MEMORANDUM

TO:	Stephanie Yezzi	Village of Johnson City
FROM:	John Judge	DESMAN
	Patricia Every	PA Every Architects
	Andy Hill	DESMAN
DATE:	October 23, 2024	
RE:	Task II.9 and II.10: Assess Implications of iDistrict Design Guidelines on Structured Parking Design and Siting and Potential Parking Garage Site Identification	

IMPLICATIONS OF DESIGN GUIDELINES ON STRUCTURED PARKING DESIGN

The Village of Johnson City has codified its iDistrict design standards as Article 57 within the Village Zoning Code. The Village's historic district is on the National Register of Historic Places. The design standards' purpose is to ensure that new development is in concert with the historic character of the Village, which is generally defined by properties having a street frontage of 50 feet or less and a height of three stories or less or by a property's designation as a contributing structure within the Johnson City Historic District.

Parking structures by their nature consist of large footprints (125 feet by 250 feet) with a utilitarian façade that reflect their role as public storage buildings. The photo below illustrates a stereotypical approach to a parking structure's exterior facade. Note the strong horizontal bands needed for bumper guards and the long span between columns reflecting the column-free parking bay design.

It should be noted that the existing Wilson Hospital Garage is not located within the Village Central Business District.

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The iDistrict design guidelines address both the use of exterior materials and the composition of buildings themselves. One material commonly observed in the Village CBD is brick masonry. One approach to parking structure design is to incorporate brick masonry into the façade and provide secondary non-structural vertical elements as DESMAN did with a parking structure recently completed at Marine Corps Base Quantico in Virginia. Note the composition of the openings in the pedestrian tower and shear wall and the additional vertical elements.

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Our interpretation of the design guidelines would be to apply the rhythm of the openings of the shear walls and pedestrian towers to the full building façade, along with an effort to reduce the building length by varying the character of materials used. This approach, along with an introduction of street level awnings was successfully used at the East All Saints Street Garage in Frederick, Maryland. Mote how the façade uses a traditional window pattern, and how the long façade is broken into smaller components.

The architect of record was Proffitt and Associates who completed a conceptual theme by BCT Architects under the direction of DESMAN, project design manager.

For appropriateness in the Village of Johnson City, the building height would be reduced from six (6) parking tiers to four (4), but the fundamental concepts of the approach would find favor with the design standards. A discussion regarding appropriate parking structure height within the Village is provided later in this report.

In keeping with the historic charm of the Village of Johnson City any new structure must conform to the style and form described in the design standards. This is particularly necessary when designing the façade of a large structure. Johnson City's standards do this by 'hiding' a large structure through the use of historically complimentary façade treatments, historically accurate window sizes and styles; historic materials; and limiting the distance between stories and the overall height of new buildings.

Street facing facades will use materials and styles architecturally consistent and complimentary with other downtown buildings. In order to conceal the type of building there will be changes within the façade to make it read as smaller buildings. This will be achieved by staggering portions of the façade with variation in setback distances, height differentiation and changes between 'buildings' in the window size and spacing, cornice trim, and other details. The remaining facades will also have fasciae, setbacks, recesses, and openings used to break up large facades. Street materials shall return at least 10 feet down the non-street sides. Facades are to be placed parallel with the streets.

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While a parking facility exterior design can be made compatible with adjacent existing buildings, there will be some fundamental differences between the parking structure exterior composition and traditional buildings. Pedestrian exits will be fully visible from the street. This will allow Village police to see into the pedestrian areas and will let customers know they are being seen. Natural ventilation requirements and the need to reduce glare will largely prohibit the use of glazing in the exterior elevations. Openings in the structure can be made to reflect a window composition with detailing added to replicate metal frames. If desired, vertical plant material can be provided through the provision of trelliage and appropriate climbing species planted at the base.

Site amenities such as lights, benches, trash cans, bicycle racks, bollards, etc. can and should be of a historical character. If a reduction in parking provision can be tolerated provision of micromobility features such as bicycles and scooters plus needed support facilities such as repair tables and air pumps can be provided.

Modern storm water runoff standards will apply to the parking design. Standards are usually met with the provision of water quality and quantity containment structures located below the parking structure which intercept and treat runoff before discharge into the local storm and sanitary sewers.

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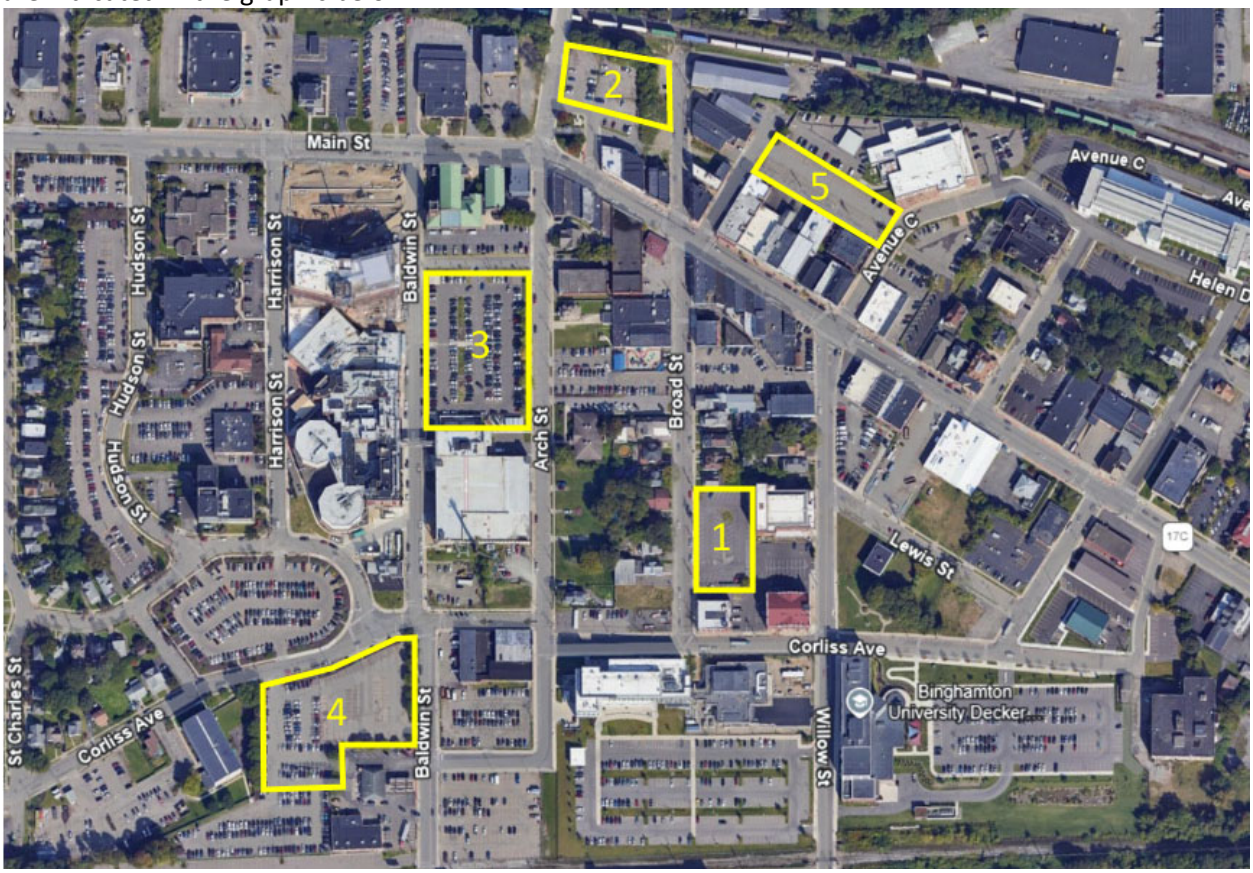
POTENTIAL PARKING GARAGE SITE IDENTIFICATION

After completing the analysis of parking supply and parking demand, DESMAN and the Village of Johnson City identified five sites within the study area for future development of parking structures. Site locations are indicated in the graphic below.



A summary of those sites is presented in the table below.

Potential Parking Structure Sites			
Identification	**Description**	**Ownership**	**Zone**
1	Surface Parking Lot at 67 Broad Street	Goodwill Theatre, Inc.	NC
2	Isabelle Surface Parking Lot at Isabelle Place	Partially owned by the Village of Johnson City	CB
3	Surface Parking Lot at 55 Baldwin Street	UHS	NC
4	Surface Parking Lot at 150 Corliss Avenue	UHS	NC
5	Municipal “Avenue C/Former Village Hall Lot” at 243 Main Street	Village of Johnson City	CB

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DESCRIPTION OF EXISTING CONDITIONS

1. Private Surface Parking Lot at 67 Broad Street

The existing private parking lot located to the northwest of the Goodwill Theater and north of the 67 Broad Street building provides fifty-four (54) existing private parking spaces. The site slopes up from its southeast corner on Broad Street to the east approximately three (3) feet. Available tax mapping suggests that the surface lot has been consolidated from four parcels with overall measurements of 200' northerly by 125' westerly.

Looking northeast from Broad / Corliss intersection. Site is in photo left.

Looking northeast across site.

Looking south at theater building. Note side yard distance along Broad Street. Binghamton University building in background.

Looking southeast from parcel northwest corner.

2. Isabelle Surface Parking Lot at 17 Isabelle Place

The existing public parking lot is the Village-owned section of a larger parcel containing fifty-eight (58) parking spaces adjacent to Veterans Memorial Park. The site is largely flat. Available tax

mapping suggests the irregular site is a quadrilateral having sides measuring 90 feet parallel to Arch Street, 150 feet, 138 feet, and 187 feet. These dimensions include the Isabelle Place right-of-way.

Looking north into site from Isabelle Street

Looking south from northwest corner of site

Existing lot Multi-Space Meter

Village War Memorial adjacent to site

3. <u>UHS Surface Parking Lot at 55 Baldwin Street</u>

The existing private parking lot north of the United Health Service (UHS) Physician & Employee Parking Garage provides one-hundred fifty-seven (157) parking spaces for Wilson Medical Center patients and visitors. The site slopes down as one travels south along Baldwin Street. Available tax mapping suggests that a parcel measuring 300' northerly by 225' westerly could be subdivided from the existing parcel. Joint development of this site with UHS could provide significant positive results for both the Village and UHS. The resulting parking could accommodate visitors to both the hospital and the Village Central Business District. Depending on the hospital master plan, development of this site could allow the hospital to demolish the aging parking structure further south and free up other long-term possibilities allowing for further expansion of the hospital or development of medical office buildings.

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Looking southwest across site.

Looking south along Baldwin Street.


Looking north from southern parcel line.

4. <u>UHS Surface Parking Lot at 150 Corliss Avenue</u>

The existing private parking lot is an irregularly shaped parcel occupying the southwest corner of Corliss Avenue and Baldwin Street and containing one-hundred eighty-seven (187) parking spaces. The proposed parking solution does not include the surface lots south of the parcel located at 130 Baldwin Street and within the Norfolk Southern Railway right-of-way. The lot is subdivided into two parking areas by a chain link fence that prohibits circulation between the sections labeled for general UHS employees and evening employees. The site slopes down approximately five feet to the low point in the southwest corner. Available tax mapping suggests that the parcel measures 235' northerly by 340' westerly with additional area in the northeast corner and an adjacent parcel reducing the parcel area in the southeast corner.

It should be noted that northeast surface lot accessed from Baldwin Street is not currently being used. As part of the conversation about this parcel, the Village may wish to inquire regarding the reason behind this condition.

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Looking southwest across site.


Looking northeast across site. Note existing parking structure in background.

5. Municipal "Avenue C/Former Village Hall" Lot at 243 Main Street

The existing public parking lot behind Main Street between Avenue C and Avenue D provides 59 parking spaces. The site slopes up from both Avenue C and Avenue D to a high point in the center of the site. Available tax mapping suggests that a parcel measuring 100' northerly by 300' westerly could be subdivided from the existing parcel.


Looking east from across site from Avenue D,


Rear of Old Village Hall.

JOHNSON CITY VILLAGE ZONING ORDINANCES

DESMAN reviewed the Village Zoning Map available to the public at the Village's website. As reported earlier, three sites are in Zoning District NC (Neighborhood Commercial), and two sites are in Zoning District CB (Central Business). A summary of development limitations of each zoning district is presented in the following table:

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Zoning District	Min. Front Yard	Min. Rear Yard	Min. Side Yard	Max. Height
NC	20’	20’	15’[1]	40’
CB	0’[2]	0’[2]	0’[2]	40’

Notes: [1] Side yard setback may be reduced to 5’ if the adjacent property is commercial.
[2] The Village Planning Board could require front, rear, or side yard setbacks during the site plan review process.

Article 21 of the Village Zoning Code indicates that a motor vehicle parking lot land use is permitted in CB zoning, and specially permitted in NC zoning. For the purpose of this study, we will assume that for the properties zoned NC, a special use permit will be granted following a public hearing. We will also assume that no variances regarding set-backs will be sought or granted.

We understand the Zoning law definition for building height is the vertical distance between average grade plane and the uppermost height of any parapet. Elevator and stair towers are allowed to extend higher than the parapet line. For the purposes of this study, we will assume a floor-floor height of 12’-0”. This will allow the parapet of the uppermost or 4th tier to be located 40’ above the street. The designs used for this study include a “flat” parking bay(s) slightly sloped for drainage, and one ramped bay connecting the “flat” bays stacked vertically. As a result, one can construct a grade tier plus three flat tiers above for a total of four tiers. Ramped bays will then connect each of those flat tiers between levels 1-2, 2-3, and 3-4. As a result, in the Village, a four-tier or 3.5-level parking deck is permissible.

The Village of Johnson City’s zoning requires that parking be placed within 400 feet of the building it is intended to serve. In order to encourage infill development, the Village should consider variances to this requirement once shared municipal parking is developed.

The Village of Johnson City’s zoning mandates a parking stall size to be 9’-0” x 18’-0” with a 24’ wide drive aisle. Village zoning does not prescribe small car, bicycle, motorcycle, or sustainable parking standards. Accessible parking in accordance with Chapter 11 of the 2020 Building Code of New York State must be provided.

DESCRIPTION OF POTENTIAL SOLUTIONS

National observations of the mandated 9’-0” wide geometry conclude that this stall size is appropriate for a parking system consisting exclusively of large vehicles, or for a parking system dominated by rapid turnover or customers who visit the facility rarely.

The size of parking stalls should be based on typical use. As a general rule, the lower the turnover, or the more urban the location, the smaller the spaces users can tolerate. Commercial parking spaces that serve Central Business District employees and visitors, such as those that will be located within the proposed parking structures experience little to moderate turnover. Employees arrive in the morning, vehicles stay in parking spaces the majority of the day, and commuters depart in late afternoon. The National Parking Association recommends a parking space range of 8’-6” to 8’-9” for moderate turnover parking.

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Looking at vehicle size, the AASHTO passenger car (P) design vehicle is 7'-0" wide by 19'-0" long with an inside turning radius of 17 feet and an outside turning radius of 24 feet. The vast majority of large passenger cars on the road today are smaller than those design dimensions with tighter turning radii. Therefore, if the parking system is designed to accommodate the AASHTO passenger car design vehicle, most vehicles will be able to navigate the system.

For this study, the 9'-0" wide stall has been assumed. Moving forward, the Village may wish to revisit its zoning to allow for more flexibility in determining appropriate stall size.

For efficient parking development, site dimensions of 125' wide by 250' long are preferred. These dimensions allow for the construction of 2 adjacent parking bays with parking ramping between levels. As described above, each of the developed concepts are constructed to the 40' maximum height permitted in the Village.

Some fundamental parking geometric assumptions have been applied to the developed. Since the parking customers will be transient parkers, ramp slopes between levels have been designed with a maximum slope of 5% to better the customers' ability to control doors when parked on the ramps. Efficient site utilization of 325 square feet per parking space or better is the goal of any structured parking layout. This is an important concept because the structured parking unit cost on a square foot basis is relatively static. The more efficiently the designer can use the space, the more parking spaces can be provided with a lower unit cost per space. National averages suggest that the cost of parking construction in New York's Southern Tier will be in the range of $90 to $95 per square foot. An efficient parking design will therefore cost $30,000 per parking space while an inefficient design will cost $37,000 per parking space.

Each of the parking solutions presented has been prepared assuming a quality parking structure affording a safe environment to its users. Characteristics that the Village should insist upon should structured parking be developed include:

- Clean traffic flow and entries and exits without sharp turns.
- Pedestrian circulation points free of conflict with traffic circulation.
- Parking bays without columns or walls in the parking field.
- Clear visibility from the street into stair towers, elevators, and parking areas.
- Absence of walls restricting driver vision and/or provided hiding places.
- Clear heights between the floor and structure above no less than 8'-4".
- Lighting levels between 1 fc and 10 fc with an average of 4 fc in the parking area with transition lighting provided at vehicle entries and exits.
- Concrete elements conforming to recommendations of the American Concrete Institute's Guide for the Design and Construction of Durable Parking Structures for facilities located in the Northeast United States.

Drawings showing conceptual parking layouts, ramping systems, pedestrian circulation, and vehicle street access are presented in Appendix A. Because of the narrowness of most lots in the Village, each of these sites must be considered urban which means that there is little to no construction lay down space. During the 12-14 month construction period, the Village needs to be prepared to lose adjacent street curb space to construction offices and other uses.

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1. *Private Surface Parking Lot at 67 Broad Street*

The parking layout developed assumed the parcel would have a Broad Street address. It should be noted that the existing surface lot in the 38' x 95' parcel between this site and the theater building would remain. A front setback of 5', matching that of the adjacent Goodwill Theater, a rear setback of 20', a 5' side setback on the Goodwill Theater side, and a 15' side setback to the north would be utilized. The resulting building footprint of 100' x 180' could yield a parking structure with one double-loaded bay (parking spaces on each side of the drive aisle) and one single-loaded bay (parking spaces on one side of the drive aisle only), assuming the deck's customers would find the resulting drive aisle widths of 21.5' acceptable.

Despite the narrow drive aisles, the provided efficiency of 400 square feet per space is far less than industry standard. The parking structure provides 150 spaces on four levels.

2. *Isabelle Surface Parking Lot at 17 Isabelle Place*

A four-level, 125-space parking structure could be developed on this site. We understand the Village's goal is the removal of the traffic signal at the intersection of Isabelle Place and Main Street. Due to the close proximity of both the Main Street intersection and the bridge over the Norfolk Southern railroad, parking structure access from Arch Street is not recommended. As a result, exiting traffic from the parking structure will have difficulty accessing Main Street from Isabelle Place due to the limited sight distance. It should be noted that if the parking structure is developed as indicated, a parcel located between the Village property and the railway property to the north becomes accessible from North Broad Street only.

Since the site's dimensions are significantly less than minimum standards, a very low number of parking spaces can be provided on a typical level as indicated in the drawing in the appendix. The resulting efficiency is more than 500 square feet per parking space. The resulting building footprint varies but is generally 105' x 165' could yield a parking structure with one double-loaded bay (parking spaces on each side of the drive aisle) and one single-loaded bay (parking spaces on one side of the drive aisle only) each with 24' drive aisles and 18' long parking spaces, and a section of speed ramp without parking.

The impact on adjacent property, the access difficulty, and the very poor efficiency (resulting in very expensive construction costs) combine to make this site a poor choice for structured parking development.

3. *UHS Surface Parking Lot at 55 Baldwin Street*

Taking the Village's setbacks into account, a four-level 550-space parking structure could be developed on this site. Customers could access the deck from both Baldwin Street and Arch Street. The resulting 3-bay parking structure has a resulting efficiency of 310 square feet per parking space. The footprint is a 185' wide by 260' long allowing for 20' setbacks on all sides. Parking geometry provided is the Johnson City standard stall with 24' wide drive aisles.

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4. *UHS Surface Parking Lot at 150 Corliss Avenue*

Taking the Village's setbacks and the irregular shape into account, a four-level 525-space parking structure could be developed on this site. Customers could access the deck from both Baldwin Street and Corliss Avenue. The resulting 2.5-bay parking structure has a resulting efficiency of 325 square feet per parking space. The potential building length is slightly greater than 300' with the 2-bay section measuring 125' wide and the 3-bay section measuring 185' wide. The building width allows for the use of 24' wide drive aisles.

5. *Municipal Surface Parking Lot at 243 Main Street*

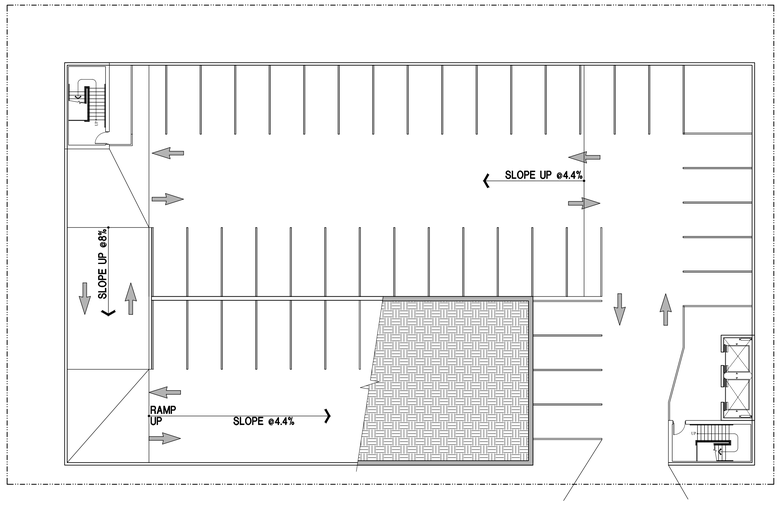
A parking facility at this location could be accessed from both Avenue C and Avenue D. The potential building footprint of 100' x 300' could yield a parking structure with one double-loaded bay (parking spaces on each side of the drive aisle) and one single-loaded bay (parking spaces on one side of the drive aisle only), assuming the deck's customers would find the resulting drive aisle widths of 21.5' acceptable. This building dimension also assumes that the new building could be constructed with little to no distance from adjacent existing buildings that front Main Street.

Taking the above into account, a four-level 315-space parking structure could be constructed at the site. The resulting two-bay structure has an efficiency of 340 square feet per parking space.

Taking the above information into account, it is clear that parking development will be the most cost effective on the parcels currently controlled by UHS for Wilson Hospital. Unfortunately, these sites, especially the Corliss Avenue site, are an especially long walk away from the Village's Main Street commercial zone.

Should the Village wish to proceed with structured parking on property it currently controls, the lot at 243 Main Street is the better choice.

Appendix A



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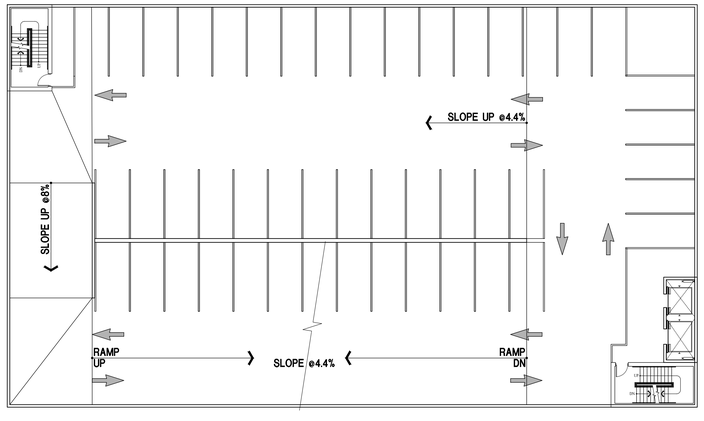

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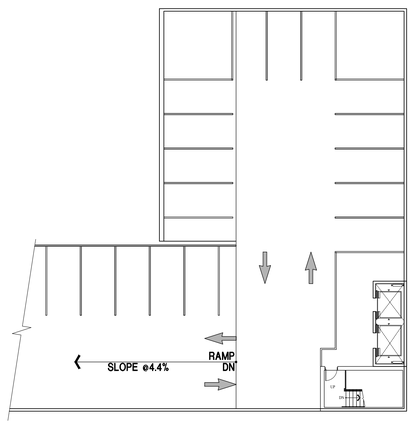

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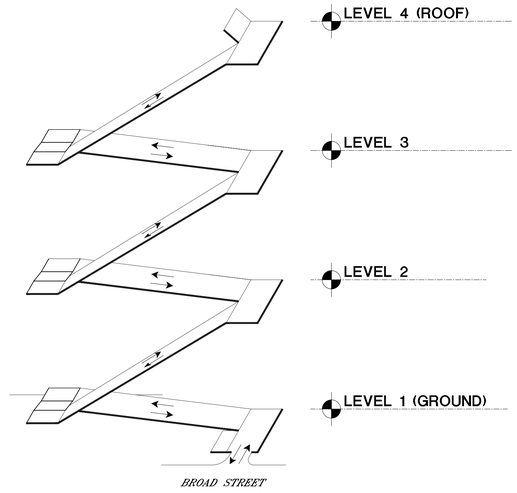

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Plan North

67 Broad Street

Johnson City Parking Study

Broome County, New York

Site 1

October 18, 2024

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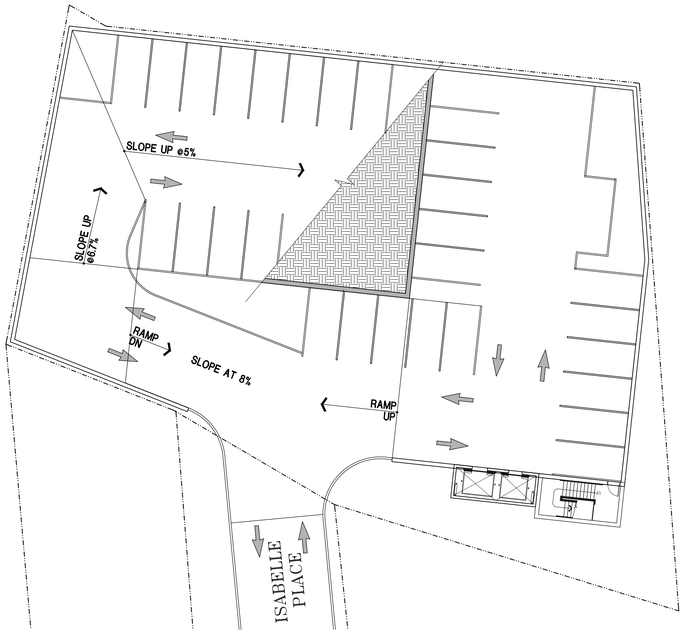

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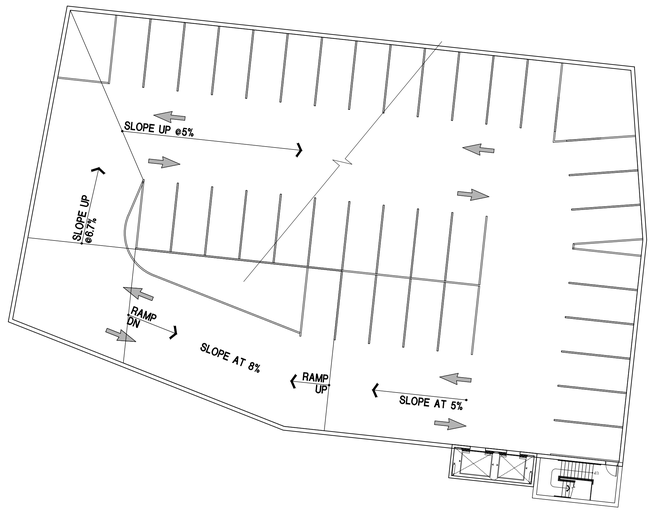

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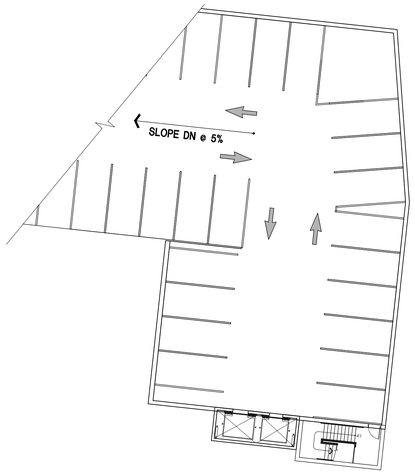

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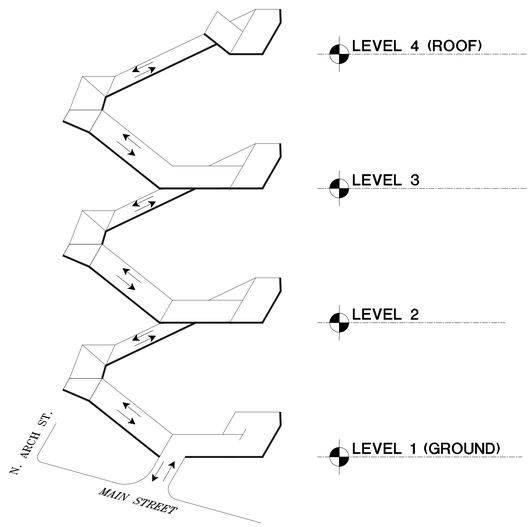

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Isabelle Lot

Johnson City Parking Study

Broome County, New York

Site 2

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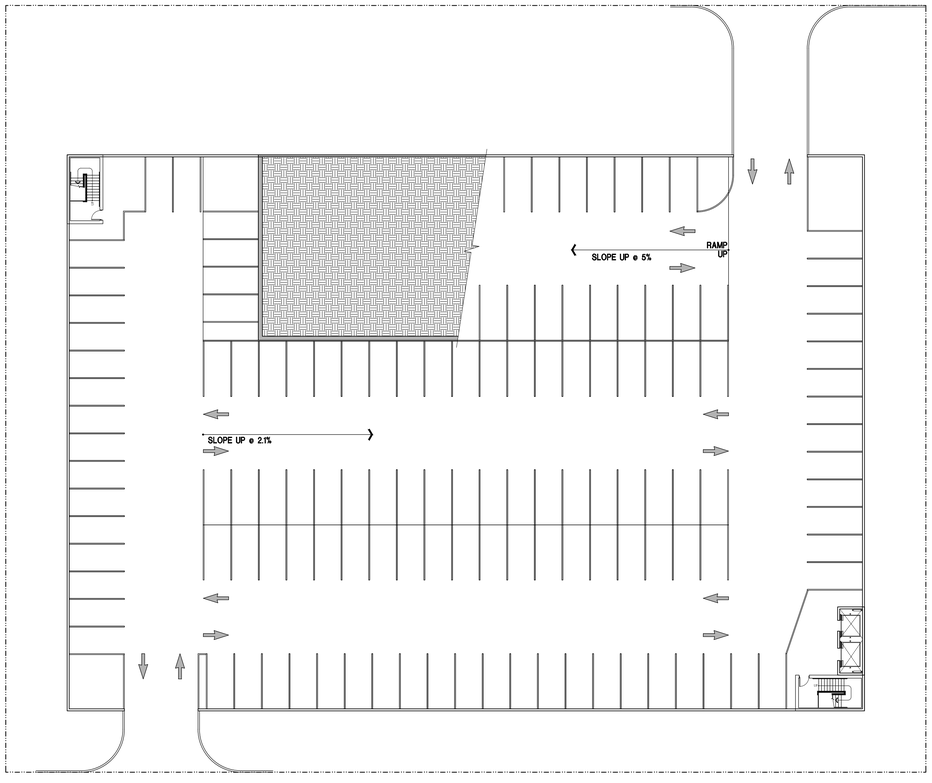

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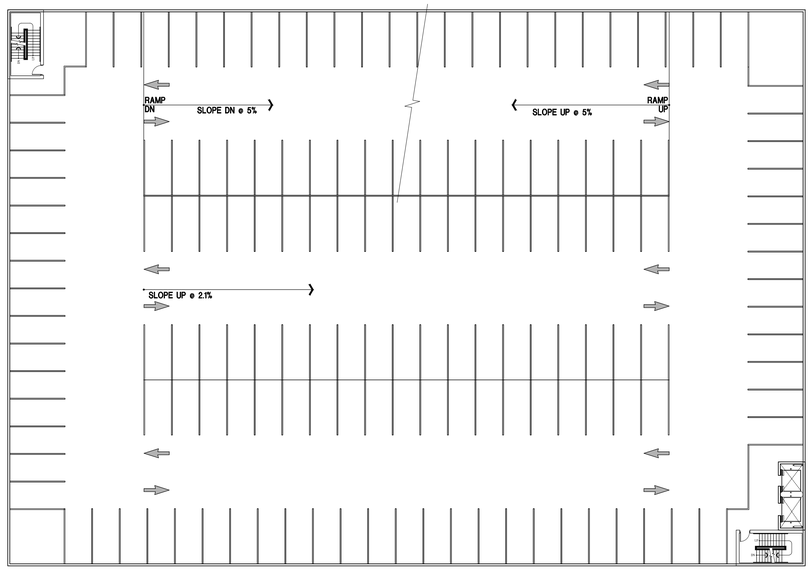

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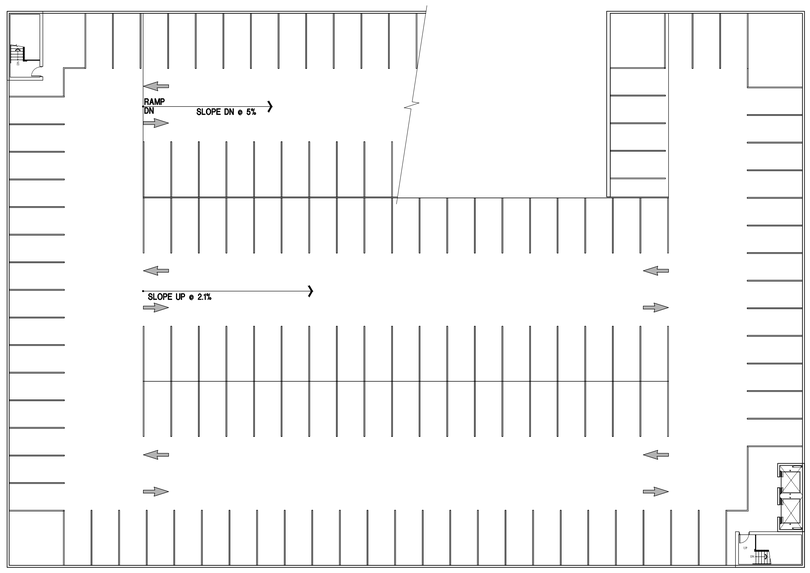

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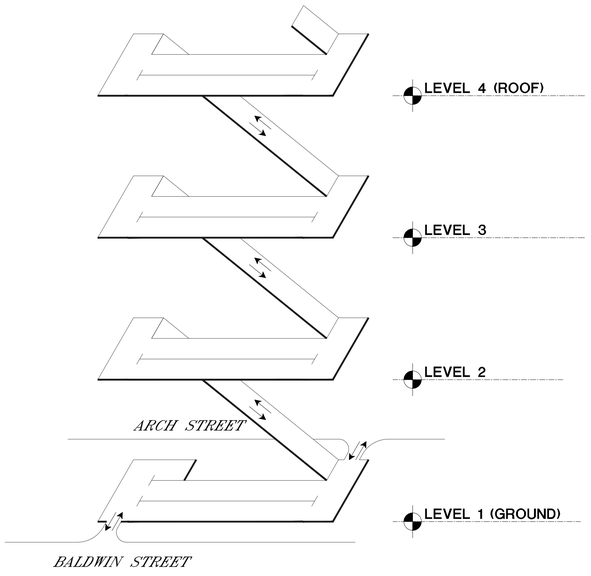

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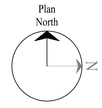

55 Baldwin Street

Johnson City Parking Study

Broome County, New York

Site 3

October 18, 2024

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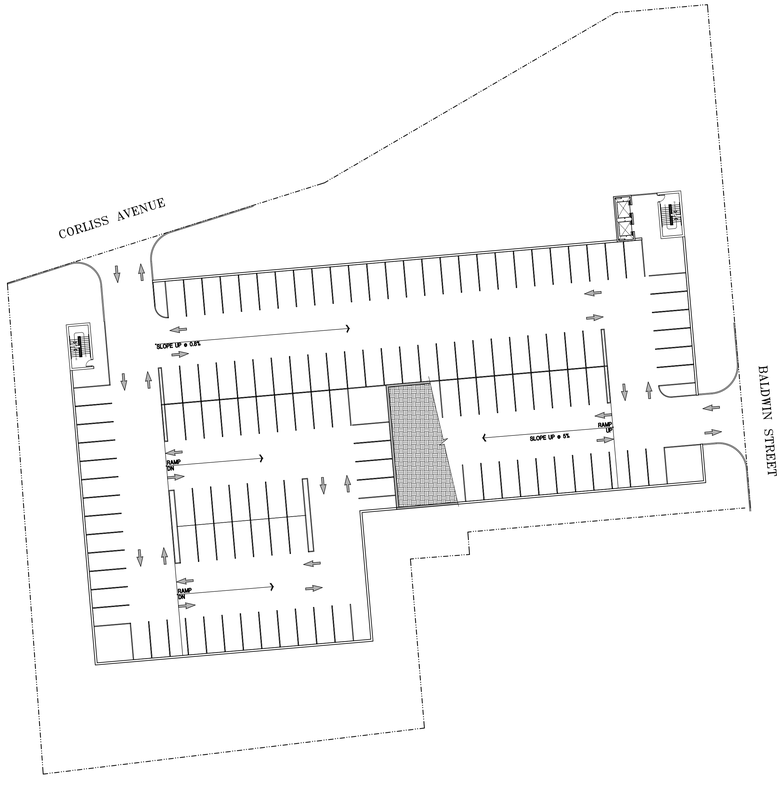

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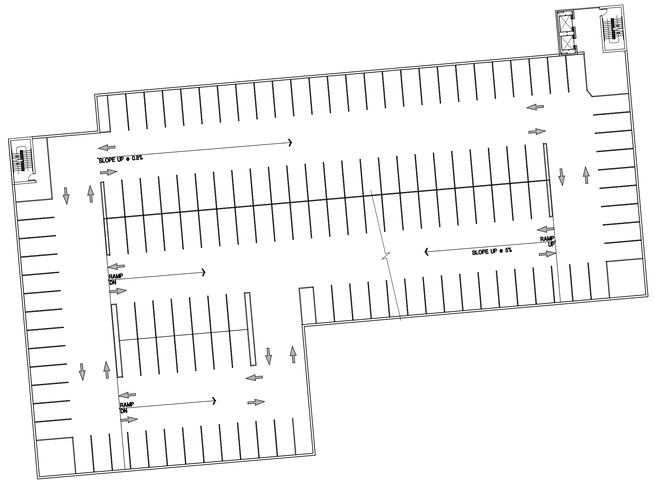

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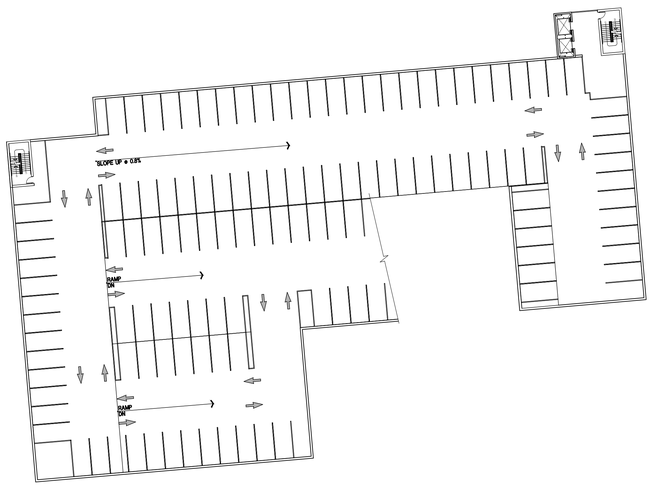

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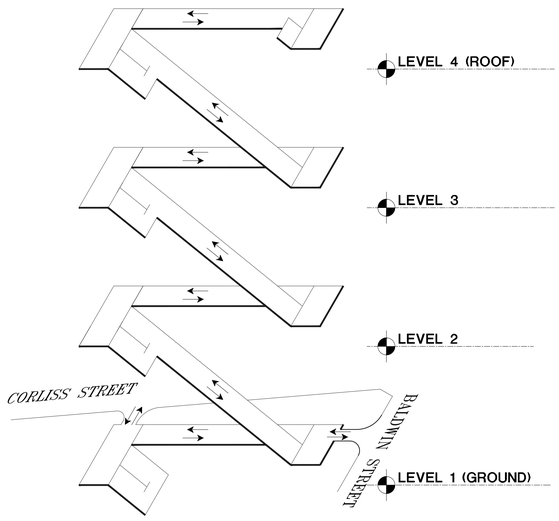

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150 Corliss Avenue

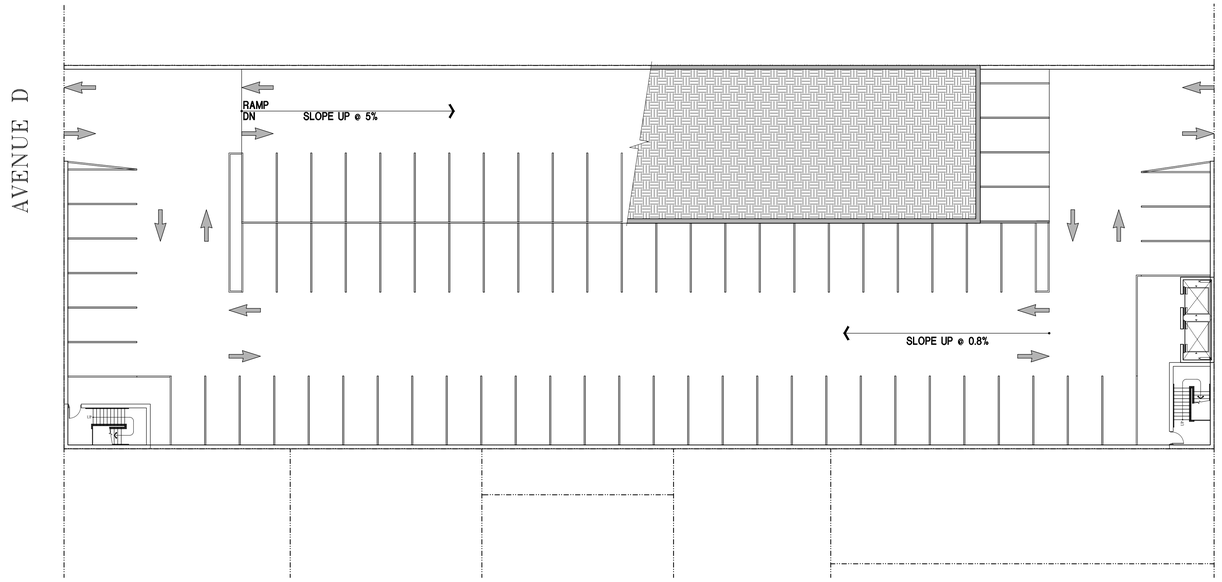
Johnson City Parking Study

Broome County, New York

Site 4

October 18, 2024

DESMAN



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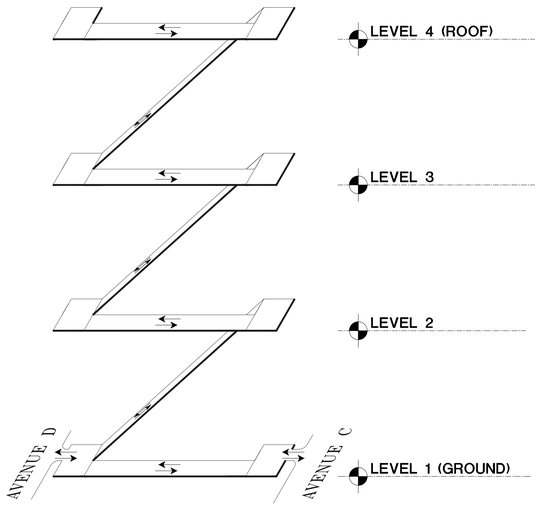

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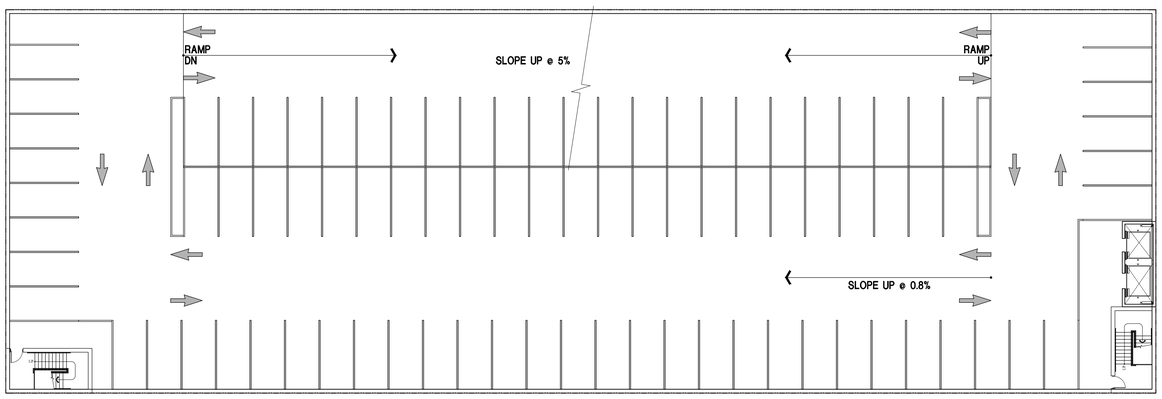
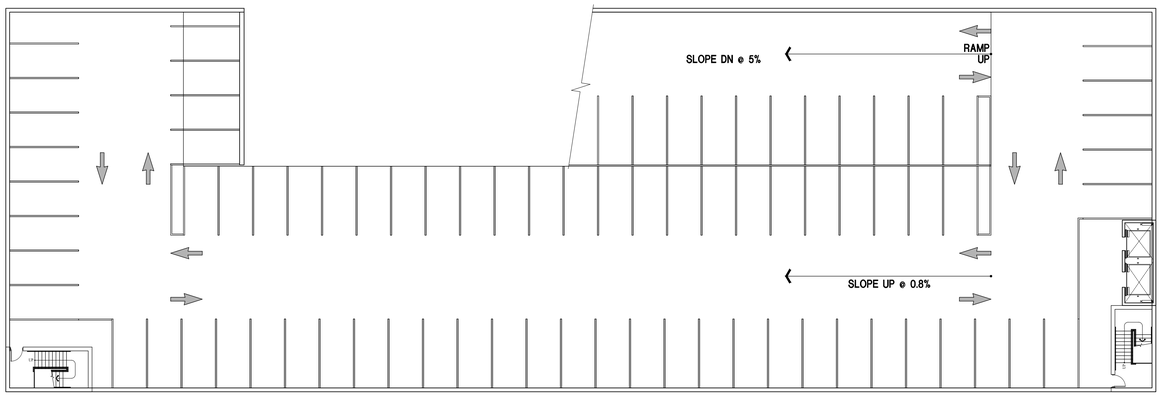
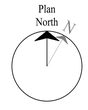


LEVEL 2 - 3
SCALE: 1" = 30'



LEVEL 4 (ROOF)
SCALE: 1" = 30'



Old Village Hall Surface Lot (243 Main Street)

Site 5

October 18, 2024

Johnson City Parking Study

Broome County, New York

DESMAN