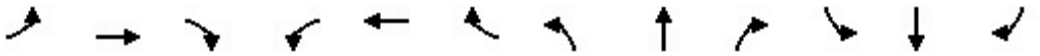
* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	101	0	0	66	54	12	267	155	0	0	0
Future Volume (Veh/h)	48	101	0	0	66	54	12	267	155	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		5%			-2%			2%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	55	116	0	0	76	62	14	307	178	0	0	0
Pedestrians											2	
Lane Width (ft)											0.0	
Walking Speed (ft/s)											3.5	
Percent Blockage											0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	222	513	0	482	424	244	0			485		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	222	513	0	482	424	244	0			485		
tC, single (s)	7.6	6.9	6.9	7.5	6.6	7.0	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.2	3.3	3.5	4.1	3.4	2.2			2.2		
p0 queue free %	90	73	100	100	85	92	99			100		
cM capacity (veh/h)	570	426	1091	371	507	744	1636			1088		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	171	138	168	332
Volume Left	55	0	14	0
Volume Right	0	62	0	178
cSH	463	592	1636	1700
Volume to Capacity	0.37	0.23	0.01	0.20
Queue Length 95th (ft)	42	22	1	0
Control Delay (s)	17.2	12.9	0.7	0.0
Lane LOS	C	B	A	
Approach Delay (s)	17.2	12.9	0.2	
Approach LOS	C	B		

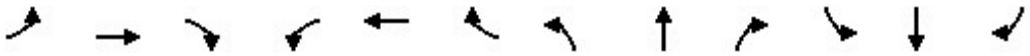
Intersection Summary				
Average Delay	6.0			
Intersection Capacity Utilization	34.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	70	2	5	23	53	58	1	25	1	2	1
Future Volume (Veh/h)	171	70	2	5	23	53	58	1	25	1	2	1
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			-1%			2%			-8%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	206	84	2	6	28	64	70	1	30	1	2	1
Pedestrians					9						7	
Lane Width (ft)					11.0						12.0	
Walking Speed (ft/s)					3.5						3.5	
Percent Blockage					1						1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	246	184	2	214	170	32	3			40		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	246	184	2	214	170	32	3			40		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	67	88	100	99	96	94	96			100		
cM capacity (veh/h)	617	674	1045	634	680	1032	1562			1570		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	292	98	101	4
Volume Left	206	6	70	1
Volume Right	2	64	30	1
cSH	634	870	1562	1570
Volume to Capacity	0.46	0.11	0.04	0.00
Queue Length 95th (ft)	61	9	4	0
Control Delay (s)	15.4	9.7	5.2	1.8
Lane LOS	C	A	A	A
Approach Delay (s)	15.4	9.7	5.2	1.8
Approach LOS	C	A		

Intersection Summary				
Average Delay	12.1			
Intersection Capacity Utilization	37.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	73	2	86	75	8	4	0	190	1	0	1
Future Volume (vph)	0	73	2	86	75	8	4	0	190	1	0	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	0	87	2	102	89	10	5	0	226	1	0	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	89	201	231	2
Volume Left (vph)	0	102	5	1
Volume Right (vph)	2	10	226	1
Hadj (s)	0.10	0.14	-0.52	-0.20
Departure Headway (s)	4.8	4.7	4.1	4.7
Degree Utilization, x	0.12	0.26	0.26	0.00
Capacity (veh/h)	713	732	831	697
Control Delay (s)	8.4	9.3	8.5	7.7
Approach Delay (s)	8.4	9.3	8.5	7.7
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.8			
Level of Service	A			
Intersection Capacity Utilization	35.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	99	174	61	129	289	118
Future Volume (Veh/h)	99	174	61	129	289	118
Sign Control	Stop			Free	Free	
Grade	-10%			2%	-3%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	109	191	67	142	318	130
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	588	224	448			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	588	224	448			
tC, single (s)	6.9	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.3			
p0 queue free %	73	76	94			
cM capacity (veh/h)	401	780	1081			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	300	114	95	212	236
Volume Left	109	67	0	0	0
Volume Right	191	0	0	0	130
cSH	581	1081	1700	1700	1700
Volume to Capacity	0.52	0.06	0.06	0.12	0.14
Queue Length 95th (ft)	74	5	0	0	0
Control Delay (s)	17.6	5.2	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	17.6	2.9		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	68	19	376	310	6
Future Volume (Veh/h)	58	68	19	376	310	6
Sign Control	Stop			Free	Free	
Grade	0%			-3%	3%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	68	80	22	442	365	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	634	186	372			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	634	186	372			
tC, single (s)	6.8	7.0	5.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.7			
p0 queue free %	83	90	98			
cM capacity (veh/h)	406	821	902			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	148	169	295	243	129
Volume Left	68	22	0	0	0
Volume Right	80	0	0	0	7
cSH	559	902	1700	1700	1700
Volume to Capacity	0.26	0.02	0.17	0.14	0.08
Queue Length 95th (ft)	26	2	0	0	0
Control Delay (s)	13.7	1.4	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	13.7	0.5		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

Alternatives Analysis by Historical Perspectives, Inc.

HISTORICAL PERSPECTIVES INC.

4/12/23

Sara McIvor, Historic Site Restoration Coordinator
Division for Historic Preservation
New York State Office of Parks, Recreation and Historic Preservation
Peebles Island, PO Box 189
Waterford, NY 12188-0189

RE: DEC
Development of the Graham-Windham School, Hastings-on-Hudson:
Partial Demolition and New Studio Construction
1 South Broadway, Hastings on Hudson, NY 10706
22PR08752

Dear Ms McIvor,

In response to your request of January 9, 2023 for detailed information on the proposed development of the Graham-Windham School in Hastings-on-Hudson, I have posted several files onto CRIS. These filings are in compliance of Section 14.09 of the New York State Historic Preservation Act of 1980.

As demonstrated in the posted files, a number of alternative development scenarios were examined over the past three years after the Graham-Windham School permanently closed the 120-year-old campus during Covid. Critical issues included potential impacts on the Old Croton Aqueduct Trail which created re-alignments, the Steep Slopes local ordinances were restrictive, the Village's requests for future infrastructure limitations were followed, and the Graham's administrative board's future mission was integral, also. The final design plans will preserve the iconic Administrative Building on a sweeping front lawn, two of the original masonry dormitories within a preserved sward next to the front lawn, and the original gate house cottage will continue to anchor the South Broadway entrance.

The requested interior and exterior photos of all extant structures are included, as well as views of the campus. I believe you have sufficient information that all prudent and feasible alternatives to demolition have been seriously considered.

The Capstone South Properties / Electric Owl Studios' team is eager to continue discussions with your office. We look forward to your input and consultations.

Sincerely,

Cece Saunders

encl.
cc: C. Vandrei, NYC DEC; W. Null, Cuddy & Feder

P.O. Box 529 • Westport • Connecticut • 06881
203-226-7654 / www.historicalperspectives.org

ALTERNATIVES ANALYSIS: THE GRAHAM WINDHAM HASTINGS HOUSING CAMPUS

HASTINGS-ON-HUDSON ONE SOUTH BROADWAY WESTCHESTER COUNTY NEW YORK

Prepared For:

Capstone South Properties / Electric Owl Studios
Tower Place 200
3348 Peachtree Road, Suite 700
Atlanta, GA 30326

and

New York State Office of Parks, Recreation, and Historic Preservation/
State Historic Preservation Office

Prepared By:

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April 2023

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I. INTRODUCTION

The Graham Windham Hastings Housing Campus (Graham) in the Village of Hastings-on-Hudson in Westchester County was closed in 2020 and the major portion of its 23.94-acre campus overlooking the Hudson River is currently being considered by Capstone Properties South/Electric Owl Studios (Electric Owl) as a new location for a multimedia production studio. The Graham campus is at One South Broadway (US Route 9) with access provided by a driveway located to the north of Dudley Street. The campus is on an elevated, 290-foot ridge above mean sea level (msl) overlooking the Hudson River. A small sliver of the southeast campus corner encroaches over the Yonkers city limits. See Figure 1 for the location of the project parcel on a USGS Topographic Quad.

The Graham child care agency was founded in New York City and maintains a number of facilities in the city. It began as a 1977 merger of two predecessor organizations: the Graham Home for Children (founded in 1806 as the Orphan Asylum Society in the City of New York) and Windham Child Care (founded in 1835 as the Society for the Relief of Half Orphans and Destitute Children). The Graham campus in Hastings-on-Hudson was originally part of a larger, approximately 40-acre purchase which was improved over time with more than 18 buildings. Currently, the Graham holdings in Hastings-on-Hudson consists of 23.94 acres; approximately 6.5 acres dedicated to two public, special education public schools and 17.47 acres of the recently vacated Graham child care services campus. See Figure 2.

Two post-1990 public schools operate on the north side of the current Graham campus, the Ziccolella Elementary School and the Martin Luther King Junior High School (MLK School), both of the Greenburgh-Graham Union Free School District. The land area for the two schools is constricted and the ingress/egress for the schools is through the Graham's main gate. Through an agreement with Graham, the staff of these two schools park their vehicles on the Graham campus. The two public school buildings will remain separate and distinct; minimum action is planned for these two public schools by this proposed development (a separate access driveway, new surface parking lot and infrastructure for the two schools). The Graham land which supports these two schools will be subdivided from the remaining part of the 23.94-acre campus. The Graham's remaining acreage will continue to support parking for the public school, but for security reasons a new ingress/egress off South Broadway is required. The following discussion focuses only on the 17.47-acres of the vacated residential Graham campus, to be redeveloped with the proposed action.

The currently proposed action by Electric Owl, including the preservation of the iconic and massive Administrative Building, as well as three original two-story, masonry residences and the sweeping front lawn and the brick boundary wall along South Broadway, if approved through the State Environmental Quality Review (SEQR) process, will allow the campus to enter into the mainstream of Hastings-on-Hudson tax rolls without increasing demands on the local public school systems and Village infrastructure or impinge on the neighboring Old Croton Aqueduct trail. Also, the sale will allow Graham to invest the real estate funds into their child and family programs.

The following Alternatives Analysis presents the history of the property, the decision by Graham to vacate their Westchester County campus and their subsequent attempts to locate investors for the campus property, and the various campus design scenarios by Electric Owl presented to the Hastings-on-Hudson Board of Trustees and the public.

II. THE GRAHAM WINDHAM HASTINGS HOUSING CAMPUS: AN ELIGIBLE NATIONAL REGISTER HISTORIC DISTRICT

As noted in the New York State Historic Preservation Offices' (SHPO) Determination of National Register Eligibility (NRE) for the Graham campus (J. Betsworth 2022), "the Graham Home for Children (known as the Graham Windham School after 1977), is significant under Criterion A in the areas of Social History and Education for its association with efforts to care for disadvantaged children during the twentieth century. Founded in 1806 by a group of philanthropic women in New York City and originally known as the Orphan Asylum Society in the City of New York, the organization is considered the oldest childcare agency in New York State.[1] The Graham campus is additionally significant under Criterion C in the area of Architecture for its collection of Beaux-Arts buildings, most notably its administrative building designed by architect James B. Baker. The campus is also among the earliest, if not the first, to adopt a 'cottage plan,' where groups of children lived in separate residences supervised by house parents. This successful innovation became a model for childcare institutions across the country. The preliminary period of significance for the campus extends from 1901, when the first group of buildings were constructed in Hastings-on-Hudson, through 1977, when the Graham Home and Windham Childcare merged to more effectively provide services in a changing political and financial environment." The full Determination of Eligibility (DOE), which identifies 18 structures, including 10 cottages named to commemorate either early founders or financial supporters of the organization and two ca. 1980 structures which are non-contributing, is included as Appendix A.

The Graham campus, actively occupied until 2020, evolved beyond the earliest 14 buildings to include a gymnasium, a baseball diamond, tennis and basketball courts, an ice house and a milk house, a swimming pool, a health care facility, and four additional dormitories. Graham demolished two of their early residences decades ago as a function of campus improvements. First to be demolished was the Hamilton Cottage which was replaced, in the same location, by the Health Center. Dune Cottage, situated well north of other residential cottages and to the east of the Maintenance/Laundry building was a long, north-south building oriented with a gable end to the south; it was demolished in the 1990s when the new schools were built.[2] See Figure 3 for a current campus map with the names and approximate construction dates for the individual surviving Graham buildings. See Photographs 1 – 50 in Appendix B for interior/exterior views of all the buildings currently on the Graham campus as well as general shots of the campus, the capped brick wall bordering South Broadway and the broad brick gutters that line the early interior roadways.

During the same period of campus development, the Graham's local land holdings, which originally reached all the way to the Hudson River for a river landing, were slowly sold off. Memories by elder Graham alumni related that once new orphans arrived by boat at the bottom of the hill, they were told to walk up the steep staircase and take the "100 steps" to their new home. Apparently, there was, also, an arched staircase over the railroad tracks that parallel the

[1] The Smithsonian's current research and focus for a national archive dedicated to America's origins of philanthropy include New York City's Orphan Asylum Society. (Kristen Ragusa, Graham Vice President, Youth Success, Interview with Cece Saunders, 3/3/23)

[2] Blueprints for Dune Cottage, also labeled Dun Cottage, are currently stored at the Maintenance Building.

river. The orientation of Graham's Administration Building, overlooking the steep slope down to the river to the west and away from the current entrance drive off of South Broadway, is explained by this early travel route via boat for new residents and visitors. Remnants of platforms, light standards, and a partial low wall and balustrade can still be discerned today on the steep slope, although no longer Graham property.[3]

The narrow route of the nineteenth century buried Old Croton Aqueduct, which, in part, roughly parallels the Hudson River and Warburton Avenue down slope to the west from the Administrative Building, was purchased by the New York State Office of Parks, Recreation and Historic Preservation in 1968. It was subsequently developed into a very popular, multi-community public walking trail, the Old Croton Aqueduct State Historic Park (Park). There are interpretive signs placed along the Park trail.

However, the core of the campus was not greatly altered as the century progressed; the central lawn, the commanding Administration Building and the supportive, encircling residential structures remained intact. The cottage residences were named to commemorate either early founders or financial supporters of the organization.[4] The cottages, designed in two basic floor plans, generally housed 12 to 16 kids and they were divided by gender. The campus' Superintendent was housed in Fraser. Although the exterior of the cottages has remained stable, in the 1990s, most of the Graham cottages went through major interior upgrades, including new kitchens, laundry rooms, and the addition of interior walls and the removal of entry level ceilings for security control.[5] Only Fraser Cottage, not renovated in the 1990s, has retained the standard attic-level living quarters of the house parents, as well as doors, moldings, window seats, and the original Lincrusta wallcovering.[6]

Major campus additions/demolitions/renovations were roughly undertaken in the following time sequence. See Figure 3.

c.1950 – donation of a swimming pool by actor William Boyd (Hopalong Cassidy)
1964 – construction of the gymnasium with separate dance studio and weight rooms
1965-1974 - construction of the Health Center (replacing the original Hamilton Cottage), Stoltz Cottage, and Ehinger Cottage
c.1974 – installation of temporary modular classrooms directly east of the Administration Building on the central lawn[7]
1977 – construction of Fox Cottage and Hayden/Young Cottage

[3] Kristen Ragusa, Graham Vice President, Youth Success, Interview with Cece Saunders, 3/3/23. A series of aerial photographs from 1940-1974 and the Sanborn Insurance Map of 1942 clearly depict the stairs/path up the steep slope to the grand columned entrance of the Administration Building (Langan Engineering, Phase I Environmental Site Assessment, 1 South Broadway, Hastings on Hudson, New York, Langan Project No. 190069701, 2021).
[4] Ainslee Cottage, originally known as Hoffman after an original founder, was re-named in 1994 for Michael Ainslee in gratitude for his generosity and assistance in raising funds for the 1990s remodeling of so many cottages.
[5] In 2011 approximately 200 years of Graham records were archived at the New-York Historical Society (81.6 Linear feet/110 archival boxes/225 volumes). The blueprints and plans, however, are still on the campus in the Maintenance Building/former Laundry.
[6] Due to structural instability, the upper floors of Fraser Cottage were not available for inspection/photography.
[7] Manufactured by the Modular Holding Corporation, this structure was subsequently referred to as the Old Martin Luther King School.

1980 – renovation of the Health Center creating an Industrial Arts Center on the bottom floor (Architect: Joseph P. Trapani)

c.1980 – donation of two tennis courts by Arthur Ashe

1990-1998 - division of the campus property and construction of two public schools (requiring demolition of the Dune [aka, Dun] Cottage, loss of the baseball diamond, and other outbuildings, such as the ice house, on the north side of the original, larger campus)

The post-1965 buildings that encroached across the west frontage of the Administration Building were specifically sited below the looping campus road to maintain the dominance of the Administration Building. The new buildings at that time were careful to maintain views of the Hudson River and Palisades from the top of the steps of the Administration Building. Subsequent to that time, the heavily wooded, steep hillside has matured to obscure views of the Hudson River and/or the New Jersey Palisades from the front steps of the Administration Building.

By the twenty-first century, the mission of the Graham was changing; much of the focus was on assisting families through dedicated facilities within New York City. A Westchester County residential campus, that removed children from a home environment, was no longer accepted as the most beneficial social outreach program. Efforts were made to adapt campus buildings to new needs. As counselors and therapists on the staff grew in number, their offices took over McCartee Cottage. Today, McCartee's first floor moldings, door surrounds, and room sizes testify to various periods of installation. The functions of the Administration Building changed over time, too; the central expansive meeting room on the first floor, always referred to as the "chapel," had its pews removed after approximately 100 years of services. The demographics of the Graham residents also changed; the residents were older teenagers rather than the mixed ages of the initial years. Stotz Cottage was converted into a Special Intervention Unit separating very troubled kids from the rest of the population. In the twenty-first century, the State of New York instituted a program to send recently released juvenile inmates from prisons to the campus for a transition period and they were housed in the Hayden/Young Cottage.[8]

The difficulties posed by the onset of COVID created the last insurmountable hurdle as the Graham governing body faced ever-increasing repair and maintenance costs for the aging campus' cottage buildings. Covid restrictions and health concerns for a communal campus yielded a relatively sudden closure of the campus in the fall of 2020. All campus activities ceased and over 100 employees were out of work as new locations were sought for each of the remaining children.[9] The decision was to sell the Hastings-on-Hudson campus and to use the funds to support Graham's guiding mission to reach more children and families within New York City neighborhoods already served by the Graham's activity centers.

As noted in a recent Graham newsletter (*Graham Record*, 10/22), the organization has now focused on a "foster care program, family support programs, a mental health clinic, and our community centers" in various city neighborhoods, e.g., Harlem, Hunts Point, and Brooklyn.

[8] Rodney Mizell, Graham staffer for over 25 years, Interview with Cece Saunders (3/3/23).

[9] C.J. Eberhart, "Graham School campus in Hastings will close by the fall" in Rockland/Westchester Journal News, 7/14/20.

Currently, the Graham maintains a few staff on campus so that all individual buildings are serviced with minimum heat and electricity to prevent frozen pipes and water damage until the SEQR review process is completed and the campus purchase is finalized. The marble and bronze plaques memorializing the founders of and early donors to the Orphan Asylum Society have been removed from the entrance area of the Administrative Building. A portion of these plaques have been donated by Graham to the Smithsonian and the remainder will apparently go to the Graham offices in New York City. Photographs of these are included as Appendix G. A large bronze bell, rung by a rope from inside the Administration Building to announce meal times for the students, is still mounted on the roof.

The electronic entrance continues to be managed by Graham security for both the campus and the adjacent public schools. Graham staff still resides in the small Matthews Cottage Gate Lodge for additional security.

III. ALTERNATIVES ANALYSIS TO REPLACEMENT OF THE GRAHAM CAMPUS

The purpose of this analysis is to study alternatives for preserving the resources of the Graham campus, accruing funds from the sale of the campus to benefit ongoing Graham programs, and enhancing the quality of life in the Hasting-on-Hudson neighborhood which was the home for the campus for more than 120 years.

The four alternatives that were evaluated are:

- No-Purchase/No-Build
- Twelve Design Scenarios Considered for the Graham
- Preservation and Adaptive Re-Use of Six Graham Structures
- Preservation and Adaptive Re-Use of Four Graham Structures

A. ALTERNATIVE: NO-PURCHASE/NO-BUILD

Under the No-Purchase/No-Build alternative, the Graham would fail to obtain a buyer of the campus that is acceptable to Graham and/or the Village of Hastings-on-Hudson. The Graham cannot continue to support their former Westchester campus; it would close down entirely, without current safeguards.

1. The current maintenance measures of heat/electricity/security would be discontinued. The NRE campus would be left in an abandoned state and continue the inevitable slow decline of abandoned properties.

2. No major repairs or maintenance would be performed on any of the 18 campus structures, including the Administration Building.

3. The Village of Hastings-on-Hudson or the Greenburgh-Graham UFSD would likely have to step in to provide and manage the public-school staff parking and entrance security, as well as establish a new ingress/egress off of South Broadway, and establish security measures to separate the two campuses, although final obligations would have to be determined.

4. The Graham and its many social service programs for under-served families in New York City would not benefit financially from the sale of the property.

B. ALTERNATIVE: TWELVE DESIGN SCENARIOS CONSIDERED

The intent of Graham is to sell the campus so that maximum profits will be available for their on-going programs in New York City. Real estate broker John Barrett of RM Friedland Commercial Real Estate Services (Harrison, New York), was hired to manage - in essence - an Alternatives Analysis of how the campus could be utilized and/or replaced through independent development design scenarios presented to the Village of Hastings-on Hudson. As noted in Barrett's summary of his actions, the monetary strictures imposed by the Village on residential developments (15% affordable component), and the Village's explicit desire for the property to be returned to the tax rolls without uses that would stress the local schools and infrastructure, were critical factors in selecting a potential buyer.

The following is a portion of the report (12/8/2020) of Barrett's involved procurement process to the Graham administration. Barrett's report is included as Appendix C.[10]

> During your review of the materials please keep in consideration not only the economics, but what is most likely going to be approved by the Village of Hastings. In the meetings that we have attended the main issues and concerns that the Hastings board have voiced are density, increased school enrollment, increased traffic and environmental impact. In addition, the Village is requiring a 15% affordable component to any development seeking approval.
>
> It is with great pleasure that we can inform you that we had a highly successful marketing campaign for the sale of the Graham Windham Hastings Housing campus. Over the last three months we have had tremendous interests from local, regional, and national developers with a variety of concepts that range from Multifamily rentals, Senior Housing facilities to Townhomes and Single-Family developments. We have completed over 20 tours of the property and have spoken with 100+ interested parties. The Village of Hastings was also engaged during this process. Six of the interested developers had meetings with the board members of the Village of Hastings which we also attended. During these meetings they discussed their potential projects (some in greater detail than others) and took questions from the Village. Some groups prepared renderings; others just described their uses. It was an excellent way for us to get a gauge on what the Village would deem acceptable and get their stamp of approval. The deadline for Letter of Intent was Friday November 20th [2020]. To date we have received a total of thirteen offers with one withdrawal.

Barrett subsequently summarized the various offers. There were no proposals put forward that embraced reuse of all or a majority of the Graham Cottages. In fact, some of the proposals included demolition of the Administration Building. There were no purchase offers that presumed re-use of more than six Graham structures. The alternatives ranged from plans for (40) single family homes, assisted living facilities, age 55+ adult communities, a high-density multi-

[10] Neither John Barrett, nor his legal counsel at Cuddy & Feder of White Plains, NY, felt RM Friedland could fully disclose the remaining 11 development scenarios in greater detail at this time.

family development, a 200-unit luxury multifamily development, and a multimedia production studio.[11] The Village's request for a 15% affordable component forced some housing development withdrawals.

Since the Village was integrally involved in the interviews and presentations, Barrett gained an insight into which of the various prospective buyers of the Graham campus would be able to meet the Village's financial demands and satisfy their concerns for the future. Essentially, a number of realistic and reasoned alternative designs and uses were established for the Graham campus by the broker's offering; Electric Owl provided the best alternative.

Of particular importance was the match between Electric Owl's proposed multimedia production studio and the Village's Comprehensive Plan. The comprehensive plan specifically addresses "Large Tracts" in Chapter 4 and the Graham campus is referred to as a targeted site for re-zoning to commercial uses to diversify the Village's tax base (pp.49-51).

Electric Owl's proposal to construct a LEED-Certified film and video production studio also fits with the Comprehensive Plan's objectives to become a model community in the region by "encouraging sustainable design and construction in the Village" (p. 77). An Electric Owl development could become the first and only LEED certified film studio in New York or New Jersey.

As initially submitted to RM Friedland Commercial Real Estate Services, Electric Owl's new campus would host approximately 290,000 square feet of buildings, including studios and work space, as well as a cafeteria, parking structure (parking to be shared with the two adjacent public schools) and re-use of several of the existing Graham buildings. An analysis of the various development alternatives from the perspective of Village approval identifies the following positive Electric Owl attributes.

1. Electric Owl's film studio development is not seeking a future tax abatement from the Village.

2. Electric Owl will pay full property taxes; the studio's projected property tax revenue will contribute an extra $20M to the Village schools over the next 10 years.

3. Electric Owl's use of the property will not add any burden to either the local infrastructure or the public school system.

4. Electric Owl's offer of continued support for the public-school staff parking on the campus relieves the Village of a potential economic burden.

5. Electric Owl's design team will preserve Graham's iconic NRE Administration Building and its commanding focal presence from the entrance, portions of the campus, the brick wall along the South Broadway frontage, and consider further preservation alternatives.

[11] A Phase I Environmental Site Assessment, was completed by Langan Engineers, July 2021, for Gotham Property Acquisitions, LLC,

6. The proposed Electric Owl use and economic impact are consistent with the objectives of the Village's Comprehensive Plan.

C. ALTERNATIVE: PRESERVATION AND ADAPTIVE RE-USE OF SIX GRAHAM STRUCTURES

Once selected for development of the Graham campus, Electric Owl's initial design priorities were two-fold. First, construction of a functional multimedia studio facility to meet current and future filming needs and, secondly, the adaptive re-use of six of the Graham buildings and campus landscape, including the massive Administrative Building which anchors the west end of the campus' central lawn.

Based on general industry standards, the proposed studio buildings will stand approximately 50-feet in height at the edge of the roof. A 55-foot exterior total height allows for the required slope to the roof peak in the middle of the building. The film studio buildings require a height of 55-feet in order to have a 40-foot interior clear height for the stages. This modern standard of a 40-foot interior clear height is the minimum requirement expected by film and television production for purpose-built stages to allow for set design, lighting and other equipment. The interior height is measured to the bottom of the trusses.

Above that 40-foot clear height, another 10 to 15-feet is needed to provide the necessary depth to accommodate the long-span structure, roof assembly, and roof pitch necessary for film and television productions to have the open floor below without any columns in the middle of the building.

The proposed stages have been located in a rough alignment to replace several Graham Cottages along the southern edge of the campus. The stages were designed for this location for three primary reasons:

1) to provide a visual and acoustic buffer to the residents and the public Lenoir [Nature] Preserve just across the southern boundary;
2) to preserve the character of the campus and quad currently existing on site which would have been negatively impacted if the various stages and mill shops were scattered around the site; and,
3) to preserve the dominance of the Administrative Building in the campus setting by placing the stage buildings on the lowest terrain, minimizing their visual impact and remaining lower in overall height than the Administration Building.

In addition to these filming studio requirements, a facility such as proposed by Electric Owl must have large open spaces for mill shops, as well as smaller spaces for costume storage. Residential and office spaces are also needed for visiting professionals and Electric Owl's stated intent was to use the extant Administration Building and convert some of the original Graham "Cottages" on the north side of the campus to that end. The proposed parking garage must be accessible to the staff of the neighboring public schools on the north side of the campus.

Electric Owl's initial design proposal by Michael Maltzan Architecture is attached as Appendix D (11/15/22). A total of six Graham buildings are slated for adaptive reuse in this

initial alternative, i.e., the Administrative Building and five early buildings: McCartee, Fraser, Ainslee, and Satterlee Cottages and the former Laundry which more recently was identified as the Maintenance Building. The central lawn is to be maintained with a re-introduction of curvilinear roads and walkways. Aligning new buildings to one side of the Administrative Building reserves the visual power of the central iconic building. A new four-story parking garage is sited downslope to the west of McCartee Cottage.

This full design was presented to the Board of the Village of Hastings-on-Hudson in public meetings. The proximity of the proposed parking garage on this plan, both visually and contextually, to the Old Croton Aqueduct linear Park received comments of major concern. These concerns were echoed by a March 16th, 2023 letter from SHPO concerning potential impacts to the "serene" setting of the Park by any plans to actively use the emergency roadway which currently traverses the Park.[12]

An analysis of the Electric Owl's initial development plan to preserve and adaptively re-use six of the Graham campus' earliest buildings was not an acceptable alternative.

1. Electric Owl's plan to construct a four-story parking garage approximately 119 feet from the middle of the Park corridor at an elevation of approximately 180 feet above msl was deemed not acceptable during public meetings. As placed, it presents a looming intrusion onto the public Park which landscaping could not ameliorate within that short of a distance. The footprint of the parking garage was sited so that the full width of the garage was visible to south-bound hikers.

2. The Village has a "Steep Slopes Ordinance" that would prohibit construction on large portions of the proposed garage footprint.

3. The minimum setbacks proposed by Electric Owl on the southside of the campus to provide a visual and acoustic buffer to the residents and the public Lenoir [Nature] Preserve just across the southern boundary will be augmented by intense tree plantings. Due to the size of the south-side studio footprints, there is a slight shift of the new studios into the interior of the One South Broadway lot but the visual dominance of the Administration Building from the South Broadway entrance remains. The stone "milk house" built into the retaining wall between the rear of the Norris and Rogers Cottages could be sealed and left *in situ.*

4. Electric Owl's initial design is an alternative that will preserve Graham's iconic NRE Administration Building and its commanding focal presence from the entrance, portions of the campus, and five early buildings.

5. Electric Owl's initial design is an alternative that will provide a new curb cut/entrance off of South Broadway for the two adjacent public schools. The brick wall along the South Broadway frontage will be preserved to the extent possible and replaced in kind as necessary.

[12] The SHPO letter from Chris Pelosi, Environmental Analyst of the NYS Office or Parks, Recreation, and Historic Preservation Taconic Region, is included in Appendix A.

6. Designs for curvilinear roads and walkways, evocative of the Graham campus' original layout are included. However, there will inevitably be a loss of specimen trees (e.g., American Sycamores) and the original roadway network with unique brick gutters.

D. PREFERRED ALTERNATIVE: PRESERVATION AND ADAPTIVE RE-USE OF FOUR GRAHAM BUILDINGS

Electric Owl's plans to construct the necessary four-story parking garage, with usage split between the filming staff and the adjacent public-school staff was modified and shifted in location in this final, preferred alternative. New designs were initiated to move the garage as far away from the popular linear hiking Park as possible while still serving the public-school staff. Electric Owl's alternative plans to construct the four-story parking garage were initiated by Griffco Design/ Build Inc., the Georgia company that helped in creating Electric Owl's first studio. Shifting the garage south, further away from the Park, orienting the garage at an oblique angle, and pushing it up the slope where topography is less steep has provided a clear separation between the Park and the new parking structure. The final location of the parking garage off the prohibited steep slope, with visual perspectives in relation to the linear Park and former footprint are attached as Appendix E.

The shift of the parking garage away from the linear Park and up the slope impinges on the earlier Electric Owl plans to preserve five of the original cottages as an ensemble around the northeast side of the Administration Building. Only two cottages near the campus lawn will now be available for adaptive reuse. However, the Mathews Cottage/Gate Lodge at South Broadway is now slated for preservation and adaptive reuse, ensuring less change to the public view scape into the site along South Broadway.[13]

Appendix F presents Electric Owl's alternative design for the campus that preserves a total of four Graham buildings.

Electric Owl has retained an architectural firm with a depth of experience in preservation; Granoff is a firm nationally recognized for adaptive reuse.[14] Granoff has indicated that the heating systems in the three extant cottages to be adaptively reused will be replaced with energy efficient, all-electric, heating and cooling systems. None of the Graham buildings currently comply with ADA requirements and extensive upgrades will be required to bring the four preserved buildings into compliance. New systems and upgrades are not estimated to be prohibitively expensive since there is a limited number to preserve.

1. Electric Owl's Four-Buildings Alternative is a big improvement over the initial design alternative; the proposed garage is now approximately 291 feet from the middle of the Park corridor at an elevation of approximately 245 feet above msl. As placed, the existing hillside with mature trees which will remain can now ameliorate

[13] Mathews Cottage was apparently altered in approximately 1967 based on "preliminary" plans currently filed in the Graham Maintenance Building. The extent of changes is unclear since the building is currently a residence and not available for an inspection.

[14] Granoff Architects is a full-service firm established in 1989 with a team of more than 30 professionals and offices in Greenwich, CT. The firm has successfully completed multiple historic preservation and adaptive re-use projects. Some of them have received local, regional and/or national historic preservation awards.

much of the view of the garage from southbound hikers. This revised design and taking advantage of the topography has reduced the height of the parking structure from 60 feet to 30 feet, lower that the current height of the Administration Building.

2. Electric Owl's Four-Buildings Alternative will preserve Graham's iconic NRE Administration Building and its commanding focal presence from the entrance, portions of the campus, and three early buildings (Fraser and Ainslee Cottages on the north side of the campus lawn and Mathews Cottage, the Gate Lodge on South Broadway that, in the past, often served as the residence for the director of the school).

3. Electric Owl's Four-Buildings Alternative will provide a new curb cut/entrance off of South Broadway for the two adjacent public schools. The brick wall along the South Broadway frontage will be preserved to the extent possible and replaced in kind as necessary.

4. Electric Owl's Four-Buildings Alternative will preserve the character of the campus and quad currently extant which would have been negatively impacted if the various stages and mill shops were scattered around the site.

5. Electric Owl's Four-Buildings Alternative has been engineered to reduce the overall height of the studio stage buildings by five (5) feet from 55 feet to 50 feet. The height of the Mill Shop, to be built in roughly the same location as the former Fox Cottage and the Hayden/Young Cottage west of the Administration Building, will be five (5) feet higher than those previous buildings.

6. Electric Owl's Four-Buildings Alternative to preserve the dominance of the Administrative Building in the campus setting will place the stage buildings on the lowest terrain, minimizing their visual impact and remaining lower in overall height than the Administration Building. See Appendix F for Proposed Building Locations and Heights.

7. Latest Electric Owl calculations of studio and office spaces has reduced the maximum to 239,000 square feet of buildings, including studios and work space, as well as a cafeteria, parking structure (parking to be shared with the two adjacent public schools) and re-use of several of the existing Graham buildings.

8. The minimum setbacks proposed by Electric Owl on the southside of the campus to provide a visual and acoustic buffer to the residents and the public Lenoir [Nature] Preserve just across the southern boundary will be augmented by intense tree plantings. Due to the size of the south-side studio footprints, there is a slight shift of the new studios into the interior of the One South Broadway lot but the visual dominance of the Administration Building from the South Broadway entrance remains. The stone "milk house" built into the retaining wall between the rear of the Norris and Rogers Cottages could be sealed and left *in situ.*

9. Designs for curvilinear roads and walkways, evocative of the Graham campus' original layout are included. However, there will inevitably be a loss of specimen trees (e.g., American Sycamores) and the original roadway network with unique brick gutters.

VI. CONCLUSIONS AND RECOMMENDATIONS

As noted in the DOE, the Graham campus was an innovative 'cottage plan' approach to care for groups of children who lived in separate residences supervised by house parents. This was a successful innovation and served children and the larger communities very well for 100 years. However, the cottages aged and the 'cottage plan' approach to childcare was no longer reflective of the trends in social services. The Graham administration is desirous of selling the campus to invest the proceeds into their current programs – reaching more families and assisting larger numbers of children within their original New York City neighborhoods.

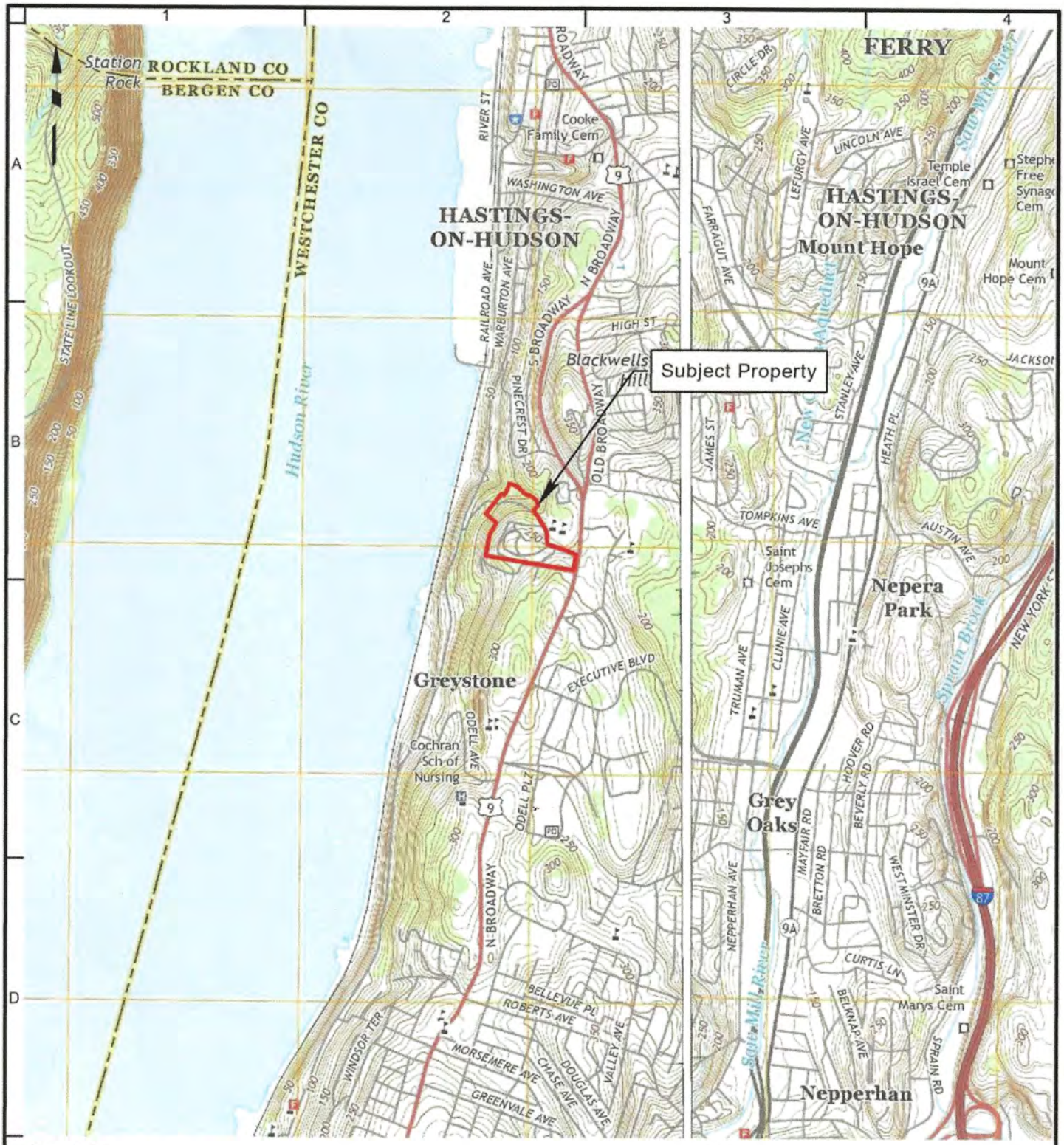
The Village of Hastings-on-Hudson has made it very clear that zoning clearance for such a large tract of land overlooking the Hudson River will not be easily managed without provisions that will be of benefit to the village. Of the twelve serious proposals entertained by the Graham administration, Electric Owl's designs for a multimedia studio complex meet the village's needs and Graham's goals, and is a successful business venture while simultaneously preserving many features of the campus. These features include:

1. Preservation and adaptive re-use of the James B. Baker Beaux-Arts Administrative Building. The slight re-alignment of the entrance drive will provide a distinct advantage in showcasing this building.
2. Preservation and adaptive re-use of three supportive structures. Electric Owl has carefully chosen not to attempt to integrate the historic structures with the studio needs but allowing them to maintain historic dignity. These structures will be partially removed from the studio sphere and can hold their own space to the northeast of the Administration Buildings and along South Broadway.
3. Preservation of the campus setting with a loop road and great lawn.
4. Preservation and replacement in-kind of the brick-capped, campus-defining wall along South Broadway.

The demolition of major portions of the Graham campus appears unavoidable. Two mitigative actions, in addition to the adaptive re-use of four of the extant structures, are recommended to memorialize the contribution of this campus within the historical context of efforts to care for disadvantaged children during the twentieth century.

First, the bronze bell on the roof of the Administration Building should be salvaged, carefully curated during renovations, and reintroduced in an appropriate campus setting with an interpretive panel on the history of the campus.

Secondly, a state-level photo documentation of the Graham campus prior to demolition should be filed, at a minimum, with the New-York Historical Society's own Graham archive collection and SHPO for delivery to the New York State Library Archives.



Legend

Subject Property

2,000 0 2,000

SCALE IN FEET

Notes:

1. Basemap adapted from United States Geological Survey (USGS) 7.5-Minute Series Topographical Maps, Yonkers, New York, Quadrangle, Dated 2016.

LANGAN

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Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
Langan International LLC

Collectively known as Langan

Project

1 SOUTH BROADWAY

TAX SECTION 3, BLOCK 3514, LOT 1
YONKERS
TAX SECTION 4.130, BLOCK 139, LOT 1.1
HASTINGS ON HUDSON

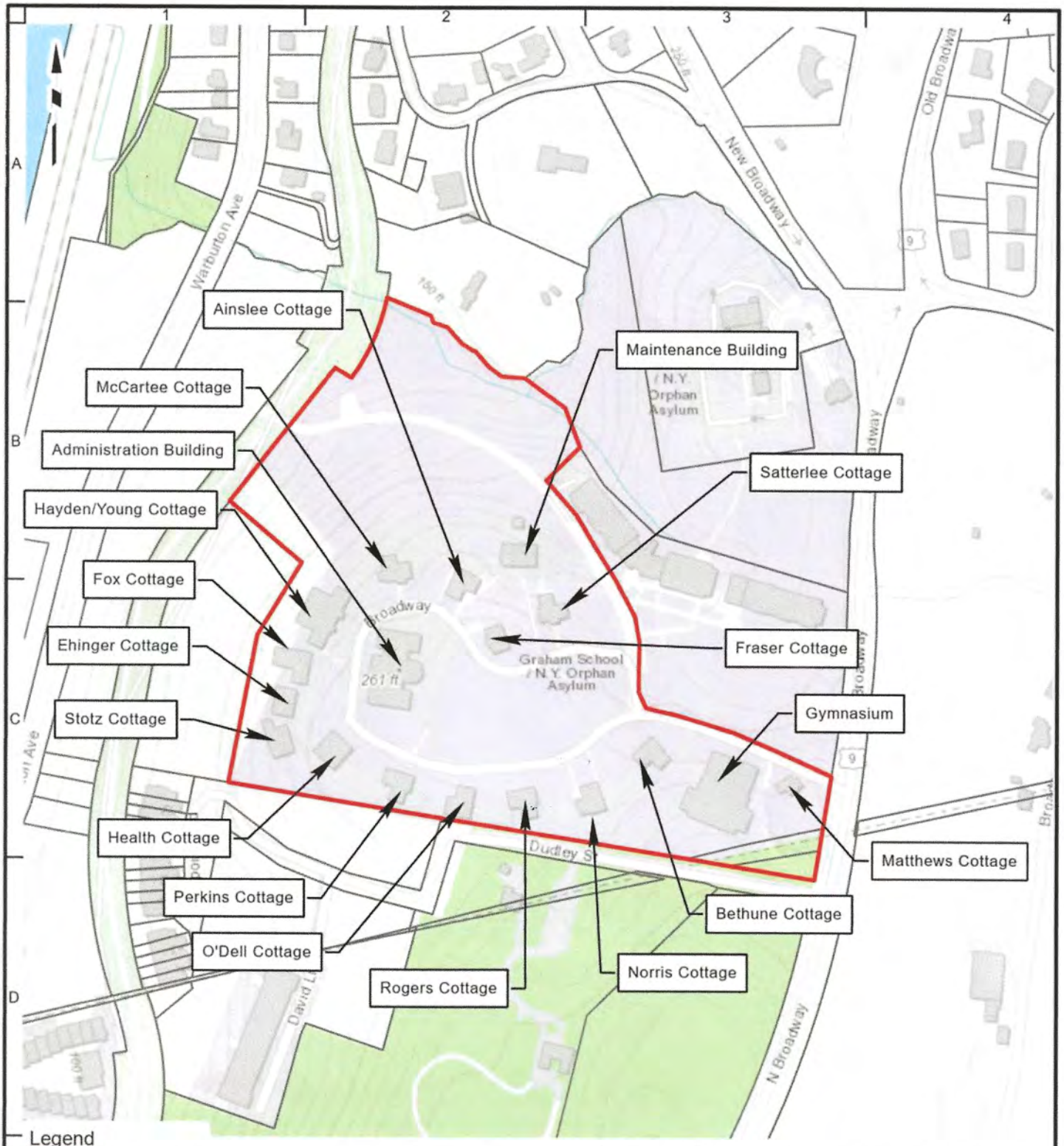
WESTCHESTER COUNTY NEW YORK

Figure Title

SUBJECT PROPERTY LOCATION MAP

Project No. 190069701	Figure No. 1
Date 7/1/2021	
Scale 1"=2,000'	
Drawn By MG	
Submission Date	

Sheet 1 of 2



Notes:
1. Topographic basemap is provided through Langan's Esri and ArcGIS software licensing and ArcGIS online.
2. Tax parcel data provided by Westchester County.

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Figure Title
SITE PLAN

Project No. 190069701	Figure No. 2
Date 7/1/2021	
Scale 1"=300'	
Drawn By MG	
Submission Date	Sheet 2 of 2

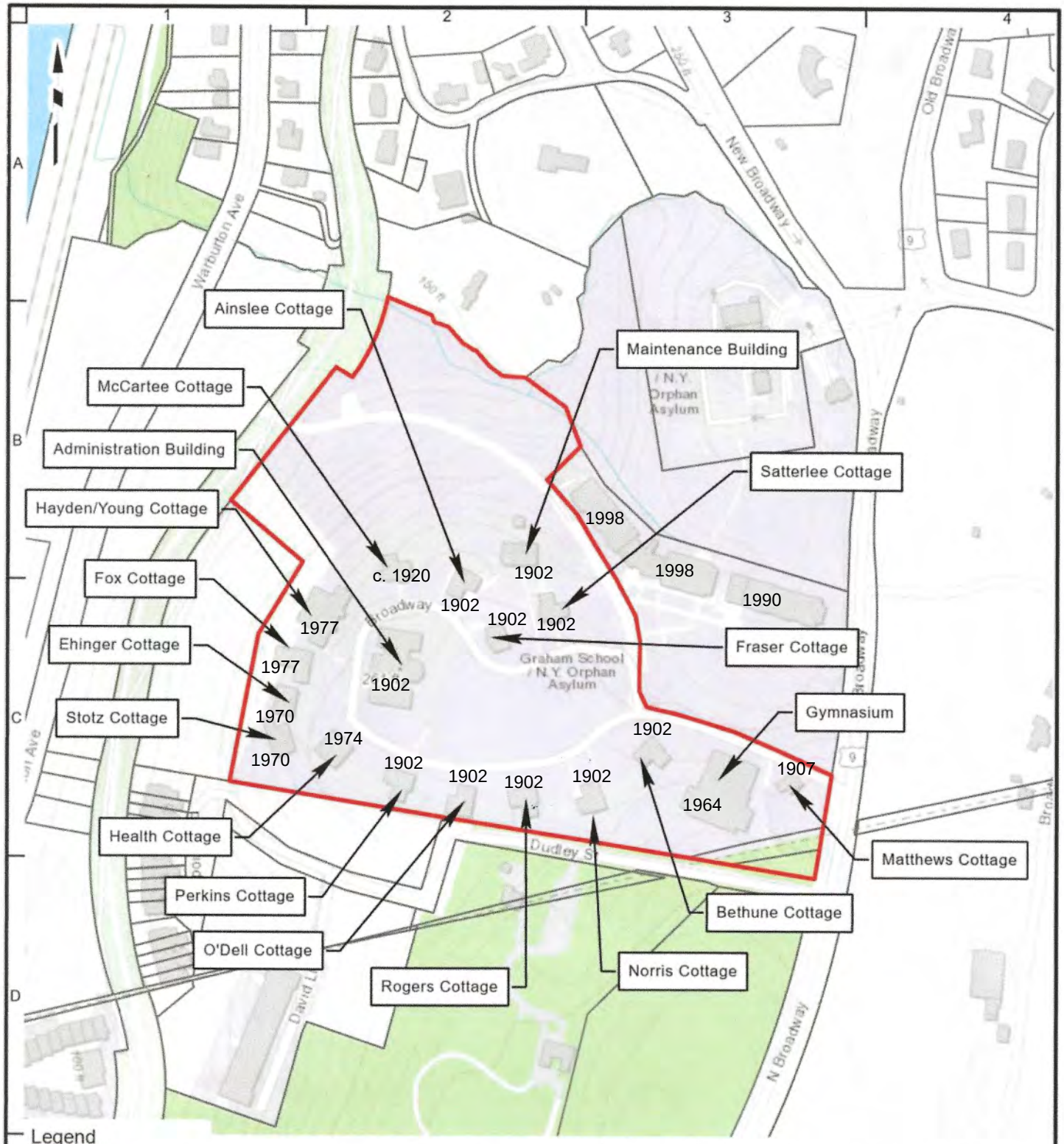

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Figure Title
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Project No. 190069701	Figure No. 2
Date 7/1/2021	
Scale 1"=300'	
Drawn By MG	
Submission Date	Sheet 2 of 2

Path: \\langan.com\data\WPW\data7\190069701\Project Data\ArcGIS\APRX\190069701\190069701.aprx Date: 7/1/2021 User: mgeorgalas Time: 5:39 PM

Approximate Construction Dates for Buildings

APPENDIX A:

SHPO Determination of National Register Eligibility (2022)
and
SHPO Response to Village Request for SEQRA Lead Agency Status (2023)

New York State Parks, Recreation and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

RESOURCE EVALUATION

DATE: December 29, 2022

STAFF: Jennifer Betsworth

PROPERTY: Graham Home for Children

MCD: Hastings-on-Hudson

ADDRESS: 1 US Route 9

COUNTY: Westchester

PROJECT REF: 22PR08752

USN: 11940.001568

I. ☐ Property is individually listed on SR/NR:
name of listing:

☐ Property is a contributing component of a SR/NR district:
name of district:

II. ☒ Property meets eligibility criteria.

☐ Property contributes to a district which appears to meet eligibility criteria.

Criteria for Inclusion in the National Register:

A. ☒ Associated with events that have made a significant contribution to the broad patterns of our history;

B. ☐ Associated with the lives of persons significant in our past;

C. ☒ Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or possess high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction;

D. ☐ Have yielded, or may be likely to yield information important in prehistory or history.

STATEMENT OF SIGNIFICANCE:

Based on the information available, the Graham Home for Children (known as the Graham Windham School after 1977), is significant under Criterion A in the areas of Social History and Education for its association with efforts to care for disadvantaged children during the twentieth century. Founded in 1806 by a group of philanthropic women in New York City and originally known as the Orphan Asylum Society in the City of New York, the organization is considered the oldest childcare agency in New York State. The Graham campus is additionally significant under Criterion C in the area of Architecture for its collection of Beaux-Arts buildings, most notably its administrative building designed by architect James B. Baker. The campus is also among the earliest, if not the first, to adopt a “cottage plan,” where groups of children lived in separate residences supervised by house parents. This successful innovation became a model for childcare institutions across the country. The preliminary period of significance for the campus extends from 1901, when the first group of buildings were constructed in Hastings-on-Hudson, through 1977, when the Graham Home and Windham

Childcare (founded in 1835 as the Society for the Relief of Half-Orphan and Destitute Children) merged to more effectively provide services in a changing political and financial environment.

The Orphan Asylum Society in the City of New York was founded on March 15, 1806 by a group of women, led by Isabella Graham, her daughter Joanna Graham Bethune, and Elizabeth Schuyler Hamilton, widow of Alexander Hamilton. The organization, which was led exclusively by women, established a home to care for orphaned children. By the end of the first year, the organization had admitted 200 children. The organization continued to operate exclusively from New York City until 1902, when it constructed its campus in Hastings-on-Hudson. The Society had purchased the land for this aim in 1869 but did not seriously discuss relocating again until 1899.

In 1900, the Society hired a professional superintendent to manage the school and help with the transition to the new country campus. New York architect James B. Baker was selected to design the plan and buildings for the campus using a “cottage system.” Under this innovative plan, children of all ages would live together under the guidance of cottage parents in small groups; male and female children lived in separate houses. This successful system became a model for similar organizations. Baker’s Beaux-Arts and Colonial Revival designs for the original buildings are reflective of popular styles for institutional buildings during the period. Their brick and limestone construction and handsome designs reflected a sense of stability that was likely intended to impress upon the children.

The organization expanded its educational program and renamed itself Graham School in 1929 in honor of one of the founders and in recognition that the school increasingly served children who were not orphans. It renamed itself again in 1950 as the Graham Home for Children. In 1958, men were admitted to the Board of Trustees for the first time. A donation from the Batchelor family in the early 1970s enabled the expansion of the organization’s services in New York City and construction of additional buildings on the Hastings campus. In the 1970's, under the Child Welfare Reform Act, government agencies instituted many reforms which changed the delivery of child care services in New York City. A special focus on families aimed to prevent family upheaval which resulted in foster care placement. At the same time, New York City faced a fiscal crisis which reduced the amount of funds available. Graham Home for Children and Windham Child Care consolidated into a single agency in 1977, to face these challenges and strengthen and complement their services. The Graham’s Hastings-on-Hudson residential cottages were closed at the end of 2020 after operating for more than 115 years.

The Graham Home for Children campus is located within Hastings-on-Hudson on a ridge overlooking the Hudson River. The approximately twenty-four-acre campus includes eighteen primary buildings and a designed landscape that includes plantings, open lawns, and wooded areas. It retains its original plan, featuring a straight road connecting to a kidney-shaped loop road around a central lawn; the road is bordered by shallow, brick-lined gutters. The large administration building is at the western end of the loop and smaller cottages and support buildings are located along the other parts of the loop in three distinct clusters. A brick wall with an angled brick cap and formal entrance is located along the original property boundary on South Broadway. Two public schools constructed during the 1980s and 1990s are located just north of the campus core and on land historically associated with the Graham School; they replaced a handful of earlier campus buildings are not located within the eligible campus district.

The campus was constructed in two primary phases: its original 1902 construction and post-1965 expansion. Historic aerials show that all but two buildings, Fox Cottage and Hayden/Young Cottage, were constructed before 1977, the end of the period of significance. Except for these two buildings, all buildings on the campus and the campus plan are considered contributing resources. The following resource list is based on available information and does not include descriptions for buildings where photographs were not provided. Additional research is needed to confirm the age and status of any smaller, secondary buildings within the district.

Administration Building, 1902. Architect James B. Baker.

Two-story on basement Beaux-Arts limestone and brick administrative building with flat roof. I plan with a central gabled projection for the formal, columned entrance on the west (facing the river) and curved projection/apse historically housing a double-height chapel, fronting on the campus quad, or plaza. Entrance

features Ionic columns, entablature, and full denticulated pediment. Limestone quoins and beltcourse. Arched first story windows, rectangular second story windows; both feature oversized tripartite keystones. Cornice with quoins. Balustrade along roofline.

Cottages, 1902. Architect James B. Baker.
Bethune Cottage, Norris Cottage, Rogers Cottage, O'Dell Cottage, Perkins Cottage, Satterlee Cottage, and Ainslee Cottage.

Each two or two-and-a-half story brick cottage has a unique design and roofline. Most feature porches with columns, windows with keystones, denticulated cornices, exterior brick chimneys, and dormer windows.

Fraser Cottage/Superintendents Residence, 1902. Architect James B. Baker.

Two-story, five-bay brick Classical Revival residence. Pedimented entrance surround. Oversized cast-stone window crowns. Second floor Palladian window. Denticulated cornice and central pediment. Front-gabled dormers with arched windows.

Maintenance Building (former laundry), 1902. Architect James B. Baker.

Two-story, eight-bay brick hipped roof building. Quoins One-story entry porch supported by columns; roof forms a patio. Windows with keystones.

Matthews Cottage/Gatehouse, 1902.

Two-story, cross-gabled brick, limestone, and stucco house. First story limestone quoining. Keystones and panels by windows facing entry.

McCartee Cottage, ca. 1920.

Three-story, six-bay brick Beaux-Arts residence. Entrance porch with columns and denticulated pediment. Keystones on window. Denticulated cornice. Arched dormers.

Gymnasium, 1966.

Two-story, slab-on-grade gymnasium.

Stoltz Cottage and Ehinger Cottage, ca. 1970.

Two-story frame and brick residences with low-pitched rooflines and partial basements.

Health Cottage, ca. 1975.

One-story, four-bay brick and frame health center. Two shed roofs if varying heights suggesting a front-gable roof. Banks of windows within stucco walls.

Hayden/Young Cottage and Fox Cottage, ca. 1980. Non-contributing.

Two-story frame and brick residences with low-pitched rooflines and partial basements.

"History," Graham-Windham. https://www.graham-windham.org/about-us/history/

"Guide to the Records of Graham Windham, 1804-2011," New York Historical Society Museum and Library. http://dlib.nyu.edu/findingaids/html/nyhs/grahamwindham/bioghist.html

If you have any questions concerning this Determination of Eligibility, please contact Jennifer Betsworth at (518) 268-2189 or Jennifer.Betsworth@parks.ny.gov

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

March 16, 2023

Anthony Costantini, Village Clerk
Village of Hastings-on-Hudson
7 Maple Avenue
Hastings-on-Hudson, NY 10706

RE: Village of Hastings-on-Hudson Board of Trustees SEQRA Notice of Intent to Serve as Lead Agency
Electric Owl Holdings Project

Dear Mr. Costantini:

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) has reviewed the Village of Hastings-on-Hudson State Environmental Quality Review (SEQR) notice of intent to serve as lead agency for the above referenced action, received February 17, 2023. According to the information provided, the proposed action involves a zoning amendment and development of a multi-media production/filming studio consisting of repurposing existing buildings, constructing new buildings, and constructing a new parking garage, along with associated site improvements located in Westchester County, New York. In response to the Village's request to serve as lead agency for environmental review, OPRHP has no objection.

However, there are two areas of concern that Parks would like to provide comment on:

The first is the little used service road that winds to the west of the campus and over the Old Croton Aqueduct. The road is closed to traffic presently and appears to be used as a service road with an area of trash dumpsters just east of the Aqueduct, and not traversed—or perhaps rarely—down over the trail. The road continues down to Warburton Avenue and exits through decorative iron gates. Currently, there appears to be no designs on making any changes to the road itself; however, moving the dumpsters is recommended. Additionally, many of the employees envisioned working at the studios would come by train, and this road could be seen as a convenient route to the Greystone train station—about half a mile from the new campus. A walking path would be great but creating a roadway for cars or a shuttle bus would create an intersection on the trail in an area that is remarkably wooded and serene presently and would not be recommended.

The other concern is storm water treatment. There has been significant runoff from the Graham School property, down the steep slope to the east of the Aqueduct, that has eroded both the trail and the land downhill. The Village worked with the Graham School almost a decade ago to remedy much of the issue, but with the proposed creation of a parking lot, storm water control will require careful management.

Please note that this letter is speaking on behalf of the Taconic Region of OPRHP and that lead agencies must coordinate separately with the OPRHP, Division of Historic Preservation – State Historic Preservation Office (SHPO) for issues involving historic/cultural resources.

With Old Croton Aqueduct State Historic Park located adjacent to this project, and the concerns expressed in this letter, OPRHP has an interest in the proposed development. We would like to be considered as an interested agency and would appreciate updates on the Village's review of this action throughout the SEQR process. Please send future correspondence relating to this project by mail to me at 625 Broadway, 2nd Floor, Albany, NY 12238, or by email to Christopher.Pelosi@parks.ny.gov.

Sincerely,

Christopher Pelosi

Chris Pelosi
Environmental Analyst
NYS OPRHP Taconic Region

APPENDIX B:

Photographs of Existing Conditions (2023) and Photo Key Map

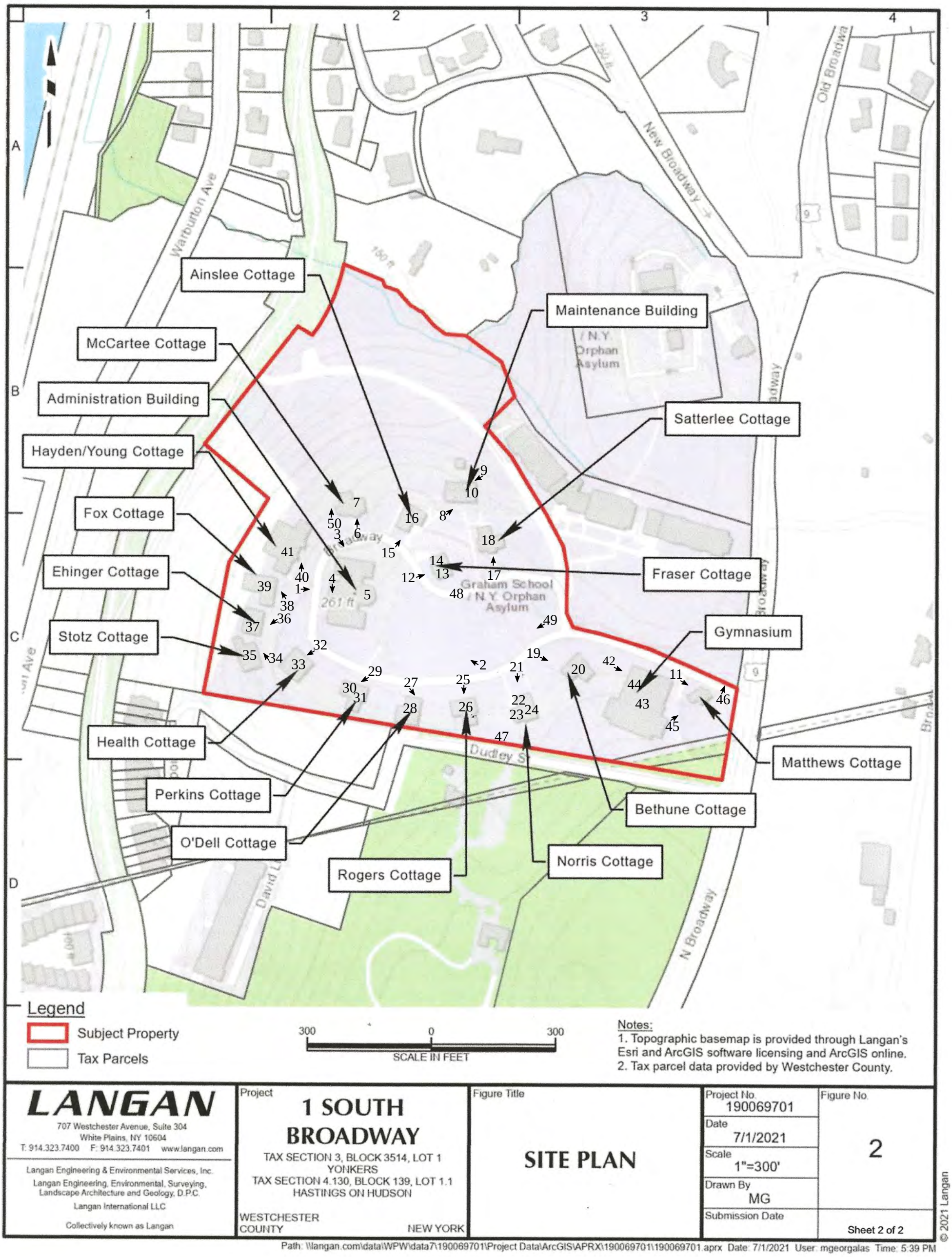

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Figure Title
SITE PLAN

Project No.	190069701
Date	7/1/2021
Scale	1"=300'
Drawn By	MG
Submission Date	
Figure No.	2
	Sheet 2 of 2

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Photo Key Map

Photograph 1. Administration Building, west elevation. View: west to east.

Photograph 2. Administration Building, east elevation and the great lawn. View: southeast to northwest.

Photograph 3. Administration Building, north elevation. View: northwest to southeast.

Photograph 4. Administration Building, detail of west entrance light fixture and post box. View: north to south.

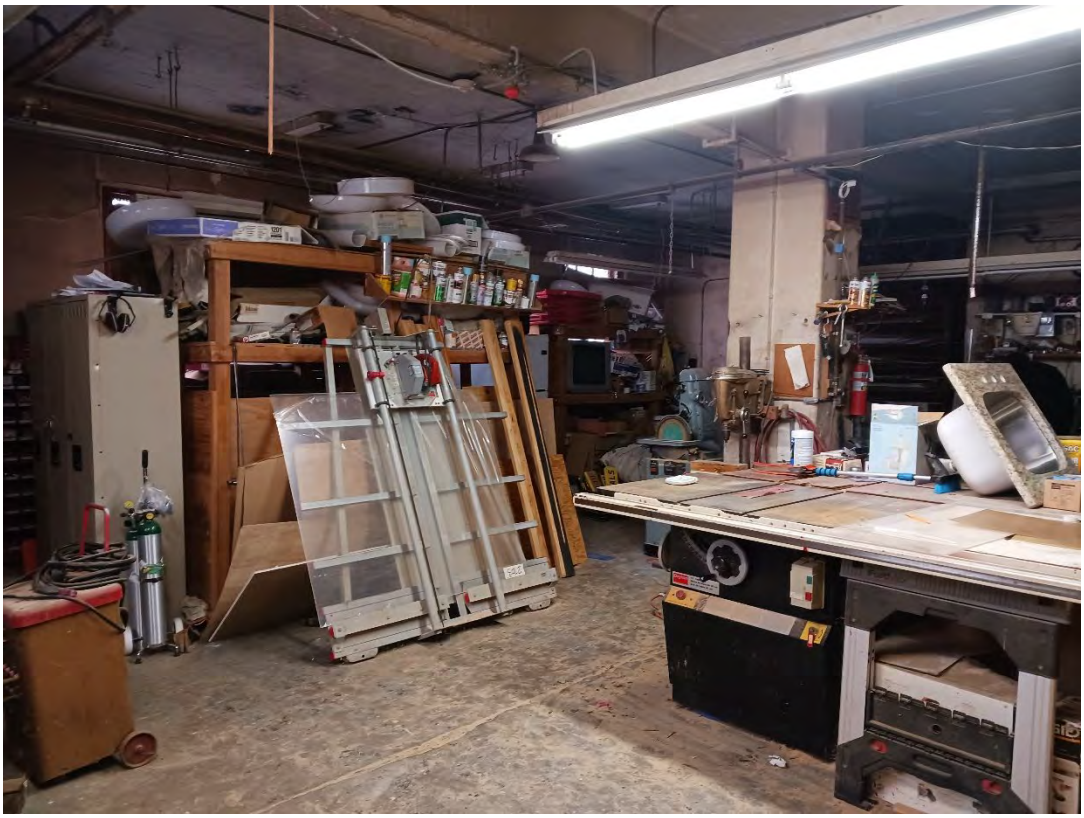
Photograph 5. Administration Building Interior, original chapel on first floor.

Photograph 6. McCartee Cottage, south elevation. View: south to north.

Photograph 7. McCartee Cottage Interior. Staircase, first floor.

Photograph 8. Edgewood, former Laundry/currently Maintenance, south elevation.

Photograph 9. Edgewood, former Laundry/currently Maintenance, north elevation.



Photograph 10. Edgewood Interior, former Laundry/currently Maintenance, maintenance workshop.

Photograph 11. Mathews Cottage, Gate Lodge at South Broadway entrance, View: northwest to southeast.

Photograph 12. Fraser Cottage, west elevation. View: southwest to northeast.


Photograph 13. Fraser Cottage Interior, first floor main entry area.

Photograph 14. Fraser Cottage Interior, including original window seat and wallcovering.

Photograph 15. Ainslee Cottage, View: southwest to northeast.

Photograph 16. Ainslee Cottage Interior, first-floor staircase and second floor “night station.”

Photograph 17. Satterlee Cottage, south elevation. View: south to north.

Photograph 18. Satterlee Interior, dining room with fireplace.

Photograph 19. Bethune Cottage, west elevation. View: northwest to southeast.

Photograph 20. Bethune Cottage Interior, night station grillwork.

Photograph 21. Norris Cottage, north elevation. View: north to south.

Photograph 22. Norris Cottage Interior, first floor entry area, staircase, and second floor landing with night station.

Photograph 23. Norris Cottage Interior, second floor bedroom

Photograph 24. Norris Cottage Interior, second floor bathroom

Photograph 25. Rogers Cottage, north elevation. View: north to south.


Photograph 26. Rogers Cottage Interior, dining room fireplace.

Photograph 27. Odell Cottage, north elevation. View: northwest to southeast.

Photograph 28. Odell Cottage Interior, first floor sitting area.

Photograph 29. Perkins Cottage, north elevation. View: northeast to southwest.


Photograph 30. Perkins Cottage Interior, first floor kitchen.

Photograph 31. Perkins Cottage Interior, first floor library.

Photograph 32. Health Center/formerly location of Hamilton Cottage, north elevation. View: northeast to southwest.

Photograph 33. Health Center/formerly location of Hamilton Cottage Interior, examining room.

Photograph 34. Stotz Cottage, east elevation. View: southeast to northwest.

Photograph 35. Stotz Cottage Interior second floor bedroom.

Photograph 36. Ehinger Cottage, east elevation. View: northeast to southwest.


Photograph 37. Ehinger Cottage Interior, first floor bathroom.

Photograph 38. Fox Cottage southeast to northwest, east elevation


Photograph 39. Fox Cottage Interior, kitchen on first floor.

Photograph 40. Hayden – Young [attached] Cottages, east elevation. View: south to north.


Photograph 41. Hayden – Young [attached] Cottages Interior, common lounge.

Photograph 42. Youth Development Center (Old Gym), west elevation, including outdoor pavilion. View: northwest to southeast.

Photograph 43. Youth Development Center (Old Gym) Interior basketball court at grade.

Photograph 44. Youth Development Center (Old Gym) Interior weight room at below grade level.


Photograph 45. Tennis Courts (2 asphalt courts). View: southwest to northeast.

Photograph 46. Brick, capped wall running parallel to South Broadway.
View: south to north from inside campus.

Photograph 47. Milk House built into exterior, stone retaining wall between Norris and Rogers Cottages.

Photograph 48. Example of the broad, brick-lined gutters bordering the major campus roads.

Photograph 49. View of south side of campus, Cottages (left to right) Rogers, O'Dell, and Perkins, from perspective of the south end of the great lawn.

Photograph 50. View of the distant Hudson River from the campus' loop road with the east side of McCartee Cottage on the right.

APPENDIX C:

Twelve Design Scenarios Considered for the Graham, John Barrett Report, RM Friedland Commercial Real Estate Services, Harrison, NY

RM FRIEDLAND

December 8,2020

The Board of Directors of the Graham Windham School
c/o Mr. Mark Rufeh, Vice Chair
1 Pierrepont Plaza
Suite 901
Brooklyn, NY 11201

Via email

Dear Mark,

It is with great pleasure that we can inform you that we had a highly successful marketing campaign for the sale of the Graham Windham Hastings Housing campus. Over the last three months we have had tremendous interests from local, regional, and national developers with a variety of concepts that range from Multi-family rentals, Senior Housing facilities to Townhomes and Single-Family developments. We have completed over 20 tours of the property and have spoken with 100+ interested parties. The Village of Hastings was also engaged during this process. Six of the interested developers had meetings with the board members of the Village of Hastings which we also attended. During these meetings they discussed their potential projects (some in greater detail than others) and took questions from the Village. Some groups prepared renderings; others just described their uses. It was an excellent way for us to get a gauge on what the Village would deem acceptable and get their stamp of approval. The deadline for Letter of Intent was Friday November 20th. To date we have received a total of thirteen offers with one withdrawal.

The following pages include an analysis of the twelve offerings, the Letters of Intent (LOI's) as well as whatever renderings and company information we have received. It is organized alphabetically, and the highlighted columns indicate, in our opinion, the most favorable for a variety of reasons. During your review of the materials please keep in consideration not only the economics, but what is most likely going to be approved by the Village of Hastings. In the meetings that we have attended the main issues and concerns that the Hastings board have voiced are density, increased school enrollment, increased traffic and environmental impact. In addition, the Village is requiring a 15% affordable component to any development seeking approval.

Although our job is not yet finished, we thank you for the opportunity to work with you on the Sale of Graham Windham Hastings Housing Campus. Not often do we get the chance to work for such a worthy cause that will in the end change and reshape the lives for the better of so many children. If there are any questions, we are more than happy to answer them as a group. All the parties who have submitted an offer are looking for a response as soon as practicable.

Warm regards,

John Barrett

February 15, 2023

RE: 1 South Broadway, Hastings-on-Hudson

Question: How many other buyers were interested in the property ?

Answer:There were twelve (12) other potential buyers for the property with intended uses ranging from (40) single family homes, assisted living facilities, age 55+ adult communities, high density multi-family and luxury multifamily development. This previous purchaser was not successful because the developer required a tax abatement due to the Village requirement of 15% of the planned 200-unit luxury development set-aside for affordability at 60% of AMI. This PILOT tax abatement would have continued the non-tax revenue generating nature of this particular site, while at the same time generating an additional burden on Village services, namely the school system - by adding additional children. Therefore, the Village would not approve the development. The film studio development on the other hand is not seeking a tax abatement, will pay full property taxes and will not add any burden to local services including the school system. This scenario increases the likelihood of a successful sale of the property because its use and economic impact is consistent with the Village's Comprehensive Plan objectives. The studio's property tax revenue will contribute an extra $20M to the Village schools over the next 10 years and will be the first tax paying entity to occupy the site in over 100 years.

The previous page shows a detailed report to the seller dated December 8, 2020.

Sincerely,

John Barrett

APPENDIX D:

Electric Owl Alternative/Adaptive Reuse of Six Graham Buildings,
Michael Maltzan Architecture (11/15/22)

LEGEND

1. EXISTING RESIDENTIAL BUILDINGS (TYPICAL)
2. EXISTING ADMINISTRATIVE BUILDING
3. MAIN SCHOOL BUILDINGS
4. MAIN PARKING LOT
5. SCHOOL ENTRANCE
6. GYMNASIUM
7. BASKETBALL COURTS
8. TENNIS COURTS
9. POOL
10. OLD CROTON AQUEDUCT TRAIL

MICHAEL
MALTZAN
ARCHITECTURE

ELECTRIC OWL

SCALE - 1 : 2000 | EXISTING SITE PLAN

12/2/2022 1

LEGEND

1. OUT BUILDINGS
2. EXISTING ADMINISTRATIVE BUILDING
3. OCCUPIABLE GREEN ROOF
4. GREEN ROOF
5. POTENTIAL SOLAR PV FIELDS
6. MILL BUILDING
7. STAGE BUILDINGS
8. OPEN-AIR PARKING STRUCTURE
9. PEDESTRIAN "QUAD"
10. REMAINING SCHOOL BUILDINGS
11. SCHOOL PARKING LOT AND BUS DROP-OFF
12. STUDIO ENTRANCE
13. SCHOOL ENTRANCE
14. GUARD BOOTH
15. OLD CROTON AQUEDUCT TRAIL

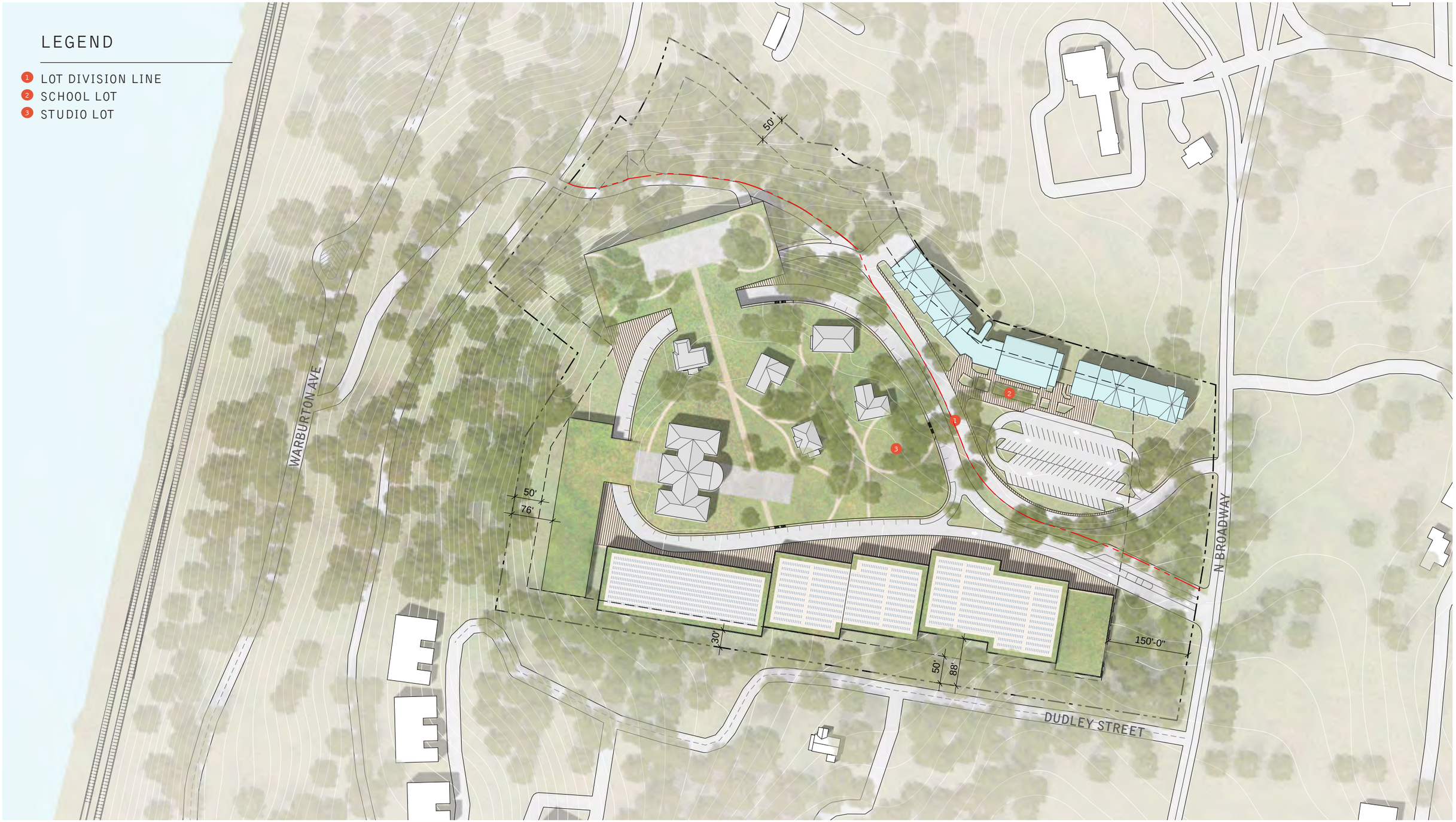
MICHAEL
MALTZAN
ARCHITECTURE

ELECTRIC OWL

SCALE - 1 : 2000 | PROPOSED SITE PLAN

LEGEND

1. LOT DIVISION LINE
2. SCHOOL LOT
3. STUDIO LOT



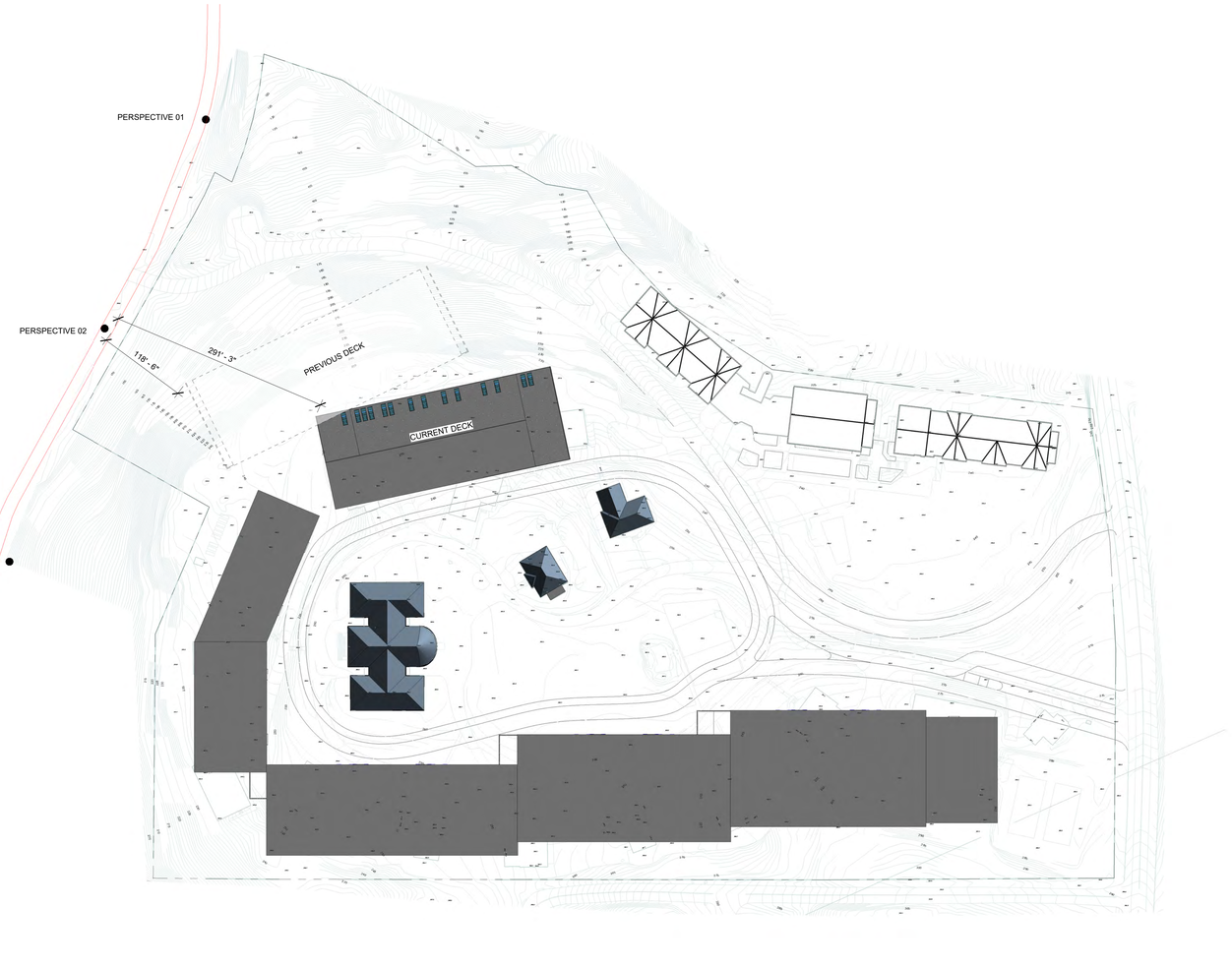
MICHAEL
MALTZAN
ARCHITECTURE

ELECTRIC OWL

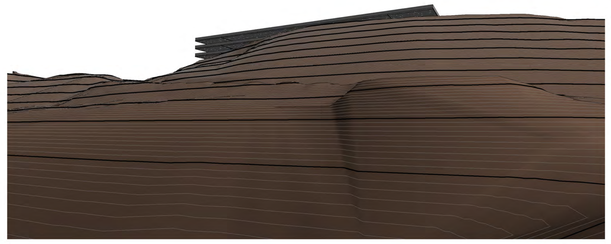
SCALE - 1 : 2000 | PROPOSED LOT SPLIT

APPENDIX E:

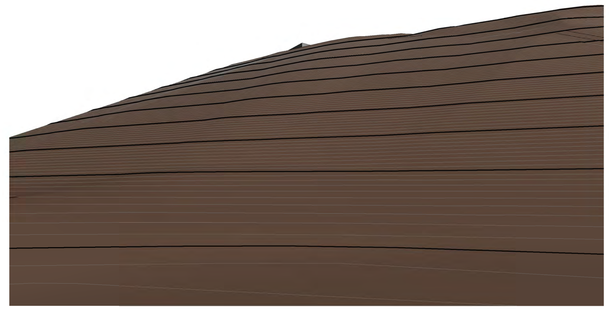
Electric Owl Analysis: Garage Siting,
Griffco Design/Build Inc., (2/14/23)



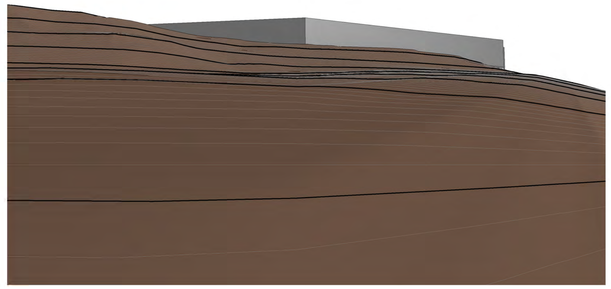
4 SITE PERSPECTIVES
1" = 80'-0"



1 PERSPECTIVE 01



2 PERSPECTIVE 02



3 PERSPECTIVE 03

GRIFFCO
1701 BARRETT LAKES BLVD.
SUITE 285
KENNESAW, GA 30144
PHONE: (770) 422-5420

GRIFFCO
DESIGN SERVICES
1701 BARRETT LAKES BLVD.
SUITE 285
KENNESAW, GA 30144
PHONE: (770) 422-5420

PROGRESS SET
NOT FOR
CONSTRUCTION

Professional Certification
I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the State of xxxx, license number xxxxx, expiration date XX/XX/XXXX

PROJECT TITLE:
HASTINGS ON HUDSON

NEW YORK

SUBMITTALS/ REVISIONS

NO.	DESCRIPTION	DATE
	VERSION 07	

JOB NUMBER: Project Number

SHEET TITLE:
TRAIL PERSPECTIVES

SHEET NUMBER:
A105

Printed: 2/14/2023 11:26:56 AM

APPENDIX F:

Electric Owl Alternative/Adaptive Reuse of Four Graham Buildings, Granoff Architects (4/10/23)

Site Constraints:

- Messy vehicular circulation
- Steep slopes
- Vegetative separation from Croton Aqueduct Trail **(C.A.T.)**
- Minimal pedestrian focused connectivity
- Separate Graham School property and circulation from Electric Owl Studios property and circulation

North

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203.625.9460

WWW.GRANOFFARCHITECTS.COM

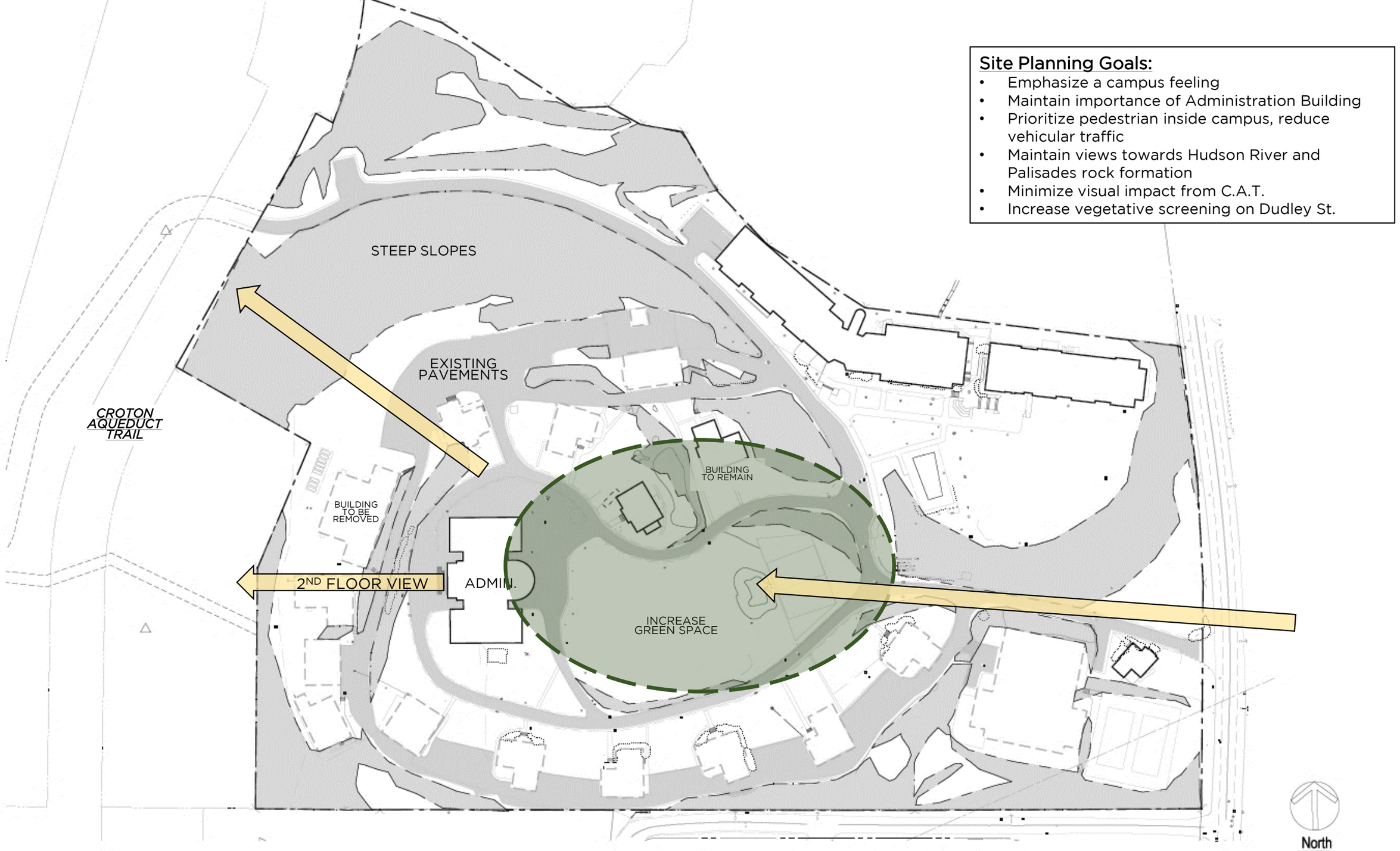
ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

EXISTING SITE CONDITIONS



Site Planning Goals:

- Emphasize a campus feeling
- Maintain importance of Administration Building
- Prioritize pedestrian inside campus, reduce vehicular traffic
- Maintain views towards Hudson River and Palisades rock formation
- Minimize visual impact from C.A.T.
- Increase vegetative screening on Dudley St.

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

SITE ANALYSIS

MICHAEL MALTZAN ARCHITECTURE

ELECTRIC OWL

SCALE - 1 : 2000 | PROPOSED SITE PLAN

11/15/2022 5

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

PREVIOUS SCHEMATIC DESIGN

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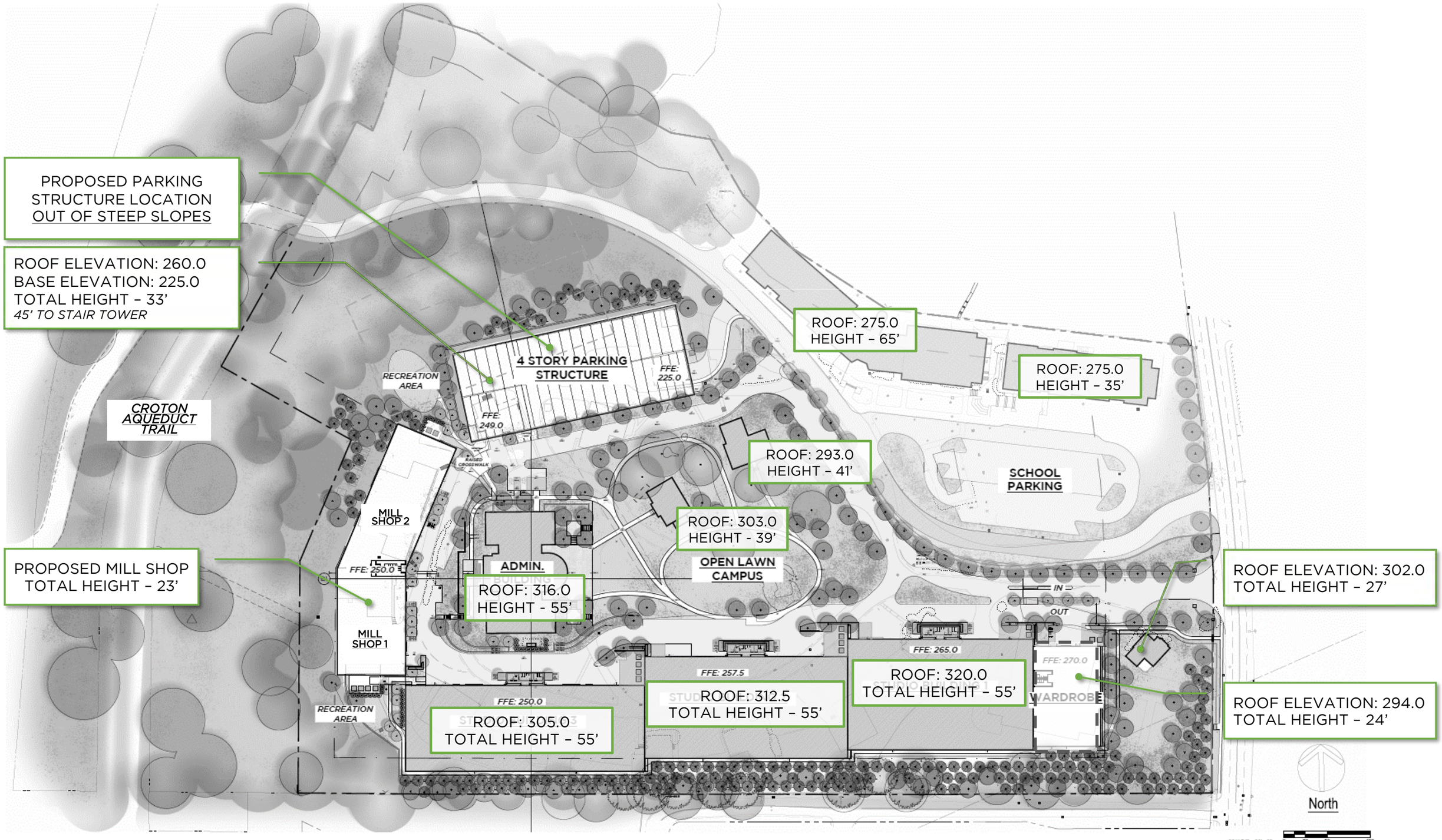
ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

PREVIOUS BUILDING LOCATIONS AND HEIGHTS



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ELECTRIC OWL STUDIOS

1 S BROADWAY
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PROPOSED BUILDING LOCATIONS AND HEIGHTS

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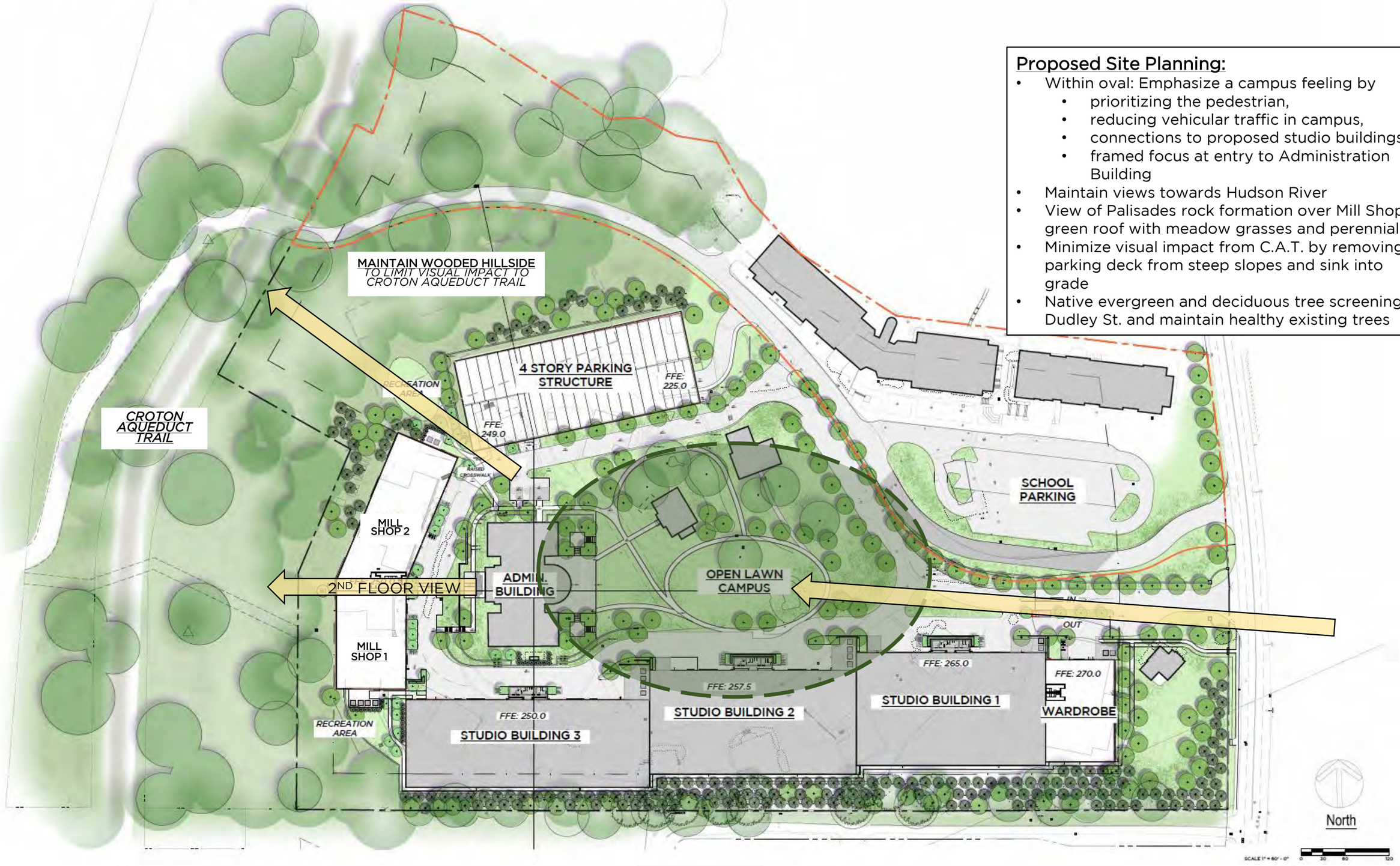
1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

PROPOSED PROPERTY SUBDIVISION



Proposed Site Planning:

- Within oval: Emphasize a campus feeling by
  - prioritizing the pedestrian,
  - reducing vehicular traffic in campus,
  - connections to proposed studio buildings
  - framed focus at entry to Administration Building
- Maintain views towards Hudson River
- View of Palisades rock formation over Mill Shop green roof with meadow grasses and perennials
- Minimize visual impact from C.A.T. by removing parking deck from steep slopes and sink into grade
- Native evergreen and deciduous tree screening at Dudley St. and maintain healthy existing trees

North

SCALE 1" = 60' - 0"

0 30 60 120

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

PROPOSED SITE PLANNING

Proposed Vehicular Circulation:

- Separate school circulation from studio circulation
- Keep circulation outside of pedestrian campus
- Parking structure will have (1) dedicated floor for school parking and (3) floors of parking for Electric Owl Studios
- New parking lot for school

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

PROPOSED VEHICULAR CIRCULATION

Proposed Pedestrian Circulation:

- Connect campus to South Broadway, provide sidewalk to existing bus stop
- Pedestrian entry is the former vehicular entry, play up site history with a gated entry
- Proposed one way road with dedicated bike path
- Bike racks at all studios
- Pedestrian paths to all buildings
- (2) Designated pedestrian recreation areas
- ADA connectivity along all pathways

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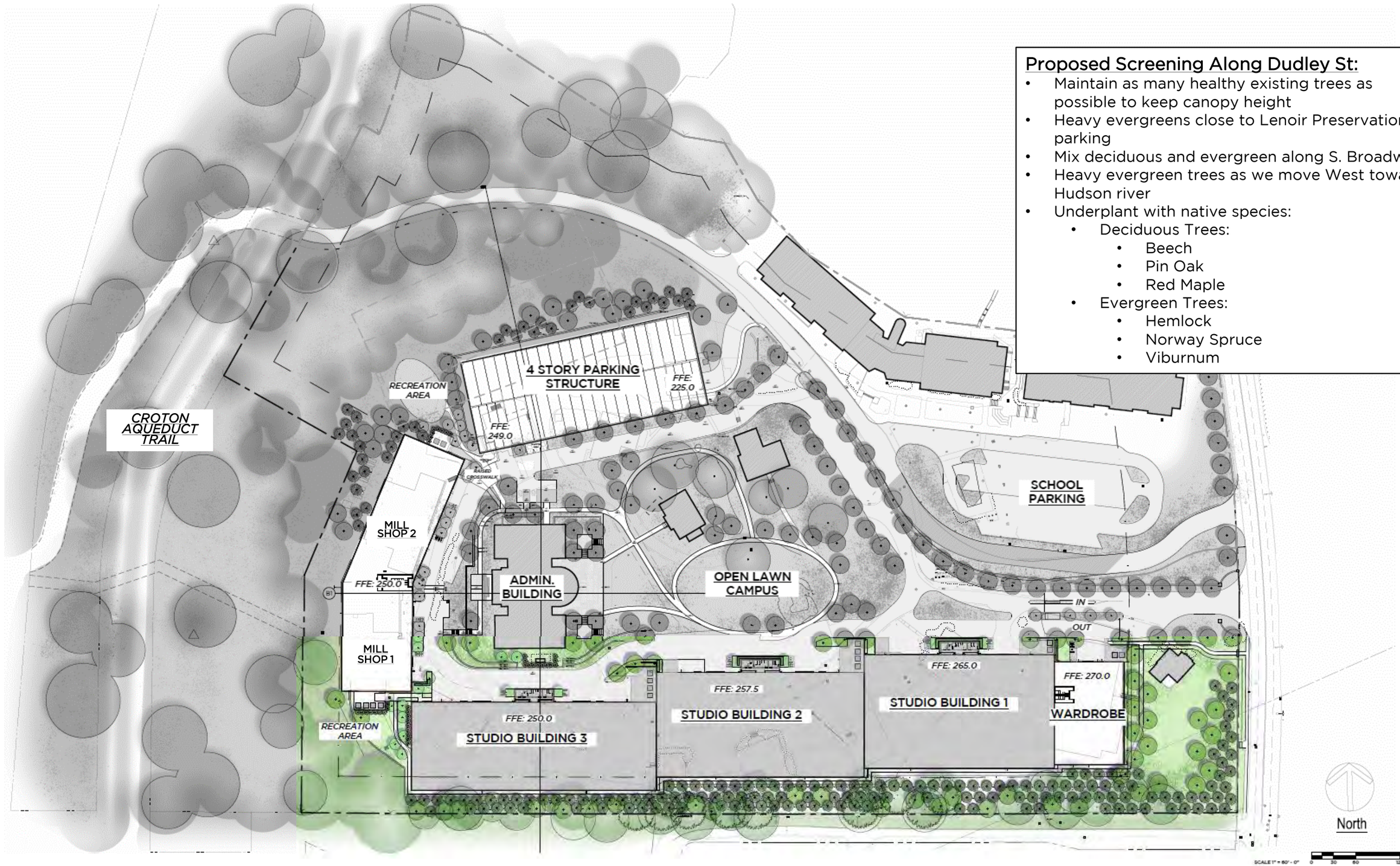
ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

PROPOSED PEDESTRIAN CIRCULATION



Proposed Screening Along Dudley St:

- Maintain as many healthy existing trees as possible to keep canopy height
- Heavy evergreens close to Lenoir Preservation parking
- Mix deciduous and evergreen along S. Broadway
- Heavy evergreen trees as we move West towards Hudson river
- Underplant with native species:
  - Deciduous Trees:
    - Beech
    - Pin Oak
    - Red Maple
  - Evergreen Trees:
    - Hemlock
    - Norway Spruce
    - Viburnum

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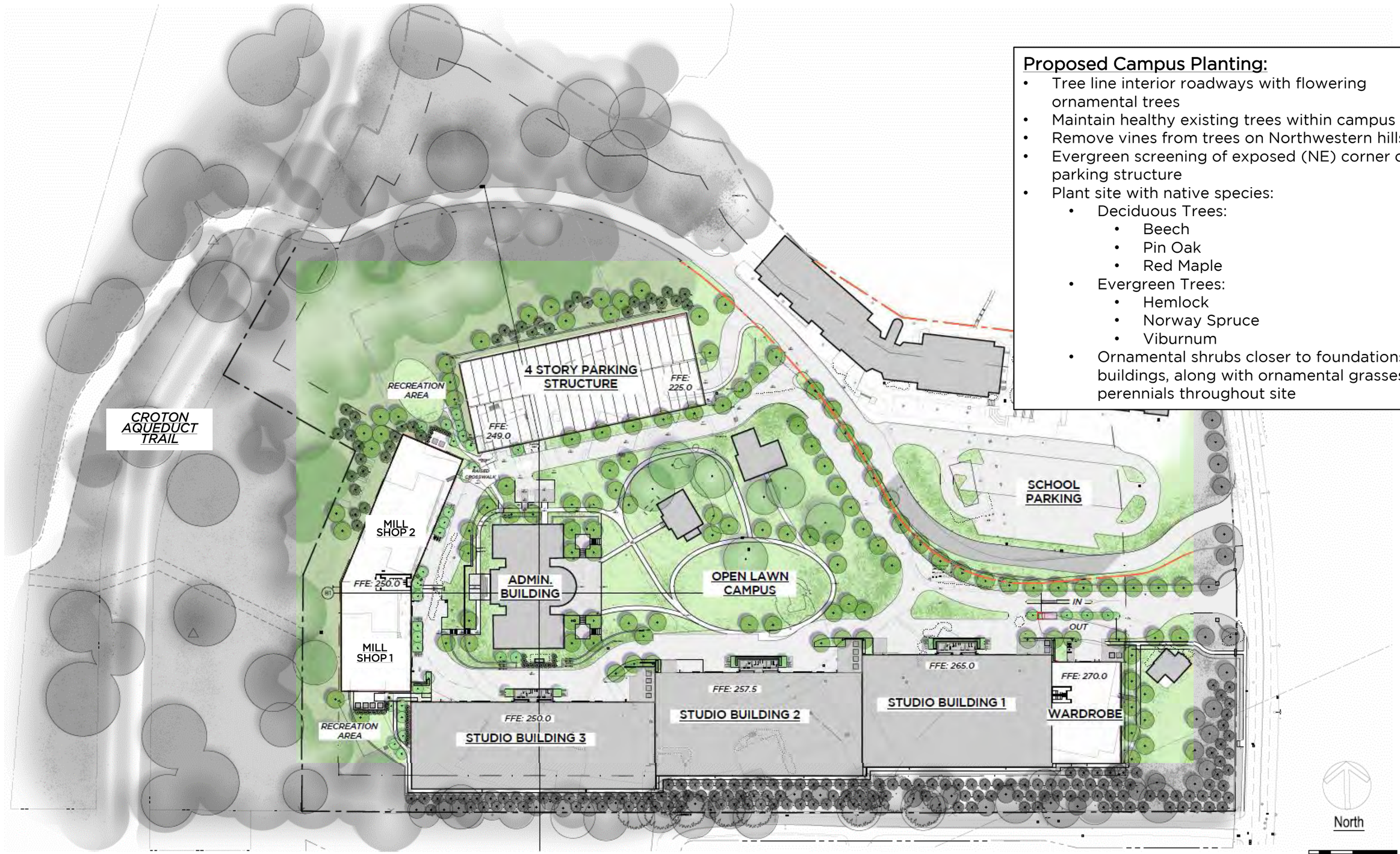
ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

PROPOSED SCHEMATIC PLANTING – DUDLEY ST



Proposed Campus Planting:

- Tree line interior roadways with flowering ornamental trees
- Maintain healthy existing trees within campus
- Remove vines from trees on Northwestern hillside
- Evergreen screening of exposed (NE) corner of parking structure
- Plant site with native species:
  - Deciduous Trees:
    - Beech
    - Pin Oak
    - Red Maple
  - Evergreen Trees:
    - Hemlock
    - Norway Spruce
    - Viburnum
  - Ornamental shrubs closer to foundations of buildings, along with ornamental grasses, perennials throughout site

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

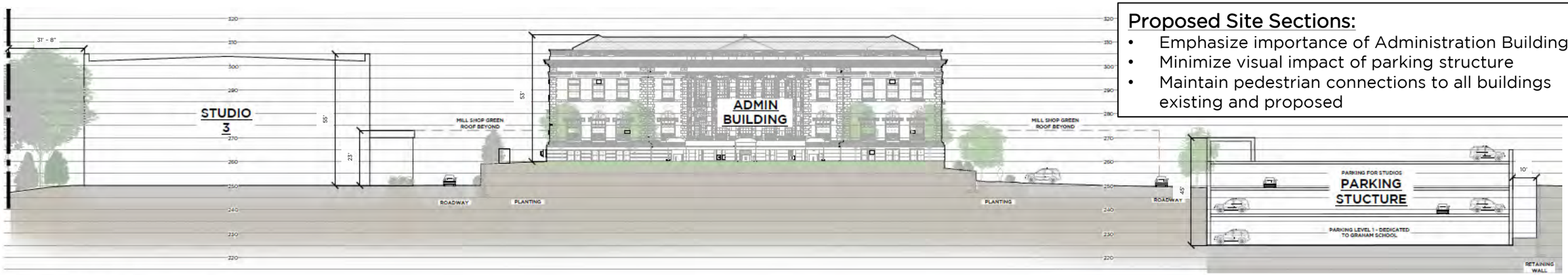
DATE 04/07/23

DRAWING NO.:

PROPOSED SCHEMATIC PLANTING – CAMPUS

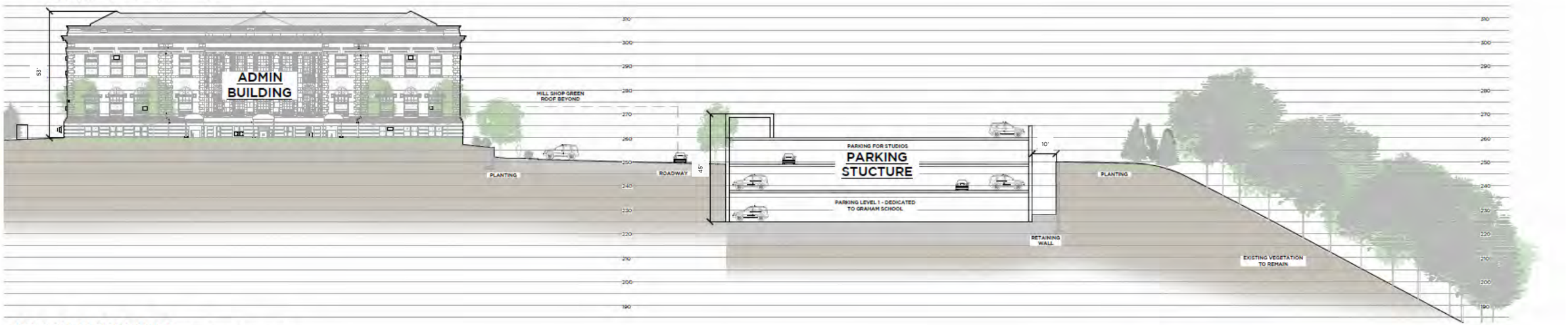
Proposed Site Sections:

- Emphasize importance of Administration Building
- Minimize visual impact of parking structure
- Maintain pedestrian connections to all buildings existing and proposed



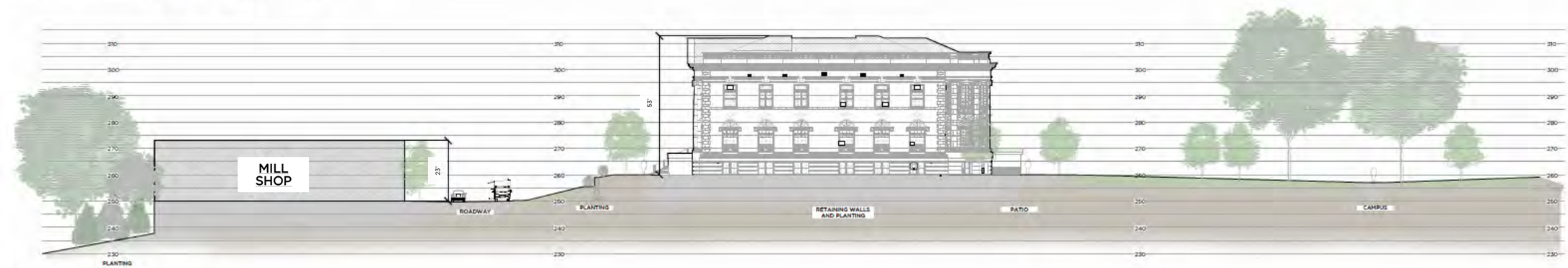
SECTION A1

SCALE 1" = 20' - 0" 0 10 20 40



SECTION A1 CONTINUED

SCALE 1" = 20' - 0" 0 10 20 40



SECTION B1

SCALE 1" = 20' - 0" 0 10 20 40

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HASTINGS ON HUDSON, NY

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DRAWING NO.:

PROPOSED SITE SECTIONS

BEFORE:

AFTER:

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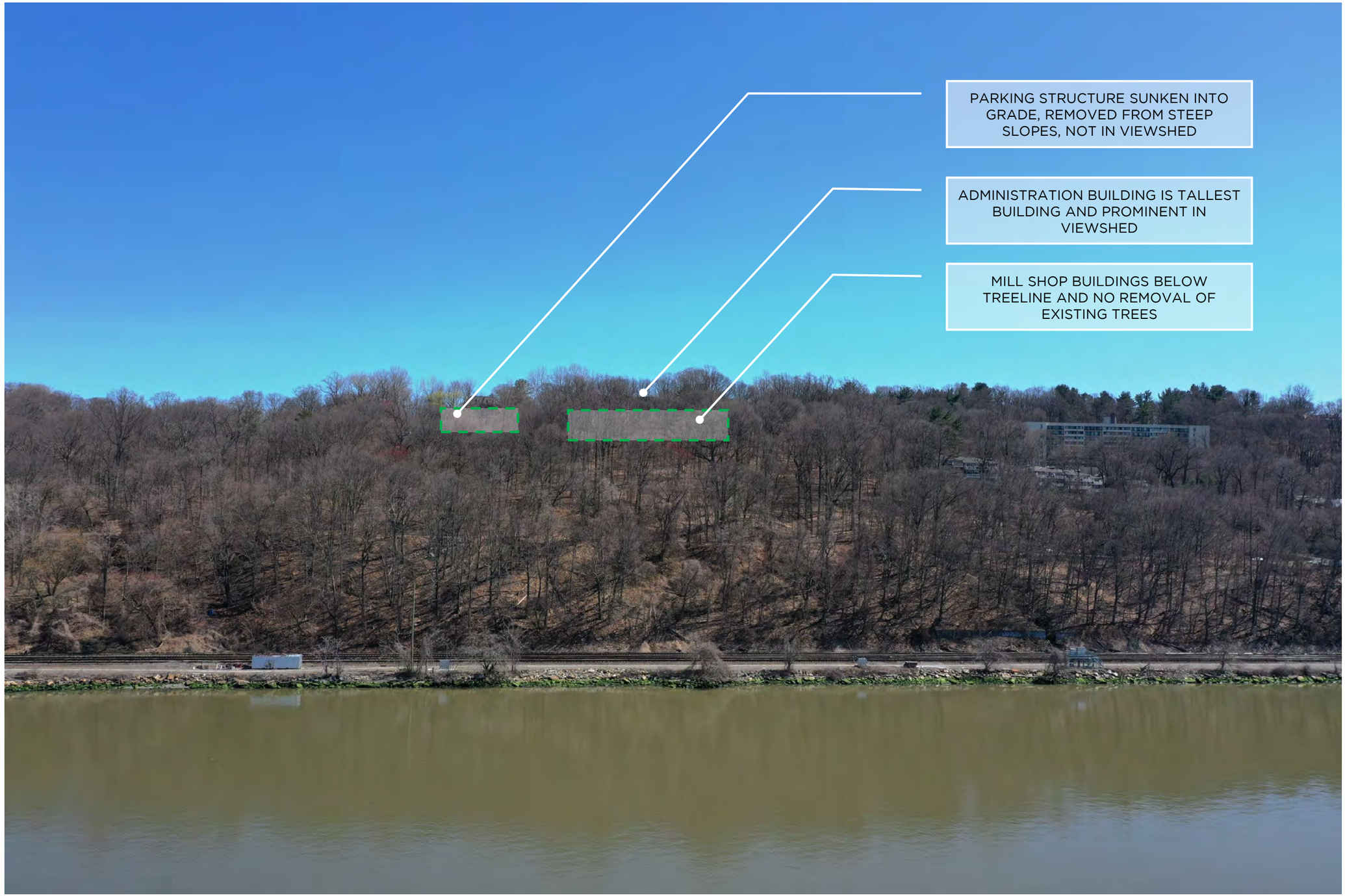
ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

VIEW FROM CROTON AQUEDUCT TRAIL



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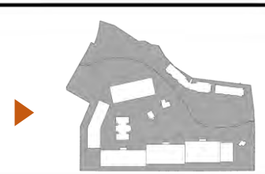
ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23



DRAWING NO.:

EXISTING VIEW FROM HUDSON RIVER @30’

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

PROPOSED SCHEMATIC SITE PLAN

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

ENTRY AT S. BROADWAY

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

NORTHEAST DRONE VIEW
TOWARDS HUDSON

GRANOFF ARCHITECTS

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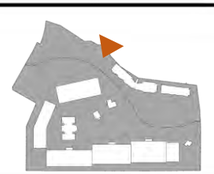
ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23



DRAWING NO.:

PARKING STRUCTURE
SCHOOL ENTRANCE

GRANOFF ARCHITECTS

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

DRAWING NO.:

VIEW OF STUDIOS ON CAMPUS

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203.625.9460

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ELECTRIC OWL STUDIOS

1 S BROADWAY
HASTINGS ON HUDSON, NY

DATE 04/07/23

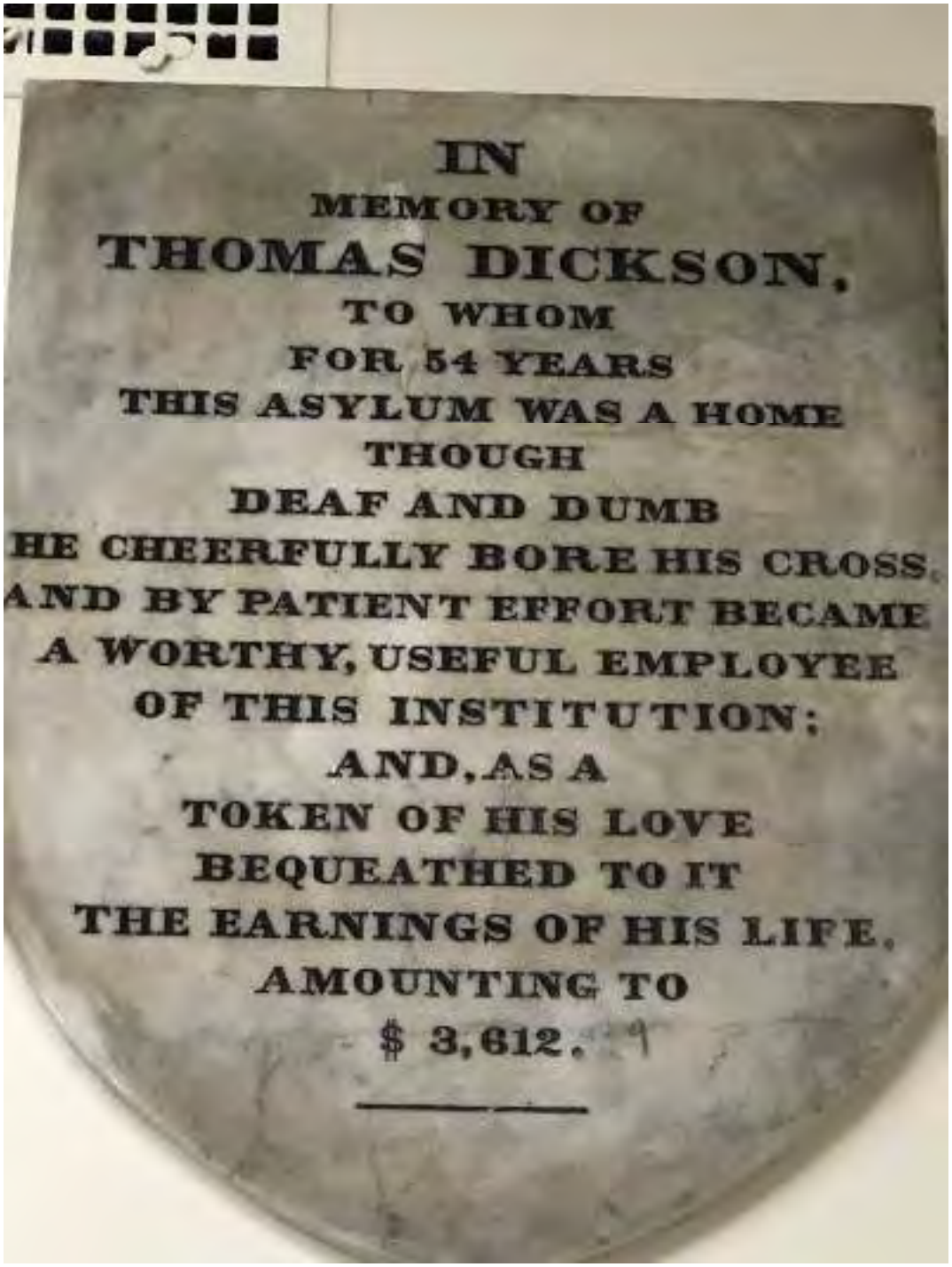
DRAWING NO.:

SOUTHWEST DRONE VIEW OF CAMPUS

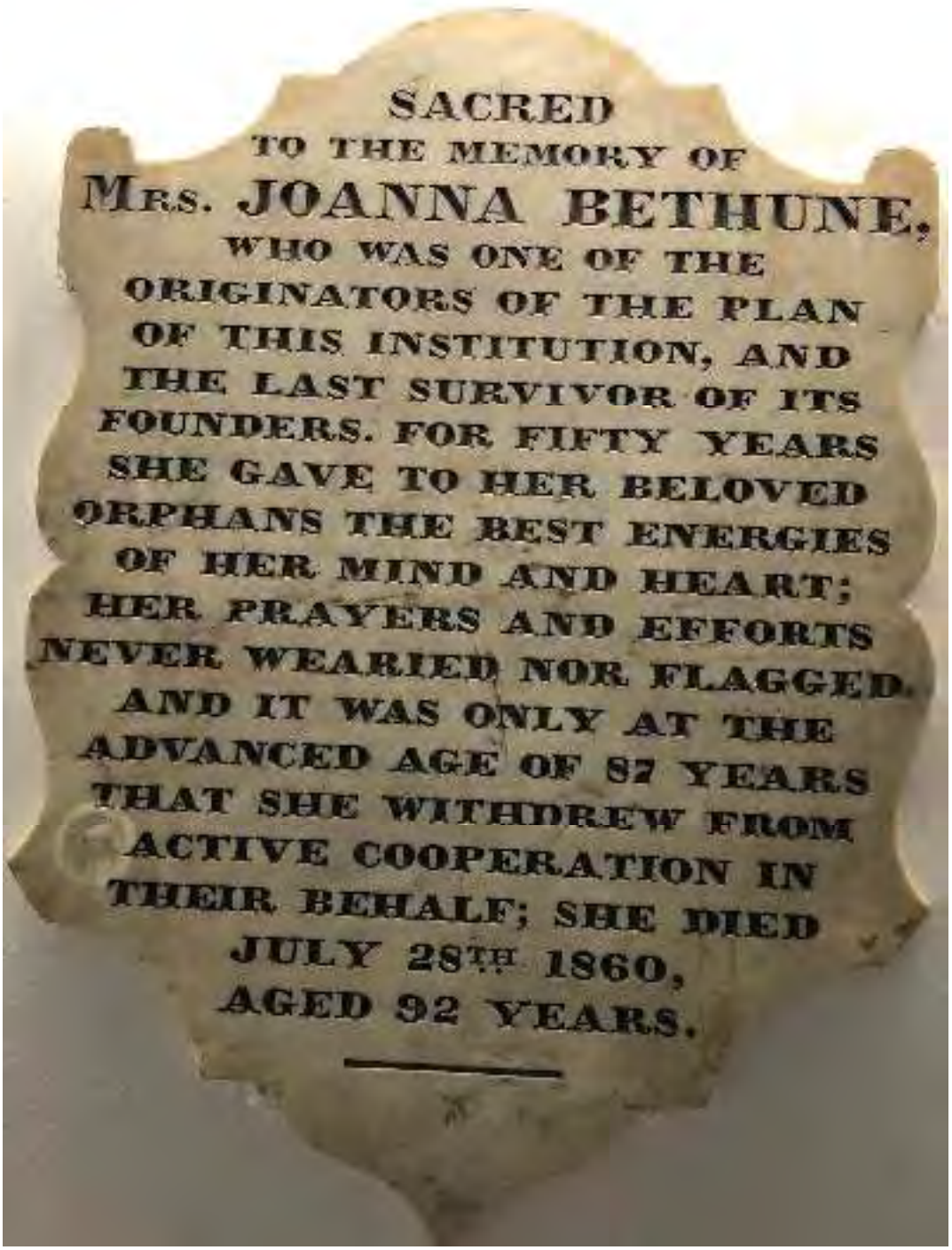
APPENDIX G:

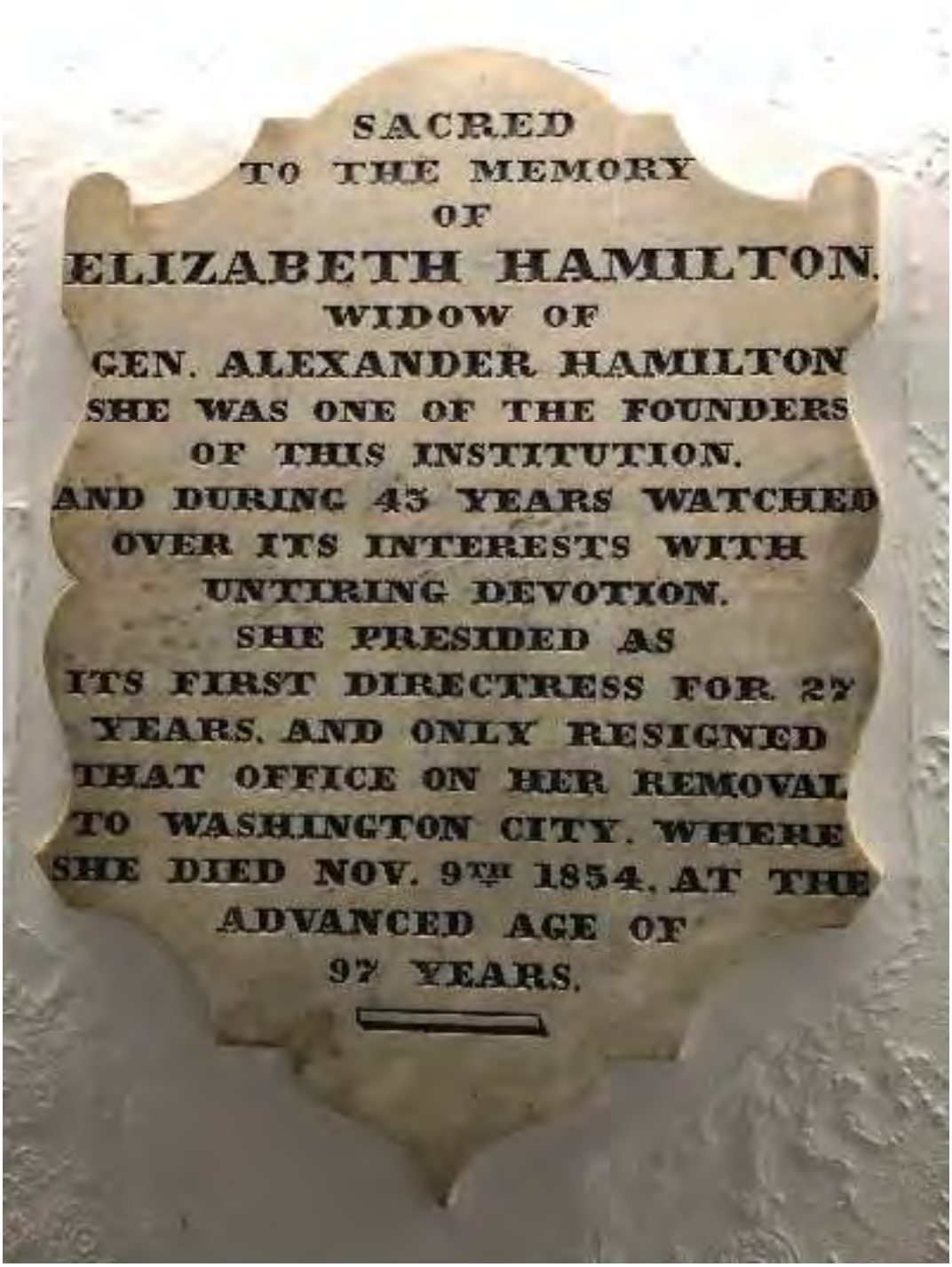
Photographs of Legacy Plaques Removed from the Administration Building (2023)

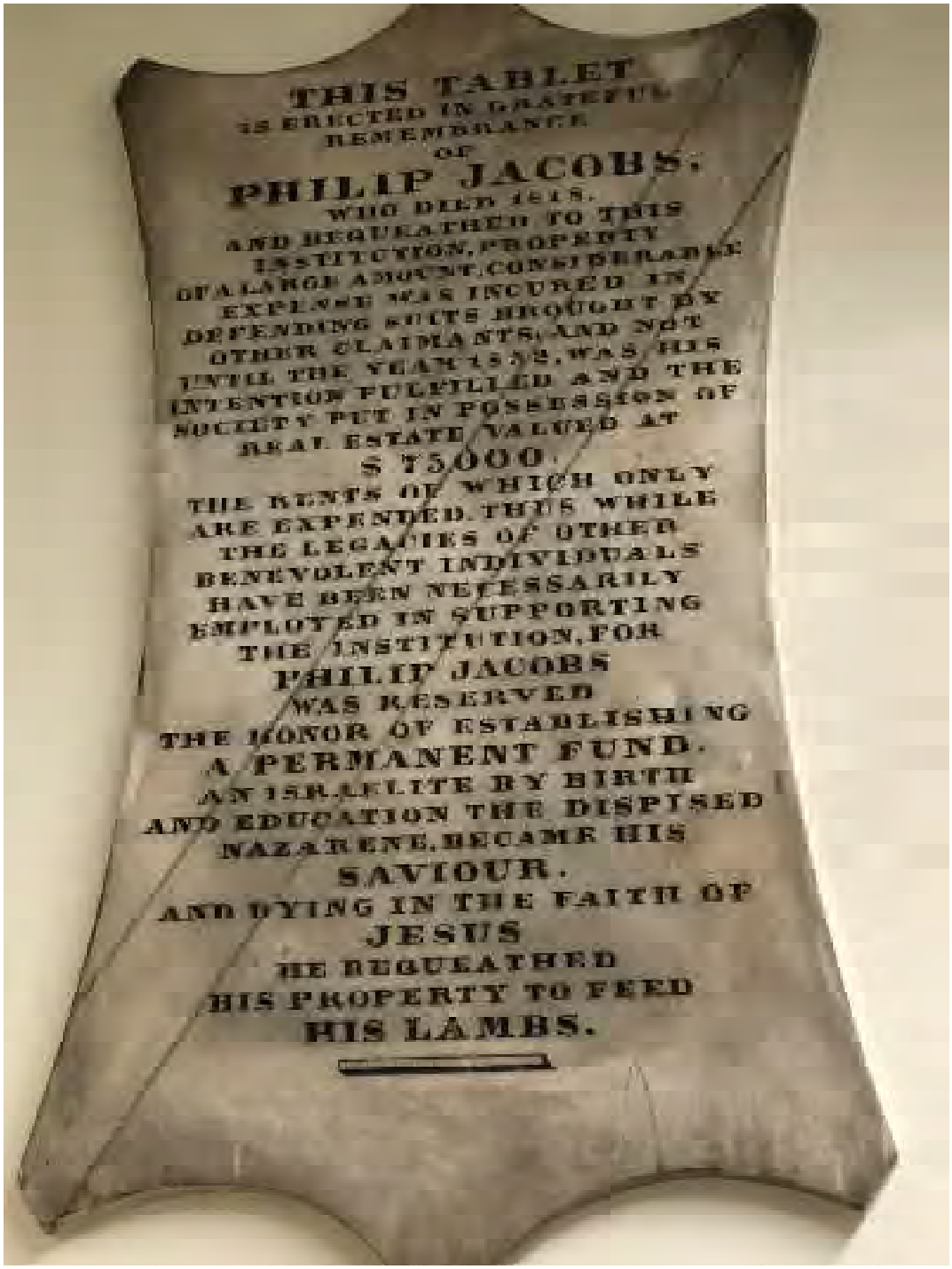
Collection of marble and bronze plaques removed from the interior of the Administration Building by the Graham staff in preparation of the sale of the campus. A portion of the plaques is destined for the Smithsonian. [Note: Photographs supplied by Graham's Kristen Ragusa, Vice President of Youth Success. Removal of the bronze plaque from the wall at the front entrance revealed the original wall covering.]

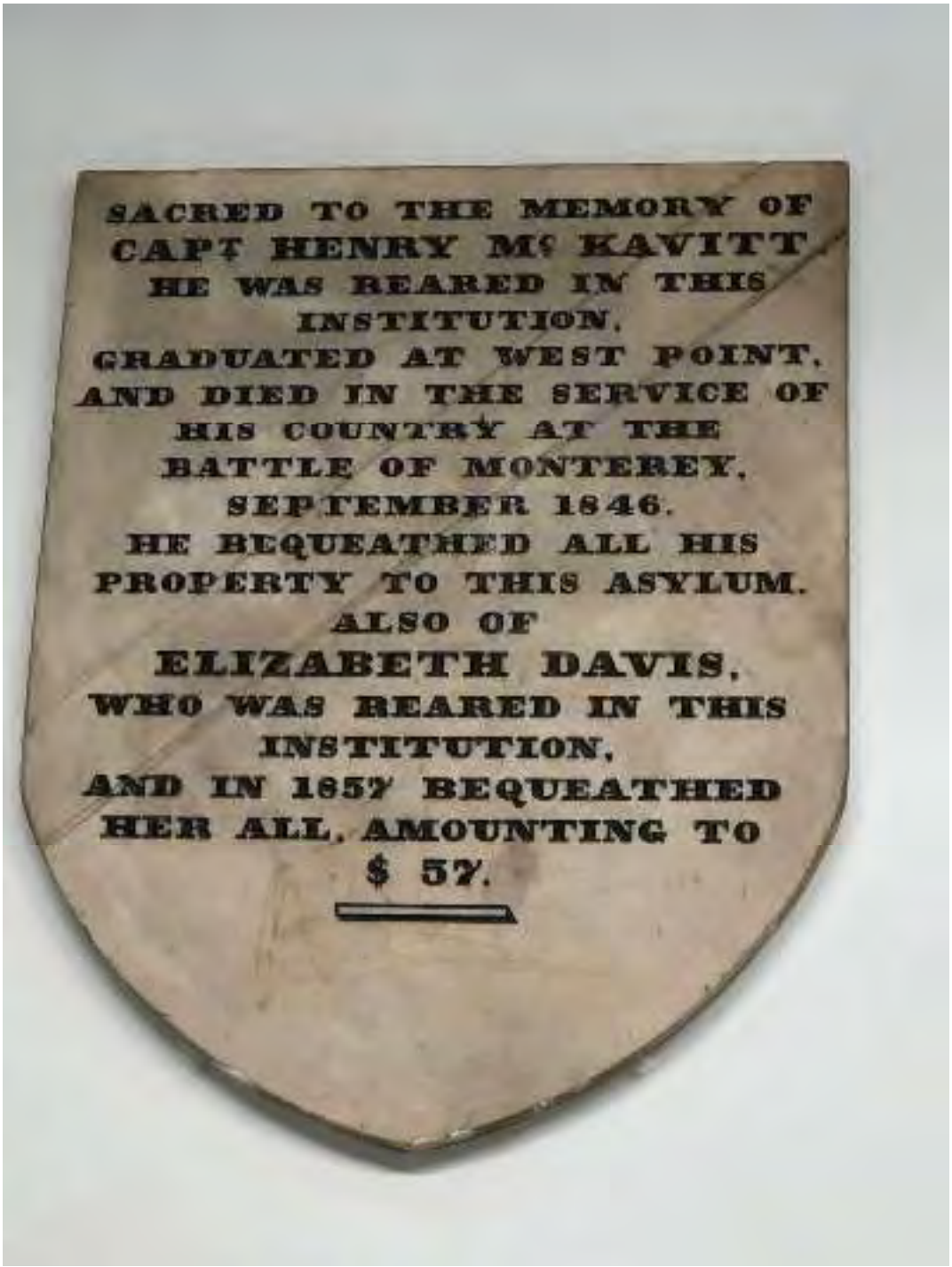

IN
MEMORY OF
THOMAS DICKSON,
TO WHOM
FOR 54 YEARS
THIS ASYLUM WAS A HOME
THOUGH
DEAF AND DUMB
HE CHEERFULLY BORE HIS CROSS,
AND BY PATIENT EFFORT BECAME
A WORTHY, USEFUL EMPLOYEE
OF THIS INSTITUTION;
AND, AS A
TOKEN OF HIS LOVE
BEQUEATHED TO IT
THE EARNINGS OF HIS LIFE,
AMOUNTING TO
$ 3,612.

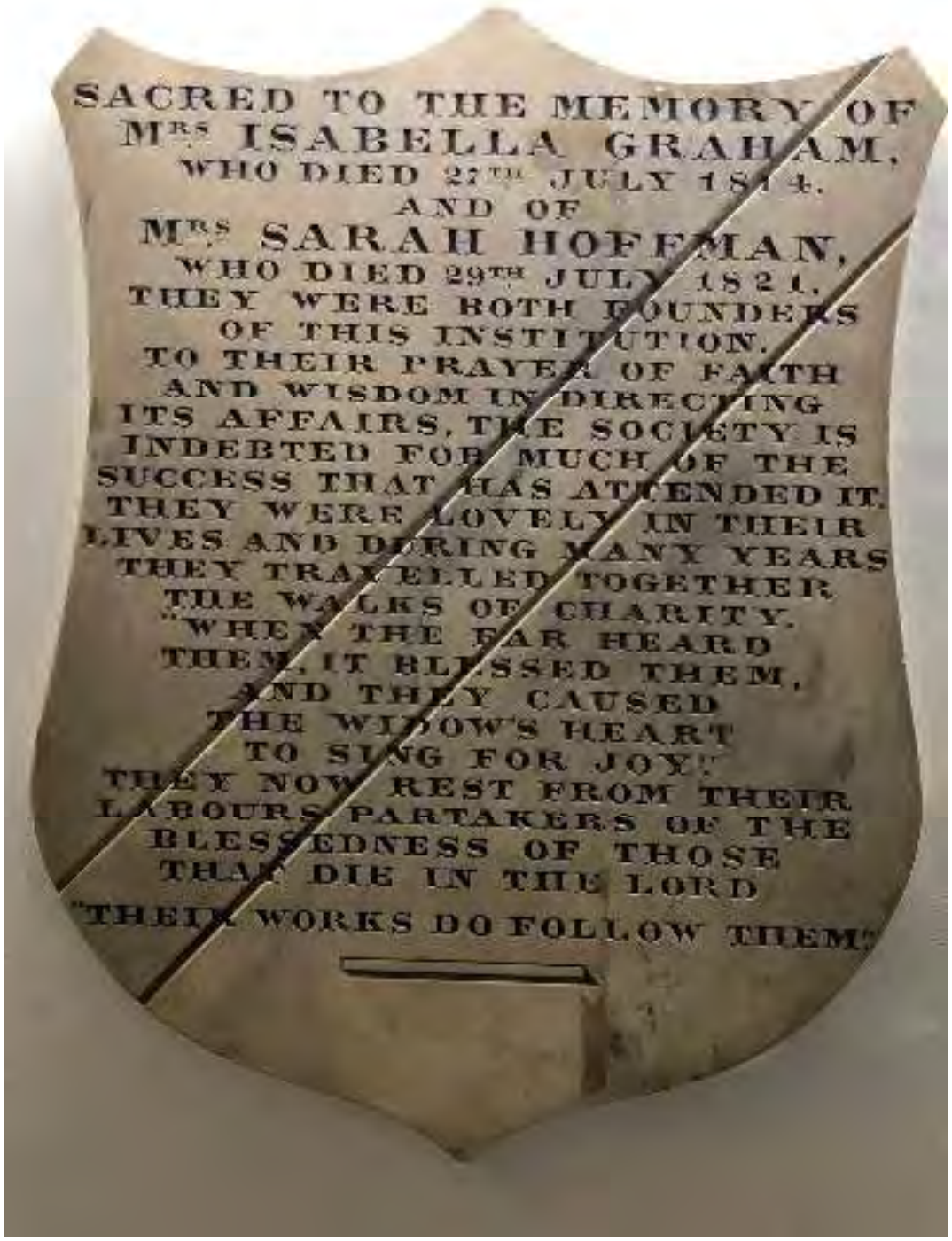

IN
GRATEFUL REMEMBRANCE OF
Mrs SARAH STARTIN,
ONE OF THE FOUNDERS OF THIS
INSTITUTION. FOR MANY YEARS
ITS TREASURER AND WHILE SHE
LIVED A MOST LIBERAL
CONTRIBUTOR. SHE BEQUEATHED
A LEGACY OF $ 100.
ALSO OF THE FOLLOWING LADIES
WHO PREVIOUS TO 1830,
BEQUEATHED LEGACIES OF THE
SAME AMOUNT,
Mrs JUDITH BRUCE
Mrs ANN B. POLLOCK
Mrs CLARKSON
Mrs MARY PERKINS
ALSO OF
Mrs C. DEPEYSTER
WHO BEQUEATHED $ 50.
JOHN STANFORD D.D.
$ 30. AND
JOSEPH BARBEE
A SOLDIER OF
TAMPA BAY WHO LEFT
ALL HIS PROPERTY
AMOUNTING TO
$ 57.

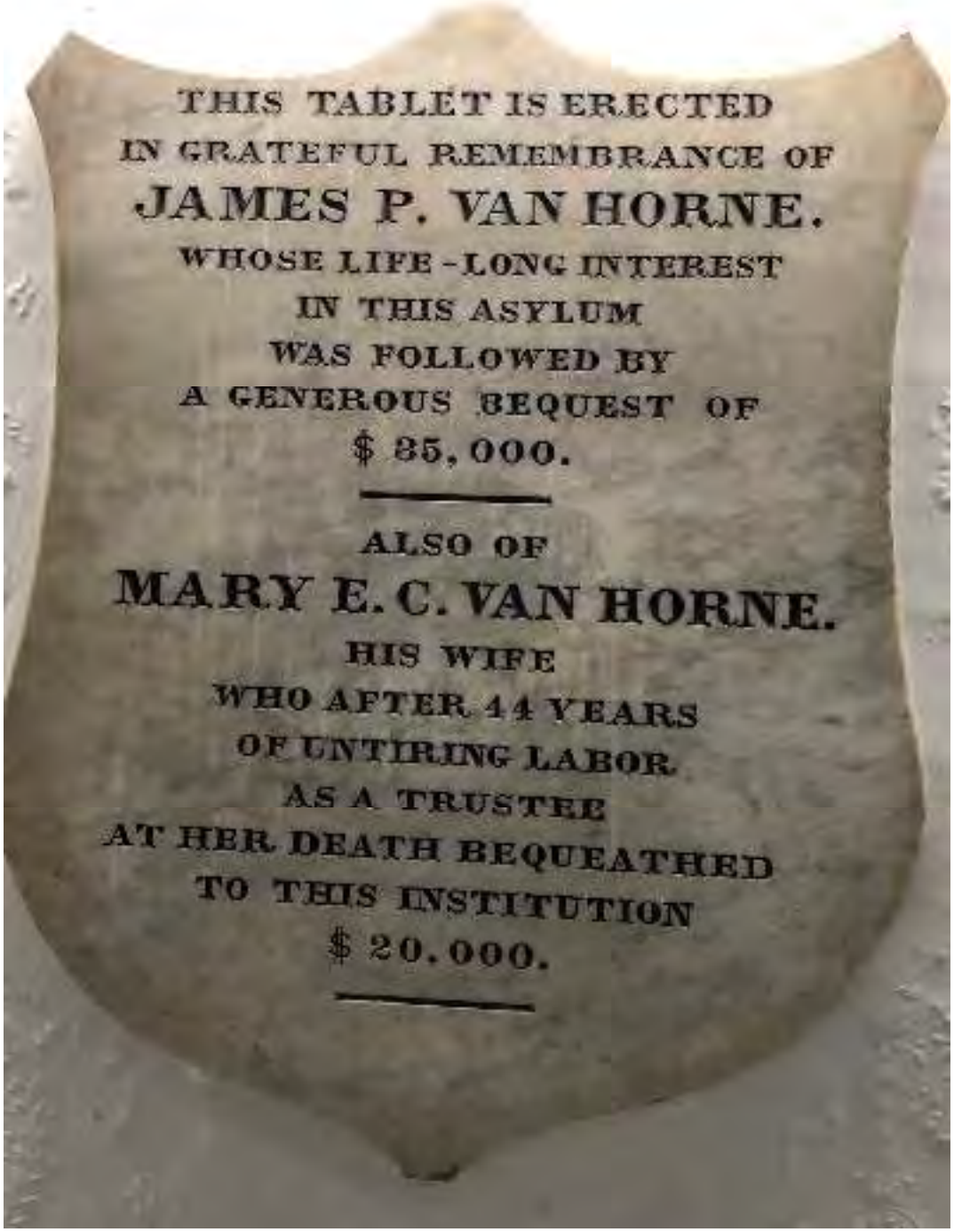

SACRED
TO THE MEMORY OF
MRS. JOANNA BETHUNE,
WHO WAS ONE OF THE
ORIGINATORS OF THE PLAN
OF THIS INSTITUTION, AND
THE LAST SURVIVOR OF ITS
FOUNDERS. FOR FIFTY YEARS
SHE GAVE TO HER BELOVED
ORPHANS THE BEST ENERGIES
OF HER MIND AND HEART;
HER PRAYERS AND EFFORTS
NEVER WEARIED NOR FLAGGED.
AND IT WAS ONLY AT THE
ADVANCED AGE OF 87 YEARS
THAT SHE WITHDREW FROM
ACTIVE COOPERATION IN
THEIR BEHALF; SHE DIED
JULY 28TH 1860,
AGED 92 YEARS.


SACRED
TO THE MEMORY
OF
ELIZABETH HAMILTON.
WIDOW OF
GEN. ALEXANDER HAMILTON
SHE WAS ONE OF THE FOUNDERS
OF THIS INSTITUTION.
AND DURING 43 YEARS WATCHED
OVER ITS INTERESTS WITH
UNTIRING DEVOTION.
SHE PRESIDED AS
ITS FIRST DIRECTRESS FOR 27
YEARS. AND ONLY RESIGNED
THAT OFFICE ON HER REMOVAL
TO WASHINGTON CITY. WHERE
SHE DIED NOV. 9TH 1854. AT THE
ADVANCED AGE OF
97 YEARS.


THIS TABLET
IS ERECTED IN GRATEFUL
REMEMBRANCE
OF
PHILIP JACOBS,
WHO DIED 1818,
AND BEQUEATHED TO THIS
INSTITUTION, PROPERTY
OF A LARGE AMOUNT, CONSIDERABLE
EXPENSE WAS INCURED IN
DEFENDING SUITS BROUGHT BY
OTHER CLAIMANTS, AND NOT
UNTIL THE YEAR 1852, WAS HIS
INTENTION FULFILLED AND THE
SOCIETY PUT IN POSSESSION OF
REAL ESTATE VALUED AT
$ 75000.
THE RENTS OF WHICH ONLY
ARE EXPENDED. THUS WHILE
THE LEGACIES OF OTHER
BENEVOLENT INDIVIDUALS
HAVE BEEN NECESSARILY
EMPLOYED IN SUPPORTING
THE INSTITUTION, FOR
PHILIP JACOBS
WAS RESERVED
THE HONOR OF ESTABLISHING
A PERMANENT FUND.
AN ISRAELITE BY BIRTH
AND EDUCATION THE DISPISED
NAZARENE, BECAME HIS
SAVIOUR.
AND DYING IN THE FAITH OF
JESUS
HE BEQUEATHED
HIS PROPERTY TO FEED
HIS LAMBS.


SACRED TO THE MEMORY OF
CAPT HENRY Mc KAVITT
HE WAS REARED IN THIS
INSTITUTION,
GRADUATED AT WEST POINT,
AND DIED IN THE SERVICE OF
HIS COUNTRY AT THE
BATTLE OF MONTEREY,
SEPTEMBER 1846.
HE BEQUEATHED ALL HIS
PROPERTY TO THIS ASYLUM.
ALSO OF
ELIZABETH DAVIS,
WHO WAS REARED IN THIS
INSTITUTION,
AND IN 1857 BEQUEATHED
HER ALL, AMOUNTING TO
$ 57.


SACRED TO THE MEMORY OF
MRS ISABELLA GRAHAM,
WHO DIED 27TH JULY 1814.
AND OF
MRS SARAH HOFFMAN,
WHO DIED 29TH JULY 1821.
THEY WERE BOTH FOUNDERS
OF THIS INSTITUTION.
TO THEIR PRAYER OF FAITH
AND WISDOM IN DIRECTING
ITS AFFAIRS, THE SOCIETY IS
INDEBTED FOR MUCH OF THE
SUCCESS THAT HAS ATTENDED IT.
THEY WERE LOVELY IN THEIR
LIVES AND DURING MANY YEARS
THEY TRAVELLED TOGETHER
THE WALKS OF CHARITY.
"WHEN THE EAR HEARD
THEM, IT BLESSED THEM,
AND THEY CAUSED
THE WIDOW'S HEART
TO SING FOR JOY."
THEY NOW REST FROM THEIR
LABOURS, PARTAKERS OF THE
BLESSEDNESS OF THOSE
THAT DIE IN THE LORD
"THEIR WORKS DO FOLLOW THEM."


THIS TABLET IS ERECTED
IN GRATEFUL REMEMBRANCE OF
JAMES P. VAN HORNE.
WHOSE LIFE-LONG INTEREST
IN THIS ASYLUM
WAS FOLLOWED BY
A GENEROUS BEQUEST OF
$ 85,000.
ALSO OF
MARY E. C. VAN HORNE.
HIS WIFE
WHO AFTER 44 YEARS
OF UNTIRING LABOR
AS A TRUSTEE
AT HER DEATH BEQUEATHED
TO THIS INSTITUTION
$ 20.000.


ORPHAN ASYLUM SOCIETY
FOUNDERS

Site Plan Drawings

EXHIBIT I
ZONING TABLE
Existing & Proposed Dimensional Parameters for the Redevelopment of the Subject Premises

VILLAGE OF HASTINGS-ON-HUDSON ZONING TABLE
1 S. BROADWAY: ZONING DISTRICT

ITEM	SCHOOL			STUDIO[4]	
	REQUIRED[1]	CURRENT	PROPOSED	PETITION	PROPOSED
Min. Lot Area	3 Acres + 1 Acre per 100 Pupils	23.97 acres	6.69 acres	10 acres	17.28 acres
Min. Lot Width	150 ft	791 ft	203 ft	150 ft	655 ft
Max Building Height	35 ft	62 ft (Existing non-conforming)	62 ft (Existing non-conforming)	55 Ft	55 ft
Max. Building Coverage	15%	13%	13%	35%	24%
Max. Impervious Coverage	40%	35%	37%	40%	39%
Min. Front Yard	150 ft	48 ft (Existing non-conforming)	48 ft (Existing non-conforming)	150 ft	150 ft
Min. Side Yard	50 ft	0 ft (Existing non-conforming)[2]	0 ft (Existing non-conforming)[2]	50 ft	50 ft[2]
Min. Rear Yard	50 ft	50 ft	50 ft	50 ft	50 ft
Car Parking Spaces	1 space/employee + 1 space / 12 pupils (225 required)	135	232	For Multimedia Production Studio space: 1 parking space/1,000 square feet of gross floor area. Office use: 1 parking space/250 square feet of GFA. (330 required)[3]	331

[1] Combines R-20 and Gateway Cluster Overlay District
[2] Generally, the design for the Subject Premises also includes a 50-foot side yard setback (other than the Broadway frontage, which has a 150-foot setback). However, one area on the south side of the Subject Premises is unable to comply with that 50-foot side yard setback given the configuration of the interior access road and the need to provide adjacent space for trucks to access one of the studio buildings. The setback at that location is 30-feet, but it adjoins a heavily wooded downhill slope situated northerly of Dudley Street where there are no residential or other buildings neighboring it. Thus, the topography and screening should mitigate the reduced setback in this limited area.
[3] Total gross floor area (GFA) in existing free-standing buildings to remain will not be dedicated exclusively to office. Portions of the GFA will be storage and/or cafeteria, which are redundant uses on the campus, whereby new parking spaces are not required for that portion.
[4] Proposed studio project programming and building uses provided by owner/architect and referenced for information only. Refer to architectural drawings for additional information.

LEGEND
- EXISTING BUILDING TO REMAIN
- EXISTING PAVEMENT TO REMAIN
- PROPOSED CONCRETE
- PROPOSED BUILDING
- PROPOSED GREEN ROOF 1.04 AC (45,357 SF)
- PROPOSED PAVEMENT
- PROPOSED POROUS PAVEMENT 0.47 AC (20,307 SF)
- PROPOSED POROUS PAVERS 0.51 AC (22,076 SF)
- PROPOSED CONCRETE CURB
- PROPERTY BOUNDARY
- SETBACK

NOTES
1. BACKGROUND INFORMATION SHOWN PER SURVEY PREPARED BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C. DATED DECEMBER 23, 2022
2. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED
3. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
4. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
5. RADII ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3-FEET, TYPICAL.
6. ALL ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.

4-FLOOR PARKING DECK
433 SPACES
FFE 1ST FLOOR ENT: 225 FT
FFE 3RD FLOOR ENT: 249 FT
(24 FT DIFFERENCE)

EXISTING GRAHAM SCHOOL

SCHOOL PARCEL

STUDIO PARCEL

MILL SHOP 02
FFE: 250.00

MILL SHOP 01
FFE: 250.00

EXIST. ADMIN.
EXISTING FFE:
~261 FT

EXIST. BLDG 02
EXISTING FFE: ~252 FT

EXIST. BLDG 01
EXISTING FFE: ~264 FT

SOUND STAGE 03
FFE: 250.00

SOUND STAGE 02
FFE: 257.50

SOUND STAGE 01
FFE: 265.00

WARDROBE
2-STORY
FFE: 270.00

EXIST. BLDG 03
EXISTING FFE:
~273 FT

GUARD HOUSE

EXISTING SCHOOL PARKING (25 STALLS)

EXISTING SCHOOL PARKING (10 STALLS)

PROPERTY GATE

EMERGENCY ACCESS ROAD

SIDE YARD SETBACK

PROPOSED SUBDIVISION LOT LINE

PROPOSED ACCESS GATE

~467 LF OF VARIABLE HEIGHT RETAINING WALL

~45 LF OF VARIABLE HEIGHT RETAINING WALL

~238 LF OF VARIABLE HEIGHT RETAINING WALL

~106 LF OF VARIABLE HEIGHT RETAINING WALL

~193 LF OF VARIABLE HEIGHT RETAINING WALL

~88 LF OF VARIABLE HEIGHT RETAINING WALL

~301 LF OF VARIABLE HEIGHT RETAINING WALL

~350 LF OF VARIABLE HEIGHT RETAINING WALL

~292 LF OF VARIABLE HEIGHT RETAINING WALL

~130 LF OF VARIABLE HEIGHT RETAINING WALL

~281 LF OF VARIABLE HEIGHT RETAINING WALL

~92 LF OF VARIABLE HEIGHT RETAINING WALL

~308 LF OF VARIABLE HEIGHT RETAINING WALL

20,307 SF OF POROUS PAVEMENT

14,764 SF OF PERMEABLE PAVER PEDESTRIAN WALKWAY

7,312 SF OF PERMEABLE PAVER PEDESTRIAN WALKWAY

EX. GENERATOR TO REMAIN

PROPOSED TRANSFORMERS (TYP.)

FRONT YARD SETBACK

SIDE YARD SETBACK

APPROXIMATE LOCATION OF EXISTING BUS STOP

PROPOSED SUBDIVISION LINE

APPROXIMATE LINE VILLAGE OF HASTINGS ON HUDSON

APPROXIMATE LINE CITY OF YONKERS

S/B/L 4.130–139–6
N/F ZENA A. SUSSER
LIFE EST & MERVYN
SUSSER TRUST
CONTROL No. 553343343

S/B/L 4.20–9–7
N/F TACONIC STATE
PARK COMMISSION
PER MAP No. 27204

S/B/L 4.130–139–1.1.LY
N/F GRAHAM WINDHAM HOME
PER MAP No. 27204
AREA= 1,125 S.F.±

S/B/L 4.130–139–1.2
N/F VILLAGE OF
HASTINGS ON HUDSON
PER MAP No. 27204

S/B/L 3.3514–1
N/F GRAHAM WINDHAM HOME

S/B/L 4.160–167–8.16
N/F RIVERPOINTE
HOMEOWNERS
PER MAP No. 26427

OLD CROTON AQUEDUCT TRAIL

SOUTH BROADWAY

DUDLEY STREET
(VARIABLE WIDTH)

30' SEWER & ACCESS EASEMENT PER MAP No. 27204

35' SEWER EASEMENT PER MAP No. 27204

DRAFT

NORTH

GRAPHIC SCALE IN FEET
0 30 60 120

NO.	REVISIONS	DATE	BY
3	ISSUED FOR VILLAGE BOT REVIEW	04/17/23	CJC
2	ISSUED FOR REVIEW	04/06/23	CJC
1	SCHEMATIC DESIGN FOR REVIEW	03/27/23	CJC

NOT FOR CONSTRUCTION

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WHITE PLAINS, NY 10601
PHONE: 914-368-8200
WWW.KIMLEY-HORN.COM

KHA PROJECT 112815000
DATE 03/27/23
SCALE: 1" = 60'
DESIGNED BY: CJC
DRAWN BY: CJC
CHECKED BY: DFL

OVERALL SITE PLAN

ELECTRIC OWL STUDIOS
1 S BROADWAY
HASTINGS-ON-HUDSON, NY 10706
VILLAGE OF HASTINGS-ON-HUDSON NEW YORK

SHEET NUMBER
C-3.0

NOTES

1. BACKGROUND INFORMATION SHOWN PER SURVEY PREPARED BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C. DATED DECEMBER 23, 2022
2. ELEVATIONS SHOWN ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) (GEOID12B) AS DETERMINED BY GNSS

LIMIT OF DISTUBANCE
APPROXIMATELY 16.3 ACRES

GENERAL EARTHWORK
CUT: 47,669 CUBIC YARDS
FILL: 9,185 CUBIC YARDS
NET: 38,483 CUBIC YARDS

SWM DETENTION FACILITY EARTHWORK
CUT: 4,500 CUBIC YARDS

RETAINING WALLS
APPROX 2,890 LF OF VARIABLE HEIGHT RETAINING WALL

STORM QUANTITIES
- 977 LF OF 6" HDPE CIRCULAR (23)
- 19 LF OF 8" HDPE CIRCULAR (1)
- 2113 LF OF 12" HDPE CIRCULAR (25)
- 241 LF OF 18" HDPE CIRCULAR (4)
- 106 LF OF 24" HDPE CIRCULAR (1)
- (25) 48" MANHOLES
- (19) CATCH BASINS
- (2) CONTECH WATER QUALITY UNITS (OR APPROVED EQUIVALENT)

LEGEND

- PROPERTY BOUNDARY
- LOD — LIMIT OF DISTURBANCE (APPROX. 16.3 ACRES)
- 250 — EXISTING CONTOUR
- 250 — PROPOSED MAJOR CONTOUR
- 255.00 / 250.00 BW / 260.00 TW — PROPOSED ELEVATION
- PROPOSED STORM DRAINAGE STRUCTURES
- PROPOSED STORM DRAINAGE PIPE
- EXISTING SANITARY SEWER
- CONCEPTUAL SWM TREATMENT SYSTEM
- EXISTING BUILDING TO REMAIN
- EXISTING PAVEMENT TO REMAIN
- PROPOSED BUILDING
- PROPOSED GREEN ROOF
- PROPOSED POROUS PAVEMENT
- PROPOSED POROUS PAVERS

CONNECT TO AND UPGRADE EXISTING AT SURFACE DISCHARGE OUTLET
PROPOSED CONTECH WATER QUALITY UNIT (OR APPROVED EQUIVALENT)

STORM DETENTION DISCHARGE TO EXISTING SEWER SYSTEM

SCHOOL PARCEL

STUDIO PARCEL

4-FLOOR PARKING DECK
433 SPACES
FFE 1ST FLOOR ENT: 225 FT
FFE 3RD FLOOR ENT: 249 FT
(24 FT DIFFERENCE)

EXISTING GRAHAM SCHOOL

ADS STORMTECH MC-4500 DETENTION/INFILTRATION CHAMBER SYSTEM SIZED APPROX. 180' X 100' X 6.75 HEIGHT (OR APPROVED EQUIVALENT)

MILL SHOP 02
FFE: 250.00

MILL SHOP 01
FFE: 250.00

EXIST. ADMIN.
EXISTING FFE:
~261 FT

EXIST. BLDG 01
EXISTING FFE: ~264 FT

EXIST. BLDG 02
EXISTING FFE: ~252 FT

SOUND STAGE 01
FFE: 265.00

SOUND STAGE 02
FFE: 257.50

SOUND STAGE 03
FFE: 250.00

WARDROBE
2-STORY
FFE: 270.00

GUARD HOUSE

EXIST. BLDG 03
EXISTING FFE:
~273 FT

~467 LF OF VARIABLE HEIGHT RETAINING WALL
~45 LF OF VARIABLE HEIGHT RETAINING WALL
~238 LF OF VARIABLE HEIGHT RETAINING WALL
~193 LF OF VARIABLE HEIGHT RETAINING WALL
~106 LF OF VARIABLE HEIGHT RETAINING WALL
~88 LF OF VARIABLE HEIGHT RETAINING WALL
~301 LF OF VARIABLE HEIGHT RETAINING WALL
~350 LF OF VARIABLE HEIGHT RETAINING WALL
~130 LF OF VARIABLE HEIGHT RETAINING WALL
~281 LF OF VARIABLE HEIGHT RETAINING WALL
~92 LF OF VARIABLE HEIGHT RETAINING WALL
~306 LF OF VARIABLE HEIGHT RETAINING WALL
~292 LF OF VARIABLE HEIGHT RETAINING WALL

DISCHARGE FROM WATER QUALITY UNIT AT-GRADE
PROPOSED CONTECH WATER QUALITY UNIT (OR APPROVED EQUIVALENT)

S/B/A 4.20–9–7
N/F ACONIC STATE PARK COMMISSION
PER MAP No. 27204

S/B/L 4.130–139–6
N/F ZENA A. SUSSER
LIFE EST & MERYYN SUSSER TRUST
CONTROL No. 553343343

S/B/L 4.130–139–2
N/F JULIA DYKMAN ANDRUS MEM. INC.

S/B/L 4.130–139–1.1.LY
N/F GRAHAM WINDHAM HOME
PER MAP No. 27204

S/B/L 4.130–139–1.2
N/F VILLAGE OF HASTINGS ON HUDSON
PER MAP No. 27204

S/B/L 4.160–167–8.16
N/F RIVERPOINTE HOMEOWNERS
PER MAP No. 26427

S/B/L 3.3514–1
N/F GRAHAM WINDHAM HOME

OLD CROTON AQUEDUCT TRAIL

250' SEWER & ACCESS EASEMENT PER MAP No. 27204

75' SEWER EASEMENT PER MAP No. 27204

APPROXIMATE LINE VILLAGE OF HASTINGS ON HUDSON

APPROXIMATE LINE CITY OF YONKERS

SOUTH BROADWAY

DUDLEY STREET (VARIABLE WIDTH)

DRAFT

GRAPHIC SCALE IN FEET
0 30 60 120

NORTH

NO.	REVISIONS	DATE	BY
3	ISSUED FOR VILLAGE BOT REVIEW	04/17/23	CJC
2	ISSUED FOR REVIEW	04/06/23	CJC
1	SCHEMATIC DESIGN FOR REVIEW	03/27/23	CJC

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1 NORTH LEXINGTON AVENUE, SUITE 505
WHITE PLAINS, NY 10601
PHONE: 914-368-8200
WWW.KIMLEY-HORN.COM

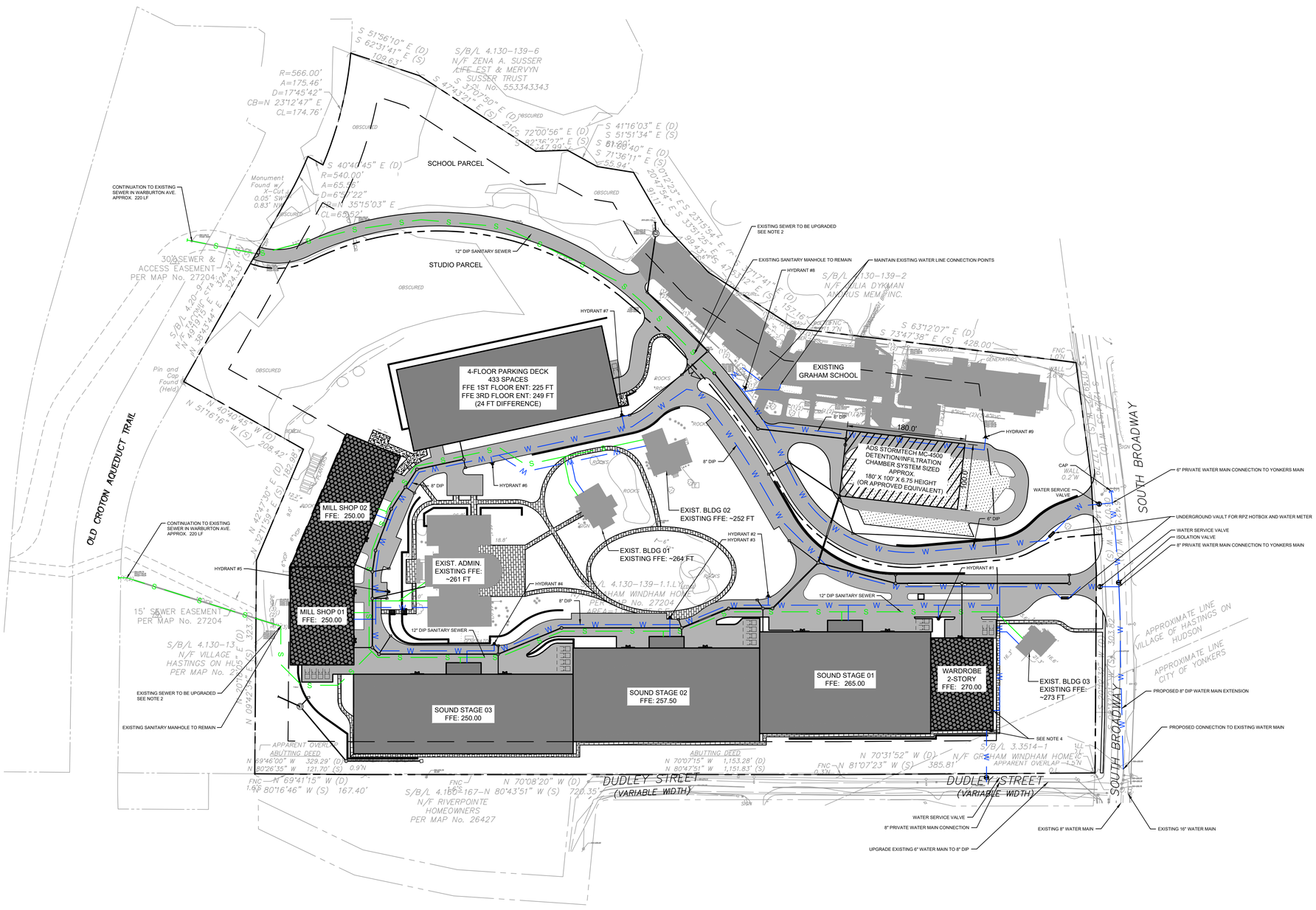
KHA PROJECT: 112815000
DATE: 03/27/23
SCALE: 1" = 60'
DESIGNED BY: CJC
DRAWN BY: CJC
CHECKED BY: DFL

OVERALL GRADING AND DRAINAGE PLAN

ELECTRIC OWL STUDIOS
1 S BROADWAY
HASTINGS-ON-HUDSON, NY 10706
VILLAGE OF HASTINGS-ON-HUDSON NEW YORK

SHEET NUMBER
C-4.0

K:\NYC_CIVIL\112815000_Griffco_Electric Owl HoHi\05_CAD\Plan Sheets\C-5.0 UTILITY PLAN.dwg



DRAFT

LEGEND

- PROPERTY BOUNDARY
- PROPOSED SANITARY SEWER
- PROPOSED WATER LINE
- PROPOSED WATER VALVE (4)
  PROPOSED FIRE HYDRANT (9)
- PROPOSED STORM DRAINAGE STRUCTURES
- PROPOSED STORM DRAINAGE PIPE
- EXISTING SANITARY SEWER

NOTES

1. BACKGROUND INFORMATION SHOWN PER SURVEY PREPARED BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C. DATED DECEMBER 23, 2022
2. EXISTING SEWER TO BE VIDEO INSPECTED. TRENCHLESS REPAIR TECHNOLOGIES TO BE INSTALLED IF FEASIBLE, E.G. PIPE LINING. APPROXIMATELY 1,140 LF
3. WASTEWATER DISCHARGE FLOWS TO BE CONFIRMED BY BUILDING MEP ENGINEER
4. WATER METER AND RPZ (BACKFLOW PREVENTER) TO BE INSTALLED WITHIN PROPOSED WARDROBE BUILDING WITH UTILITY PROVIDER APPROVAL
5. FIRE AND DOMESTIC WATER DEMANDS TO BE PROVIDED BY BUILDING MEP/FIRE PROTECTION ENGINEER

STORM QUANTITIES
- 977 LF OF 6" HDPE CIRCULAR (23)
- 19 LF OF 8" HDPE CIRCULAR (1)
- 2113 LF OF 12" HDPE CIRCULAR (25)
- 241 LF OF 18" HDPE CIRCULAR (4)
- 106 LF OF 24" HDPE CIRCULAR (1)
- (26) 48" MANHOLES
- (21) CATCH BASINS
- (2) CONTECH WATER QUALITY UNITS (OR APPROVED EQUIVALENT)

WATER QUANTITIES
- 1200 LF OF 6" DIP
- 3830 LF OF 8" DIP

SEWER QUANTITIES
- 446 LF OF 6" DIP
- 1730 LF OF 12" DIP

FIRE PREVENTION QUANTITIES
- FIRE HYDRANTS (9)

NO.	REVISIONS	DATE	BY
3	ISSUED FOR VILLAGE BOT REVIEW	04/17/23	CJC
2	ISSUED FOR REVIEW	04/06/23	CJC
1	SCHEMATIC DESIGN FOR REVIEW	03/27/23	CJC

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WWW.KIMLEY-HORN.COM

KHA PROJECT 112815000
DATE 03/27/23
SCALE: 1" = 80'
DESIGNED BY: CJC
DRAWN BY: CJC
CHECKED BY: DFL

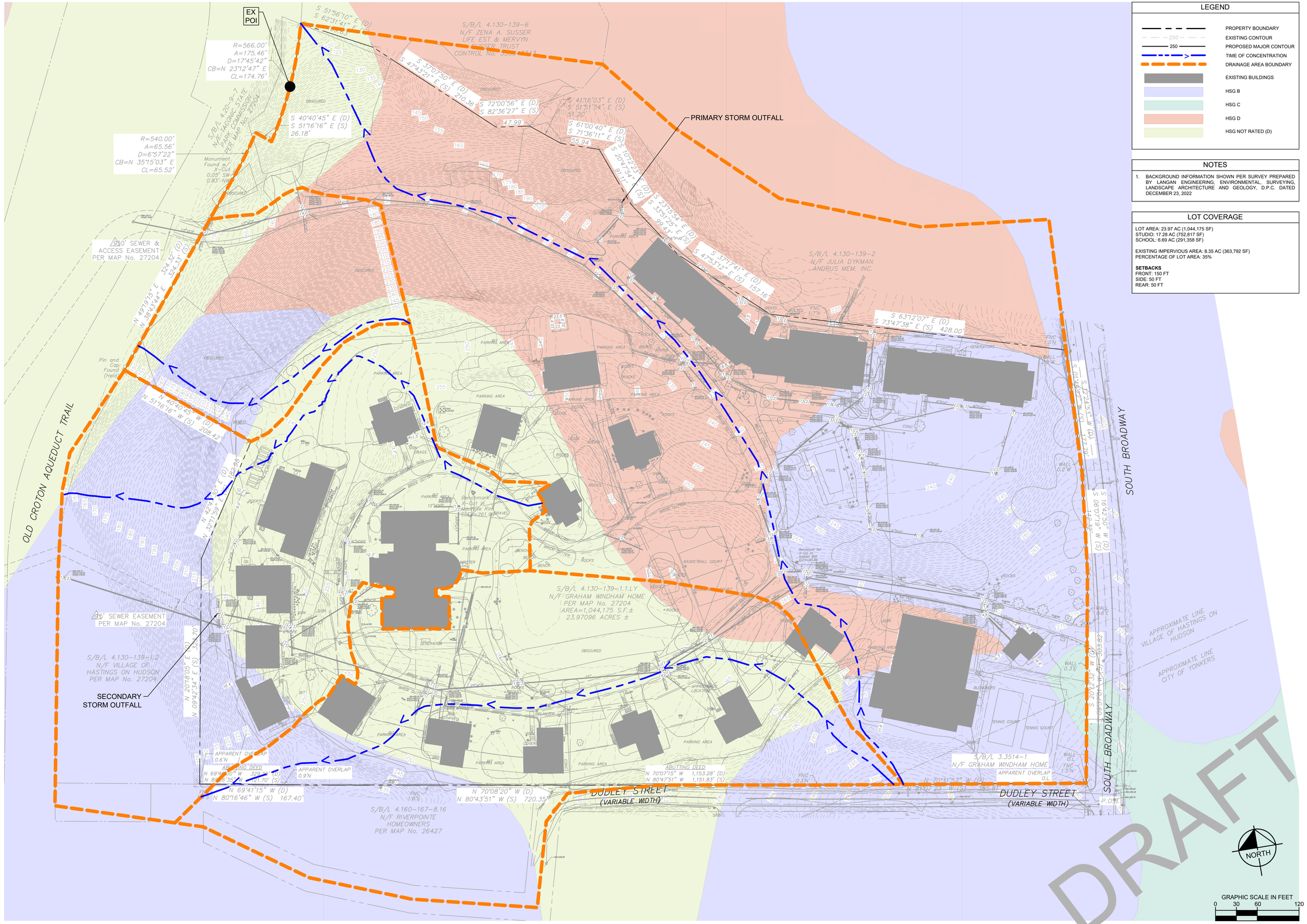
OVERALL UTILITY PLAN

ELECTRIC OWL STUDIOS
1 S BROADWAY
HASTINGS-ON-HUDSON, NY 10706
VILLAGE OF HASTINGS-ON-HUDSON
NEW YORK

SHEET NUMBER
C-5.0

Drainage Plans

K:\NYC_CIVIL\112815000_Griffco_Electric Owl HoH\05_CAD\Exhibits\2023-03-29 Drainage Area Exhibit\2023.03.29 DRAINAGE EXHIBIT.dwg



LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOUR
- 250 PROPOSED MAJOR CONTOUR
- TIME OF CONCENTRATION
- DRAINAGE AREA BOUNDARY
- EXISTING BUILDINGS
- HSG B
- HSG C
- HSG D
- HSG NOT RATED (D)

NOTES

1. BACKGROUND INFORMATION SHOWN PER SURVEY PREPARED BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C. DATED DECEMBER 23, 2022

LOT COVERAGE

LOT AREA: 23.97 AC (1,044,175 SF)
STUDIO: 17.28 AC (752,817 SF)
SCHOOL: 6.69 AC (291,358 SF)

EXISTING IMPERVIOUS AREA: 8.35 AC (363,792 SF)
PERCENTAGE OF LOT AREA: 35%

SETBACKS
FRONT: 150 FT
SIDE: 50 FT
REAR: 50 FT

NO.	DATE	BY
2	04/17/23	DSU
1	04/06/23	DSU

REVISIONS

ISSUED FOR VILLAGE BOT REVIEW

ISSUED FOR REVIEW

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1 NORTH LEXINGTON AVENUE, SUITE 505
WHITE PLAINS, NY 10601
PHONE: 914-368-8200
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KHA PROJECT	112815000
DATE:	04/06/23
SCALE:	1" = 60'
DESIGNED BY:	CJC
DRAWN BY:	CJC
CHECKED BY:	DFL

EXISTING DRAINAGE AREA MAP

ELECTRIC OWL STUDIOS
1 S BROADWAY
HASTINGS-ON-HUDSON, NY 10706
VILLAGE OF HASTINGS-ON-HUDSON NEW YORK

SHEET NUMBER
EXH-20230406

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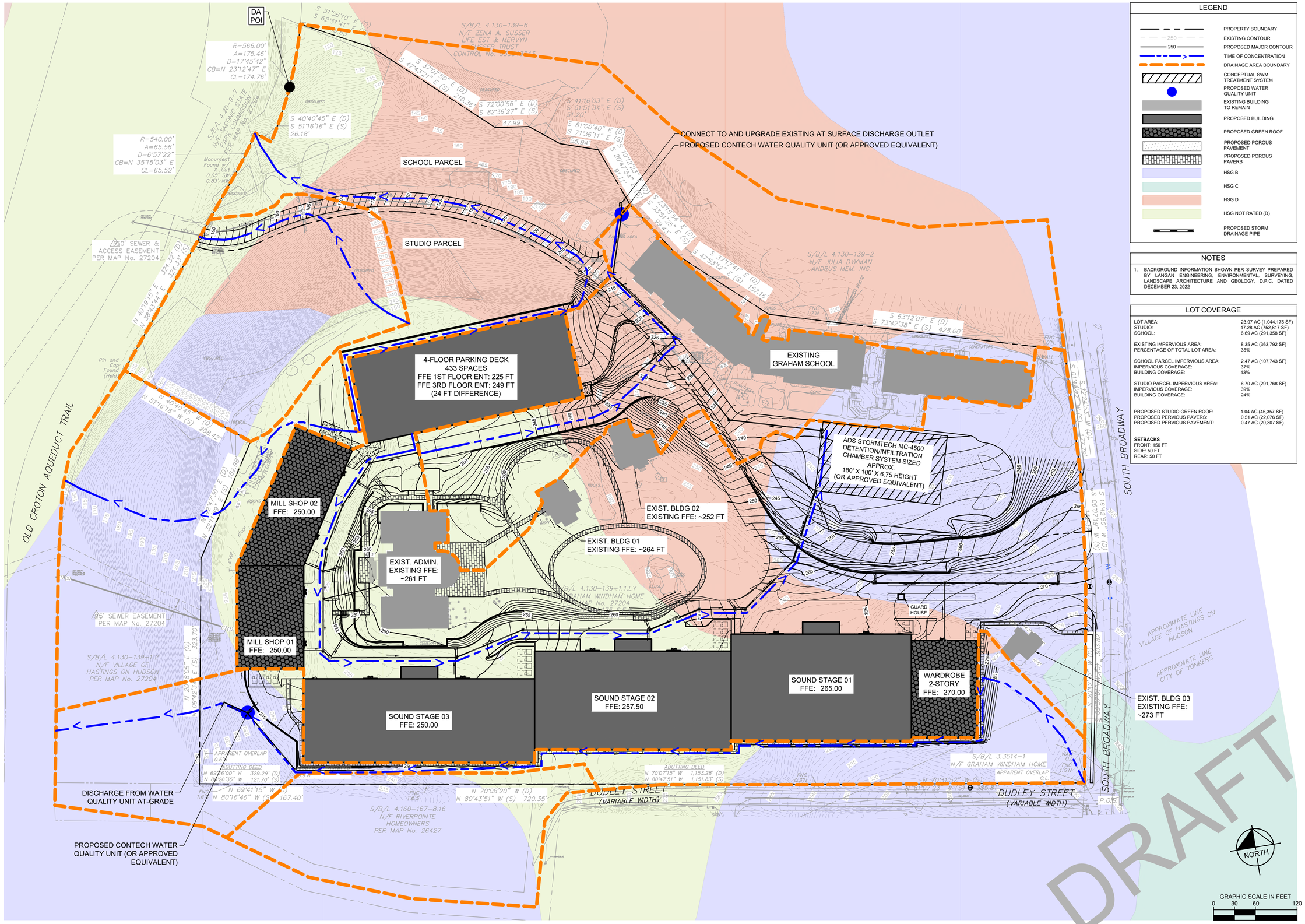

LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOUR
- PROPOSED MAJOR CONTOUR
- TIME OF CONCENTRATION
- DRAINAGE AREA BOUNDARY
- CONCEPTUAL SWM TREATMENT SYSTEM
- PROPOSED WATER QUALITY UNIT
- EXISTING BUILDING TO REMAIN
- PROPOSED BUILDING
- PROPOSED GREEN ROOF
- PROPOSED POROUS PAVEMENT
- PROPOSED POROUS PAVERS
- HSG B
- HSG C
- HSG D
- HSG NOT RATED (D)
- PROPOSED STORM DRAINAGE PIPE

NOTES

1. BACKGROUND INFORMATION SHOWN PER SURVEY PREPARED BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C. DATED DECEMBER 23, 2022

LOT COVERAGE

LOT AREA:	23.97 AC (1,044,175 SF)
STUDIO:	17.28 AC (752,817 SF)
SCHOOL:	6.69 AC (291,358 SF)
EXISTING IMPERVIOUS AREA:	8.35 AC (363,792 SF)
PERCENTAGE OF TOTAL LOT AREA:	35%
SCHOOL PARCEL IMPERVIOUS AREA:	2.47 AC (107,743 SF)
IMPERVIOUS COVERAGE:	37%
BUILDING COVERAGE:	13%
STUDIO PARCEL IMPERVIOUS AREA:	6.70 AC (291,768 SF)
IMPERVIOUS COVERAGE:	39%
BUILDING COVERAGE:	24%
PROPOSED STUDIO GREEN ROOF:	1.04 AC (45,357 SF)
PROPOSED PERVIOUS PAVERS:	0.51 AC (22,076 SF)
PROPOSED PERVIOUS PAVEMENT:	0.47 AC (20,307 SF)

SETBACKS
FRONT: 150 FT
SIDE: 50 FT
REAR: 50 FT

NO.	REVISIONS	DATE	BY
2	ISSUED FOR VILLAGE BOT REVIEW	04/17/23	DSU
1	ISSUED FOR REVIEW	04/06/23	DSU

NOT FOR CONSTRUCTION

Kimley»Horn
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WWW.KIMLEY-HORN.COM

KHA PROJECT 112815000
DATE 04/06/23
SCALE: 1" = 60'
DESIGNED BY: CJC
DRAWN BY: CJC
CHECKED BY: DFL

PROPOSED DRAINAGE AREA MAP

ELECTRIC OWL STUDIOS
1 S BROADWAY
HASTINGS-ON-HUDSON, NY 10706
VILLAGE OF HASTINGS-ON-HUDSON NEW YORK

SHEET NUMBER
EXH-20230406