



JULY 22, 2011

GREEN SCHOOLS SCHEMATIC DESIGN SUBMISSION - REV. 01

PS 316Q, QUEENS, NY

LLW# 65509



|DESIGN RESOURCES GROUP ARCHITECTS|

Viridian | Energy & Environmental, LLC

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PS 316Q
SD Submission NYC Green Schools

PS 316Q
SD NYC Green Schools Submission

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II. Cover Letter

PS 316Q
SD Submission NYC Green Schools

June 30, 2011

Green Schools Schematic Design Submission

PS 316Q

The PS 316Q School project located at 90-01 101st Avenue in Queens is attempting to comply with the New York City School Construction Authority's New York City Green Schools Program.

Applicable projects starting design on or after June 26, 2009 will be required to follow the 'NYC Green Schools Guide 2009'. The updated rating system contains 95 possible credit points with 18 prerequisites. The PS 316Q project team is aware of the 2009 Green School requirements and will continue to track progress in order to achieve certification under the new NYC Green Schools program.

Local Law 86/2005 requires the equivalent of LEED for Schools 2009: Certified Level, or a minimum of 40-49 points or equivalent. The project is anticipating meeting all of the 'Required for all Projects,' and most of the "Required if Feasible" credits. As a preliminary estimate, the project will attempt to earn 56 of the 95 total LEED Equivalent Point Total.

As the project progresses through Design and Construction Documents, we will have further clarification on which credits are achievable. Best efforts will be made to keep the PS 316Q project on target to achieve all of the required credits and will pursue all feasible credits. The project team will incorporate the sustainability review through each phase of the project and will continue to track progress to achieve certification under the NYC Green Schools program.

III. Project Checklist

PS 316Q
SD Submission NYC Green Schools



Project Checklist - page 1 of 2

NYC Green Schools Rating System 2009

Project: **PS 316Q**
 Address | Zip Code: **90-01 101st Avenue, Queens, NY 11416**
 LLW #: **65509**
 Design #:
 Architect: **Design Resources Group Architects**

Submission (Check one): **SD** ☐ DD ☐ 60% ☐ 100% ☐ Const ☐
 Submission Date: **June 30, 2011**

Reviewer :
 Reviewer Sign Off:

Credit Names	BD&C Reference LEED for Schools 2009	CHPS Reference	NYC GSG 2009	Credit Description and Relevant Information and Drop-Down Menus	RPC (check project zipcode in GSG)	Required For all Projects	Required if Feasible ¹	Optional Credits ²	If Anticipated, or if Documented: ³ Enter point value, or Select NF if Not Feasible, or if Not Pursued		Auto Filled: Blank if Pursued, Enter No. of Points if Not Pursued or if Not Feasible or Additional Credit Not Pursued
									Design Phase	Construction Phase	
Site 30% of Total Points						Points: 17 out of 19					
Site Selection	SS Pr 1	S 1.1R	Construction Activity Pollution Prevention		NP	<input checked="" type="checkbox"/>	YES	Credit Req'd - Confirm Pursuit			
	SS 1	S 1.2R	Site Selection		1			1			
	1.1.7	S 1.3	Sustainable Site & Building Layout		NP	<input checked="" type="checkbox"/>	YES	Indicate Pursuit		NO	
	SS 2	S 1.4	Development Density & Community Connectivity			4		4			
	SS 10	1.1.2	S 1.5R	Joint Use of Facilities, Community Access		1		1			
Transportation	SS Pr 2	S 1.6R	Site Assessment		NP	<input checked="" type="checkbox"/>	YES	Credit Req'd - Confirm Pursuit			
	SS 3	S 1.7	Brownfield Redevelopment			1		1			
	SS 4.1	S 2.1	Alternative Transportation, Public Transportation Access			4		4			
	SS 4.2	S 2.2	Alternative Transportation, Bicycle Storage & Changing Rooms			1		1			
	SS 4.3/4.4	S 2.3R	Alternative Transportation, Fuel-Efficient Vehicles/Parking Cap.		2		2				
Minimize Impact on Site	SS 5.1	S 3.1	Site Development, Protect or Restore Habitat		RPC	1		NF		1	
	SS 5.2	S 3.2	Site Development, Maximize Open Space			1		1			
Stormwater Design	SS 6.2	S 4.1	Stormwater Design, Quality Control			1		NF		1	
Heat Island Effect	SS 7.2	S 5.1	Heat Island Effect, Roof			1		1			
Outdoor Lighting	SS 8	S 6.1R	Light Pollution Reduction			1		1			
Site Category Sub-Total:						5	14		16	1	2
Water 13% of Total Points						Points: 7 out of 8					
Outdoor Systems	WE 1.1	W 1.1	Water Efficient Landscaping, Reduce by 50%			2		2			
	WE 1.1	W 1.2	Water Efficient Landscaping, No Potable Use or No Irrigation			2		2			
Indoor Systems	WE Pr 1	W 2.1R	Water Use Reduction, 20% Reduction		NP	<input checked="" type="checkbox"/>	YES	Credit Req'd - Confirm Pursuit			
	WE 3	W 2.2R	Water Use Reduction, 30% Reduction		2			2			
	WE 3	W 2.3R	Water Use Reduction, 35% Reduction		1			1			
	WE 3	W 2.4	Water Use Reduction, 40% Reduction		RPC	1		NF		1	
Water Category Sub-Total:						3	5		7		1
Energy 13% of Total Points						Points: 7 out of 7					
Commissioning	EA Pr 1	E 1.1R	Fundamental Commissioning		NP	<input checked="" type="checkbox"/>	YES	Credit Req'd - Confirm Pursuit			
	EA 3	E 1.2R	Enhanced Commissioning		2			2			
Refrigerant Management	EA Pr 3	E 2.1R	Fundamental Refrigerant Management		NP	<input checked="" type="checkbox"/>	YES	Credit Req'd - Confirm Pursuit			
	EA 4	E 2.2	Enhanced Refrigerant Management			2		2			
Verification	EA 5	E 3.1R	Measurement & Verification		1			1			
	3.3.5	E 3.2R	Energy Management System Controls, HVAC & H. W. Systems		NP	<input checked="" type="checkbox"/>	YES	Indicate Pursuit		NO	
Energy Efficiency	EA Pr 2	E 4.1R	Minimum Energy Performance		NP	<input checked="" type="checkbox"/>	YES	Credit Req'd - Confirm Pursuit			
	3.1.2	E 4.2R	HVAC System Sizing, Avoid Oversizing		NP	<input checked="" type="checkbox"/>	YES	Indicate Pursuit		NO	
Power	EA 6	E 5.1R	Green Power			2		2			
Energy Category Sub-Total:						5	2		7	5	0
Materials 13% of Total Points						Points: 7 out of 10					
Efficient Material Use	MR Pr 1	M 1.1R	Storage & Collection of Recyclables		NP	<input checked="" type="checkbox"/>	YES	Credit Req'd-Confirm Pursuit			
	MR 1.1	M 1.2	Building Reuse, Maintain 75% of Existing Walls, Floors & Roof		RPC	1		NF		1	
	MR 1.1	M 1.3	Building Reuse, Maintain 95% of Existing Walls, Floors & Roof			1		NF		1	
	MR 1.2	M 1.4	Building Reuse, Maintain 50% of Interior Non-Structural Elements			1		NF		1	
	MR 2	M 1.5R	Construction Waste Management, Divert 50% from Disposal		1			1			
Sustainable Materials	MR 2	M 1.6	Construction Waste Management, Divert 75% from Disposal			1		1			
	MR 2	M 1.7	Construction Waste Management, Divert 95% from Disposal			1		1			
	MR 4	M 2.1R	Recycled Content, 10% (post-consumer + ½ pre-consumer)		1			1			
	MR 4	M 2.2	Recycled Content, 20% (post-consumer + ½ pre-consumer)			1		1			
	MR 5	M 2.3	Regional Materials, 10% Extracted, Processed & Manufactured			1		1			
	MR 5	M 2.4	Regional Materials, 20% Extracted, Processed & Manufactured			1		1			
	4.1.1	M 2.5R	Wallboard & Roof Deck Products, Mold Resistance		NP	<input checked="" type="checkbox"/>	YES	Indicate Pursuit		NO	
	7.2.3	M 2.6R	Low-Mercury Lighting, Reduce Mercury Waste		NP	<input checked="" type="checkbox"/>	YES	Indicate Pursuit		NO	
Materials Category Sub-Total:						2	8		7	3	

See Notes on Page 2 of 2

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School Construction Authority

NYC Green Schools Rating System 2009

Project: **PS 316Q**
 Address | Zip Code: **90-01 101st Avenue, Queens, NY**
 LLW #: **65509**
 Design #:
 Architect: **Design Resources Group Architects**

Submission (Check one): **SD** ☐ DD ☐ 60% ☐ 100% ☐ Const ☐
 Submission Date: **June 30, 2011**

Reviewer :
 Reviewer Sign Off:

Credit Names	BD&C Reference LEED for Schools 2009	CHPS Reference	NYC GSG 2009	Credit Description and Relevant Information and Drop-Down Menus	RPC (check project zipcode in GSG)	Required For all Projects	Required if Feasible ¹	Optional Credits ²	If Anticipated, or if Documented: ³ Enter point value, or Leave Blank if Not Feasible, or if Not Pursued		Auto Filled: Blank if Pursued, Enter No. of Points if Not Pursued or if Not Feasible or Additional Credit Not Pursued	
									Design Phase	Construction Phase		
Indoor Environmental Quality 30% of Total Points					Points: 17 out of 17							
IEQ Pr 1 Q 1.1R Minimum IAQ Performance					NP	<input type="checkbox"/> YES	Credit Req'd - Confirm Pursuit					
IAQ Post-occupancy	IEQ 2	Q 1.1R	Increased Ventilation (included in Q 1.1R credit language)		1			1				
	IEQ 1	Q 1.2R	Air Flow Stations, Outside Air Intakes		1			1				
IAQ Pre-occupancy	IEQ 3.1	Q 2.1R	Construction IAQ Management Plan, During Construction		1				1			
	IEQ 3.2	Q 2.2R	Construction IAQ Management Plan, Before Occupancy		1				1			
Low-Emitting Materials	IEQ 4.1	Q 3.1R	Low-Emitting Materials, Adhesives & Sealants ⁴		1				1			
	IEQ 4.2	Q 3.2R	Low-Emitting Materials, Paints & Coatings ⁴		1				1			
	IEQ 4.3	Q 3.3R	Low-Emitting Materials, Flooring Systems ⁴		1				1			
	IEQ 4.4	Q 3.4R	Low-Emitting Materials, Comp Wood & Agrifiber Products ⁴		1				1			
Pollution Source Control	IEQ 5	Q 4.1R	Indoor Chemical & Pollutant Source Control		1				1			
	5.3.5	Q 4.2R	Electric Ignition Stoves		NP	<input checked="" type="checkbox"/> YES	Indicate Pursuit					<input type="checkbox"/> NO
	6.2.4	Q 4.3R	Provide HEPA Vacuums		NP	<input checked="" type="checkbox"/> YES	Indicate Pursuit					<input type="checkbox"/> NO
Controllability of Systems	IEQ 6.1	Q 5.1R	Controllability of Systems, Lighting		1				1			
	IEQ 6.2	Q 5.2R	Controllability of Systems, Thermal Comfort		1				1			
Thermal Comfort	IEQ 7.1	Q 6.1R	Thermal Comfort, Comply with ASHRAE 55-2004		1				1			
	IEQ 8.1	Q 7.1	Daylight & Views, Daylight 75% of Classrooms				1		1			
Lighting and Views	IEQ 8.1	Q 7.2	Daylight & Views, Daylight for 90% of Classrooms				1		1			
	IEQ 8.1	Q 7.3	Daylight & Views, Daylight for 75% of Other Spaces				1		1			
	IEQ 8.2	Q 7.4	Daylight & Views, Views				1		1			
	5.2.1	Q 7.5	Visual Performance, Artificial Direct-Indirect Lighting		NP	<input checked="" type="checkbox"/> YES	Indicate Pursuit					<input type="checkbox"/> NO
Acoustics	IEQ Pr 3 5.5.1		Q 8.1R	Minimum Acoustical Performance	NP	<input checked="" type="checkbox"/> YES	Credit Req'd - Confirm Pursuit					
		IEQ 9	Q 8.2	Enhanced Acoustical Performance & Sound for Special Spaces	1				1			
	SCA	Q 8.3	Acoustic Windows		NP	<input type="checkbox"/> YES	Indicate Pursuit					<input checked="" type="checkbox"/> NO
IEQ Category Sub-Total:					13	4	0	11	6	0		
Regional 0% of Total Points					Points: 0 out of 4							
Regionally Appropriate ⁵	RP 1.1	R 1.1	Regionally Defined Credit Achieved		Blank		1				1	
	RP 1.2	R 1.2	Regionally Defined Credit Achieved		Blank		1				1	
	RP 1.3	R 1.3	Regionally Defined Credit Achieved		Blank		1				1	
	RP 1.4	R 1.4	Regionally Defined Credit Achieved		Blank		1				1	
Regional Category Sub-Total:					0	4	0	0			4	
Additional Credits 2% of Total Points					Points: 1 out of 30							
Innovation in Design	ID 2	A 1.1R	LEED® Accredited Professional		1				1			
	ID 1	A 1.2	Innovation or Exemplary Performance					1			1	
	ID 1	A 1.3	Innovation or Exemplary Performance					1			1	
Optional - Site Impact	SS 7.1	A 2.1	Heat Island Effect, Non-Roof					1			1	
	SS 6.1	A 2.2	Stormwater Design, Quantity Control		RPC			1			1	
Optional - Energy	EA 1	A 3.1	Optimize Energy Performance ⁶		If NOT Approved, 0 pts	RPC		15			15	
	EA 2	A 3.2	Renewable Energy		If NOT Approved, 0 pts	RPC		7			7	
Optional - IEQ	IEQ 4.5	A 4.1	Low-Emitting Materials, Furniture and Furnishings ⁴					1			1	
	IEQ 4.6	A 4.2	Low-Emitting Materials, Ceiling and Wall Systems ⁴					1			1	
Optional - Education	ID 3	A 5.1	The School Building as a Teaching Tool					1			1	
Additional Credit Category Sub-Total:					1		29	1	0		29	
Column Totals:					29	37	29	37	19		39	
LEED® Equivalent Point Total:					56 out of 95							

SCA Credit Name:

Letter prefix indicates credit section (S, W, E, M, Q, R, A)

First number indicates the category within the section

Second number indicates the specific credit within the section category

Suffix "R" is added for credits that are required of all projects

1 Projects required to achieve all "feasible" credits that are possible for a particular project.

2 Projects may only pursue optional "Additional" section credits with permission from SCA unless otherwise noted.

3 During GSG submission phases, enter anticipated design and construction credits, keeping the Checklist current.

4 A maximum total value of four (4) points is allowed between these six low-emitting material credits (Q3.1, 3.2, 3.3, 3.4; A5.1, 5.2)

5 RPC incentive regional credits as indicated. If the referenced credit is achieved, then the associated RPC can be claimed.

6 This credit requires project-specific energy modeling and can not be achieved by use of proto-typical modeling.

7 LL86/05 requires Certified LEED® 2009 for Schools or equivalent of a no-less stringent rating system - Minimum 40-49 Points

NP: To be consistent with LEED®, the NYC GSG assigns no point value to credits based on prerequisites or non-LEED® credits.

NYC GSG: Requires that all credits be attempted and proof through calculation for those which are not-feasible.

IV. Project Credit Narratives

PS 316Q
SD Submission NYC Green Schools

Credit Compliance Narratives

Project: PS 316Q
Address: 90-01 101st Avenue, Queens, NY
LLW #: 65509
Design #: NA

Date: June 30, 2011
Architect: Design Resources Group Architects
Submission: Schematic Design
Reviewer: _____
Reviewer Sign Off: _____

Directions:

- Eleven of the Site narratives are submitted with the Schematic Submission as indicated below. All other required narratives are submitted with the Design Development submittal.
- Design Teams must submit narratives for all credits in the Site, Water, Energy, Materials and Indoor Environmental Quality sections. For the Additional Credits, all projects must include a narrative for credit A1.1R. Narratives for the other Additional Credits should only be provided when it has been determined with the SCA that the additional credit(s) are to be pursued for this project. Include explanation of why the additional credit is to be pursued on this project. For those credits subject to Regional Priority Credit, indicate whether based on the zip code that the credit is eligible to obtain the additional point.
- Narratives should summarize the design approach to credit compliance and identify the specific SCA standards (standard specifications and design requirements) to be incorporated into the design documents. Include any specific information requested under the "Credit Submittals" heading from the second page of credit text. Provide explanations and calculations where appropriate for credits that are determined to be "not feasible" for this project.

Site Credits

Site Selection

S 1.1R Construction Activity Pollution Prevention

S 1.2R Site Selection

NARRATIVE AT SCHEMATIC SUBM.

The project site is required to meet the following requirements if feasible. The project does meet all the requirements as per the GSG 2009.

- Project is located on a previously developed site and therefore the flood plain requirements that the elevation of the site is no lower than 5 feet above the elevation of the 100 year flood plain as defined by the federal emergency management agency is not required.
- The site is not adjacent to a river or coastline. The US Fish and Wildlife Service listing of endangered species for the county has been provided. This list includes species other than shortnose sturgeon, piping plover, roseate tern, and sea beach amaranth. Accordingly, site specific documentation has been provided from the New York Natural Heritage Program, which confirms that the project is not located in an area with rare plants or animals.

- The Project is not located within 100 feet of any wetlands and thus will meet this requirement.
- Site was previously developed and site is not within 50 feet of a water body and will comply with the credit requirements.
- Project land was not parkland prior to acquisition.

S 1.3 Sustainable Site & Building Layout

NARRATIVE AT SCHEMATIC SUBM.

Project is required to perform at least 3 of the following analyses.

- Orient and compose the building to take advantage of natural daylighting
- Plot shadow patterns from surrounding buildings onto project site to optimize access to daylight.
- Plot shadow patterns from proposed building on adjacent properties and consider options to address impact as necessary.
- Consider prevailing winds when determining the site and building layout.
- Take advantage of existing building and natural land formations and vegetation to provide shelter from extreme weather or to deflect unwanted noise.
- Design landscaping to mitigate solar gain and winter winds.
- Identify locations on the roof for potential renewable energy generation.

As required, the project has performed 3 analyses of sustainable design factors. Studies have been performed for options 1, 3, and 7 as described below for Schemes A & C. The massing of Scheme F is a slight variation on Scheme C and so was not modeled for this exercise.

Analysis 1: Orient and compose the building to take advantage of natural daylighting

SCHEME A:

- Scheme A is designed to maximize natural daylighting through advantageous site positioning. The long side of the building was placed on the east-west axis to allow for ample northern light. The southern façade will be protected from overheating and glare effect by a sun shading system.
- Scheme A has been composed so that the Art, Science, and Library spaces would be provided ample south-westerly light. The majority of classroom spaces are arranged on the north and south façade to provide substantial natural light.

SCHEME C:

- Scheme C is designed to maximize natural daylighting through advantageous site positioning. The long side of the building was placed on the east-west axis to allow for ample northern light. The southern façade will be protected from overheating and glare effect by a sun shading system.
- Scheme C has been composed so that the Library and Art spaces are situated on the northern façade to take advantage of indirect daylighting. The Science space has been placed on the southern façade to take advantage of direct daylighting. The Science space also has the possibility of a future exterior "green space" for plants that would require direct daylighting. The classroom spaces are arranged on the north and south facades to provide substantial natural daylighting.

Analysis 3: Plot shadow patterns from proposed building on adjacent properties and consider options to address impact as necessary.

SCHEME A:

- DRG designed Scheme A to minimize the shadow impact on its neighbors by pulling the building to the edge of the southern property line (street). This creates a buffer between Scheme A and the adjacent buildings on the northern property line. The positioning of the gymnasium along the west property line allows the upper floors to become tiered; allowing for a smaller shadow impact on the neighbors.

SCHEME C:

- DRG also designed Scheme C to minimize the shadow impact on its neighbors by pulling the building to the edge of the southern property line (street). This creates a buffer between Scheme C and the adjacent buildings on the northern property line.

Please see the supporting documentation which illustrates the shadow patterns.

Analysis 7:**Identify locations on the roof(s) for potential renewable energy generation:**

The project team has identified areas on the roof of both Scheme A and Scheme C for the possible location of renewable energy generation.

Please see the supporting documentation which includes roof plans showing the potential areas.

S 1.4 Development Density & Community Connectivity NARRATIVE AT SCHEMATIC SUBM.

The project will comply with OPTION 1 of this credit, Community Connectivity. The project can demonstrate compliance to pedestrian access to at least 10 basic services within ½ mile radius, see supporting map and template.

Additionally there are at least 10 dwelling units per acre as is supported by the back-up documentation which shows an average of 42.4 dwelling units/area in the specified lots. Please reference the included OASIS map which shows all the residential units included in the calculation spreadsheet.

S 1.5R Joint Use of Facilities, Community Access NARRATIVE AT SCHEMATIC SUBM.**SCHEMES A & C:**

Both schemes are designed with several spaces that could be used by the community for after school functions, if the SCA determines that they would like to allow such access. The cafeteria located on the first floor has direct access to 91st and 101st Street and could be used for various city meal services and after school events. The gymnasium located in the cellar, could be used by the community if the two lower floors are permitted to be accessible after hours. The last space is the exterior play yard which is located in the adjacent lot. This play yard is 16,000sf and would fill a need in the community for open space.

S 1.6R Site Assessment NARRATIVE AT SCHEMATIC SUBM.

As it is required to meet this prerequisite, a Phase I Environmental Site Assessment has been performed at the site. The SCA has employed the services of AKRF Engineers who conducted the assessment. AKRF has provided a copy of the Phase I report to the project team. The project team, as required, has included the executive summary level findings from the report, please see the supporting documentation.

The findings of the Phase I include these comments:

"The Phase I ESA also identified environmental concerns associated with suspect ACM, suspect LBP, and suspect PCB-containing materials in the on-site buildings."

Recommendations

"Based on the findings of the Phase I ESA, a Phase II Environmental Site Investigation (ESI) should be conducted to determine if the identified REC's have affected the sustainability of the Site for use as a public school facility. The Phase II ESI should include a geophysical survey combined with the collection and analysis of soil, groundwater, and soil vapor samples.

Any suspect ACM, suspect PCB-containing light ballasts/fixtures and caulk, and/or suspect LBP must be properly managed during any demolition activities in accordance with NYCSCA policies and procedures. In addition, the property owner should properly register all petroleum bulk storage tanks with the New York

State Department of Environmental Conservation (NYSDEC) including the 550 gallon UST at the convent building.”

As AKRF Engineering recommended that a Phase II be performed, credit S 1.7 becomes eligible.

S 1.7 Brownfield Redevelopment NARRATIVE AT SCHEMATIC SUBM.

As recommended by the Phase I assessment and as required by this credit, a Phase II will be performed for this site. As of this filing, the Phase II has yet to be scheduled. However, it is expected to occur within the next month. Updated information will be provided at that time.

Transportation

S 2.1 Alternative Transportation, Public Transportation Access NARRATIVE AT SCHEMATIC SUBM.

The project is located at 90-101st Avenue in Queens, NY 11416. There are multiple subway and bus stops within ½ mile and ¼ mile respectively. Specifically, service for the A subway line can be accessed by way of the 88th Street station and the Rockaway Boulevard station. There are also bus stops for the Q8, Q11, Q21, Q53, and express bus routes QM15, QM16, and QM17.

Please see supporting documentation for maps showing the walking distance to subway stations.

S 2.2 Alternative Transportation, Bicycle Storage & Changing Rooms NARRATIVE AT SCHEMATIC SUB.

The project design incorporates secure bicycle storage and changing rooms. The bicycle storage will be provided within the building and on the site and will accommodate at least 5% of all building staff and students above third grade. The shower and changing facilities in the building will accommodate 0.5% of Full-time equivalent (FTE) staff.

Total Bike spaces (5% of Total Occupants) = 246.65 x .05 = 13 spaces

The size of the bicycle storage room located on the building interior is mandated by SCA Design Requirement 1.3.1.12, whereby new buildings shall have one interior bicycle parking space for every 10,000 SF of floor area.

Interior Bike Storage Spaces (Floor area/10,000) = 65,069/10,000 = 7

Interior Bike Storage Area (15 SF per bike space) = 7 x 15 = **105 SF**
Exterior Bike spaces required = 13 - 7 = **6**

The bicycle storage room is located adjacent to the rear entrance of the building in Schemes A & C and off the playground in Scheme F. Exterior bicycle racks will be provided for a minimum of 6 bikes. A single unisex shower/changing area (minimum 102 SF) will be provided in the cellar, accessible from the corridor or the custodial storage/workshop, depending on the scheme.

Please see the supporting credit documentation for this credit.

S 2.3R Alternative Transportation, Fuel-Efficient Vehicles/Parking NARRATIVE AT SCHEMATIC SUBM.

No new parking will be provided by the project which will enable the credit to be earned. No parking is being provided due to site constraints. Additionally, no parking is required to be provided in the R-5 District in which the project is located. Existing street parking will remain but designated parking will not be provided.

As currently designed, none of the three schemes will be able to comply with the requirements of this credit due to constraints of the site area. The credit guidelines would require the project to include a minimum of 15,928 sf* of native or adapted vegetation which is not possible based on the site program. Currently, the site contains approximately 3,085 sf of planted area, and does not have a vegetated roof.

***Scheme A:**

Total site area (incl. sidewalks)	=	46,625 sf
Building footprint	=	14,770 sf
Site area minus building footprint	=	46,625–14,770 = 31,855 sf
50% of the site area (excl. building footprint)	=	31,855 x 0.50 = 15,928 sf
OR (whichever is greater)		OR
20% of total site area (incl. building footprint)	=	46,625 x 0.20 = 9,325 sf
Total vegetated area	=	3,085 sf
Green roof space	=	0 sf

Alternate Schemes Do Not Comply with Credit Requirements Either:**Scheme C:**

Total site area (incl. sidewalks)	=	46,625 sf
Building footprint	=	14,934 sf
Site area minus building footprint	=	46,625–14,934 = 31,691 sf
50% of the site area (excl. building footprint)	=	31,691 x 0.50 = 15,846 sf
OR (whichever is greater)		OR
20% of total site area (incl. building footprint)	=	46,625 x 0.20 = 9,325 sf
Total vegetated area	=	2,465 sf
Green roof space	=	0 sf

Scheme F:

Total site area (incl. sidewalks)	=	46,625 sf
Building footprint	=	14,869 sf
Site area minus building footprint	=	46,625–14,869 = 31,756 sf
50% of the site area (excl. building footprint)	=	31,756 x 0.50 = 15,878 sf
OR		OR
20% of total site area (incl. building footprint)	=	46,625 x 0.20 = 9,325 sf
Total vegetated area	=	2,465 sf
Green roof space	=	0 sf

In order to comply with this credit, the project must provide vegetated open space equal to at least 20% of the project's site area, excluding the building footprint. Since this project is located in an urban area and will be achieving S1.4, pedestrian-oriented hardscape can contribute to this credit if a minimum of 25% of the open space is vegetated.

This would require an open area of 6,371 sf* minimum, of which 1,593 sf must be vegetated. The open space (including play yard) and vegetated areas of all three schemes will exceed the required thresholds.

***Scheme A:**

Total site area (incl. sidewalks)	=	46,625 sf
Building Footprint	=	14,770 sf
Site area minus building footprint	=	46,625-14,770 = 31,855 sf
20% of the site area (excl. building footprint)	=	31,855 x 0.20 = 6,371 sf
25% of 20% site area (excl bldg footprint) to be vegetated	=	6,371 SF x 0.25 = 1,593 sf
Play yard	=	16,201 sf
Total vegetated area	=	3,085 sf

Alternate Schemes Also Comply with Credit Requirements:

Scheme C:

Total site area (incl. sidewalks)	=	46,625 sf
Building Footprint	=	14,934 sf
Site area minus building footprint	=	46,625-14,934 = 31,691 sf
20% of the site area (excl. building footprint)	=	31,691 x 0.20 = 6,338 sf
25% of 20% site area (excl bldg footprint) to be vegetated	=	6,338 SF x 0.25 = 1,585 sf
Play yard	=	15,497 sf
Total vegetated area	=	2,465 sf

Scheme F:

Total site area (incl. sidewalks)	=	46,625 sf
Building Footprint	=	14,869 sf
Site area minus building footprint	=	46,625-14,869 = 31,756 sf
20% of the site area (excl. building footprint)	=	31,756 x 0.20 = 6,351 sf
25% of 20% site area (excl bldg footprint) to be vegetated	=	6,351 SF x 0.25 = 1,588 sf
Play yard	=	15,727 sf
Total vegetated area	=	2,465 sf

Stormwater Design

S 4.1 Stormwater Design, Quality Control

Heat Island Effect

S 5.1R Heat Island Effect, Roof

Outdoor Lighting

S 6.1R Light Pollution Reduction

Water Credits

Outdoor Systems

W 1.1 Water Efficient Landscaping, Reduce by 50%

W 1.2 Water Efficient Landscaping, No Potable Use or No Irrigation

Indoor Systems

W 2.1R Water Use Reduction, 20% Reduction

W 2.2R Water Use Reduction, 30% Reduction

W 2.3R Water Use Reduction, 35% Reduction

W 2.4 Water Use Reduction, 40% Reduction

Energy

Commissioning

E 1.1R Fundamental Commissioning

E 1.2R Enhanced Commissioning

Refrigerant Management

E 2.1R Fundamental Refrigerant Management

E 2.2 Enhanced Refrigerant Management

Verification

E 3.1R Measurement & Verification

E 3.2R Energy Management System Controls, HVAC and Hot Water

Energy Efficiency

E 4.1R Minimum Energy Performance

HVAC Optimization

E 4.2R HVAC System Sizing, Avoid Oversizing

Power

E 5.1R Green Power

Materials Credits

Efficient Material Use

M 1.1R Storage & Collection of Recyclables

M 1.2 Building Reuse, Maintain 75% of Existing Walls, Floors & Roof

This credit is not viable.

M 1.3 Building Reuse, Maintain 95% of Existing Walls, Floors & Roof

This credit is not viable.

M 1.4 Building Reuse, Maintain 50% of Interior Non-Structural Elements

This credit is not viable.

M 1.5R Construction Waste Management, Divert 50% from Disposal

M 1.6 Construction Waste Management, Divert 75% from Disposal

M 1.7 Construction Waste Management, Divert 95% from Disposal

Sustainable Materials

M 2.1R Recycled Content, 10% (post-consumer + ½ pre-consumer)

M 2.2 Recycled Content, 20% (post-consumer + ½ pre-consumer)

M 2.3 Regional Materials, 10% Extracted, Processed & Manufactured Regionally

M 2.4 Regional Materials, 20% Extracted, Processed & Manufactured Regionally

M 2.5R Wallboard & Roof Deck Products, Mold Resistance

M 2.6R Low-Mercury Lighting, Reduce Mercury Waste

Indoor Environmental Quality Credits

IAQ Post-occupancy

Q 1.1R Minimum IAQ Performance & Increased Ventilation

Q 1.2R Air Flow Stations, Outside Air Intakes

IAQ Pre-occupancy

Q 2.1R Construction IAQ Management Plan, During Construction

Q 2.2R Construction IAQ Management Plan, Before Occupancy

Low-Emitting Materials

Q 3.1R Low-Emitting Materials, Adhesives & Sealants

Q 3.2R Low-Emitting Materials, Paints & Coatings

Q 3.3R Low-Emitting Materials, Flooring Systems

Q 3.4R Low-Emitting Materials, Comp Wood & Agrifiber Products

Pollution Source Control

Q 4.1R Indoor Chemical & Pollutant Source Control

Q 4.2R Electric Ignition Stoves

Q 4.3R Provide HEPA Vacuums

Controllability of Systems

Q 5.1R Controllability of Systems, Lighting

Q 5.2R Controllability of Systems, Thermal Comfort

Thermal Comfort

Q 6.1R Thermal Comfort, Comply with ASHRAE 55-2004

Lighting and Views

Q 7.1 Daylight & Views, Daylight 75% of Classrooms

Q 7.2 Daylight & Views, Daylight 90% of Classrooms

Q 7.3 Daylight & Views, Daylight for 75% of Other Spaces

Q 7.4 Daylight & Views, Views

Q 7.5 Visual Performance, Artificial Indirect Lighting

Acoustics

Q 8.1R Minimum Acoustical Performance

Q 8.2 Enhanced Acoustical Performance & Sound Isolation for Special Spaces

Q 8.3 Acoustic Windows

Additional Credits

Required Support

A 1.1R LEED® Accredited Professional

Optional Site Impact

A 2.1 Heat Island Effect, Non-Roof

A 2.2 Stormwater Design, Quantity Control

Optional - Energy

A 3.1 Optimize Energy Performance

A 3.2 Renewable Energy

Optional - IEQ

A 5.1 Low-Emitting Materials, Furniture and Furnishings

A 5.2 Low-Emitting Materials, Ceiling and Wall Systems

Optional - Education

A 6.1 The School Building as a Teaching Tool

V. Supporting Credit Documentation

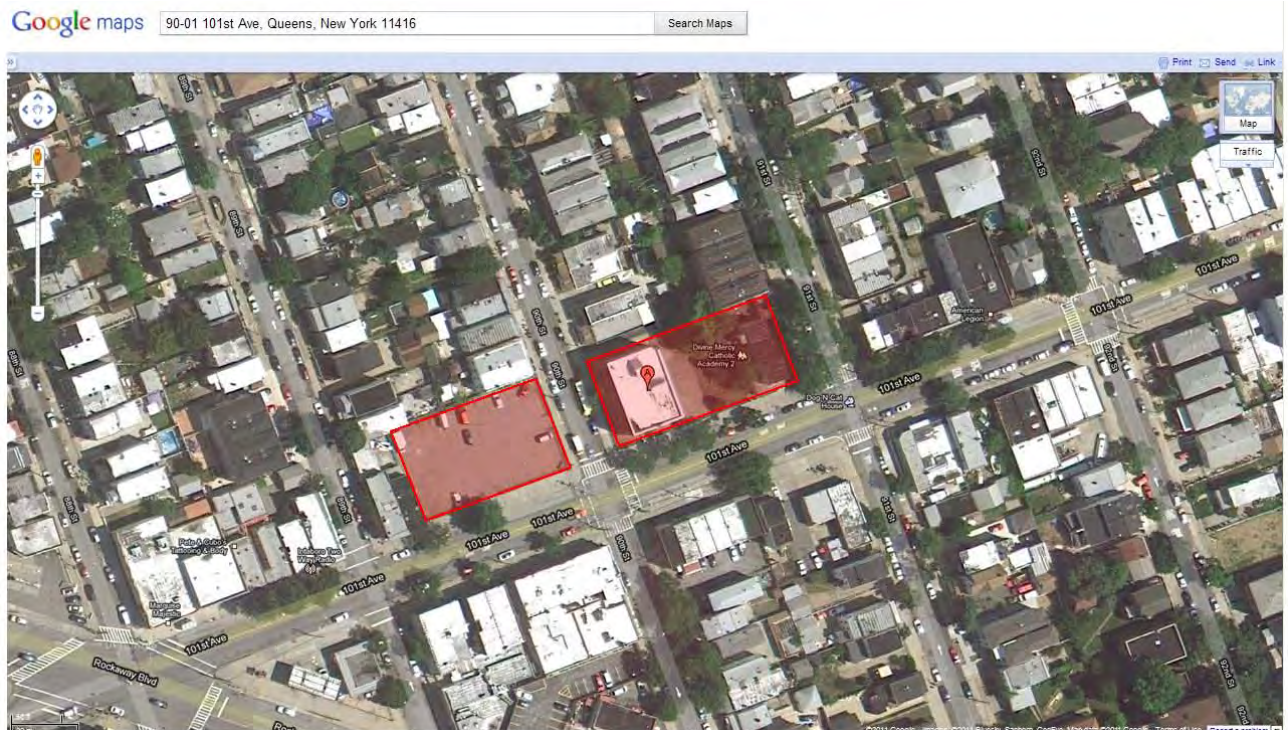
V. Supporting Credit Documentation

a. S 1.2R- Site Selection

PS 316Q
90-101st Avenue, Queens, NY 11416

S 1.2R – Site Selection

Project is located on a previously developed site and therefore the flood plain requirements that state the elevation of the site should be no lower than 5 feet above the elevation of the 100 year flood plain as defined by the federal emergency management agency, is not required.




PS 316Q
90-101st Avenue, Queens, NY 11416

S 1.2R – Site Selection

The site is not adjacent to a river or coastline. The US Fish and Wildlife Service listing of endangered species for the county has been provided.

This list includes species other than shortnose sturgeon, piping plover, roseate tern, and sea beach amaranth. Accordingly, site specific documentation has been provided from the New York Natural Heritage Program.

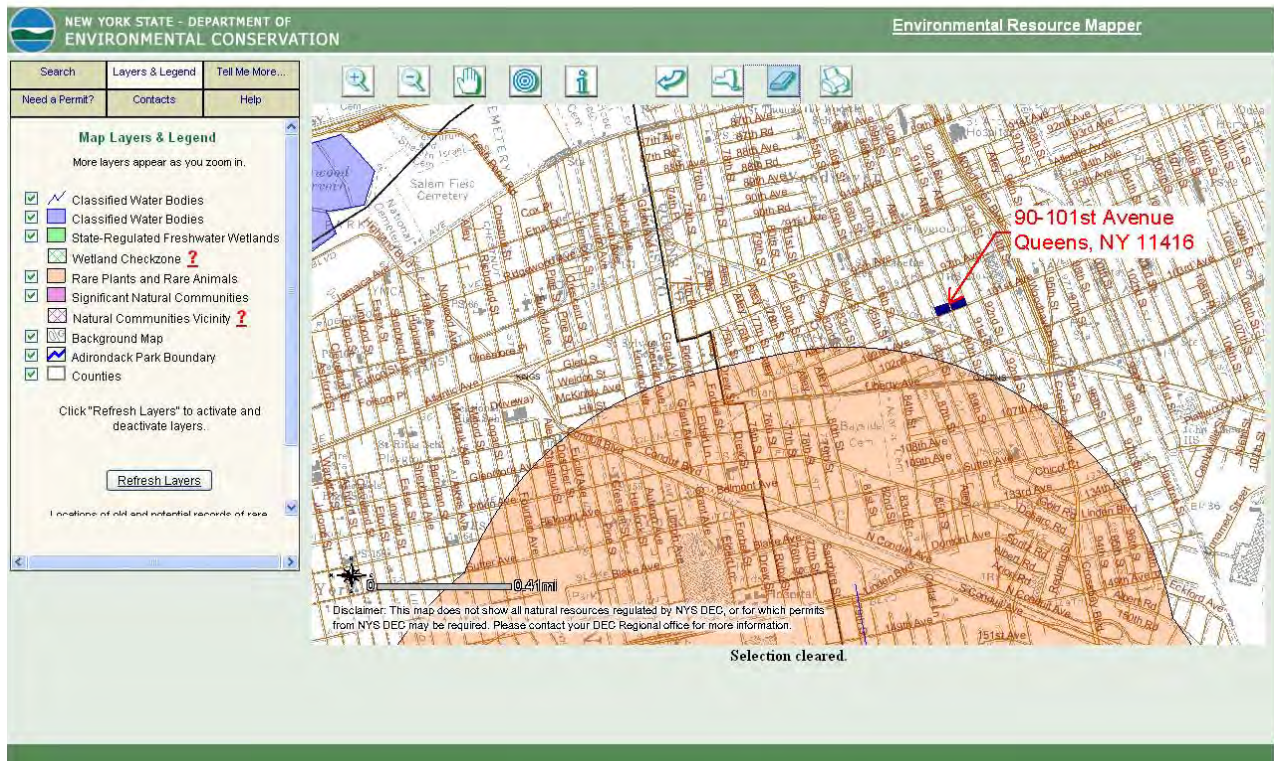
 U.S. Fish & Wildlife Service Species Reports							
Environmental Conservation Online System							
<input type="text"/> Search							
Species By County Report							
The following report contains Species that are known to or are believed to occur in this county. Species with range unrefined past the state level are now excluded from this report. If you are looking for the Section 7 range (for Section 7 Consultations), please visit the PaC application.							
County: Queens, NY							
Group	Name	Population	Status	Lead Office	Recovery Plan Name	Recovery Plan Action Status	Recovery Plan Stage
Birds	Piping Plover (<i>Charadrius melodus</i>)	except Great Lakes watershed	Threatened	Office Of The Regional Director	Piping Plover Atlantic Coast Population Revised Recovery Plan	View Implementation Progress	Final Revision 1
					Great Lakes & Northern Great Plains Piping Plover	View Implementation Progress	Final
Reptiles	Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)		Endangered	North Florida Ecological Services Field Office	Recovery Plan for U.S. Pacific Populations of the Hawksbill Turtle	View Implementation Progress	Final Revision 1
					Recovery Plan for the Hawksbill Turtle in the U.S. Caribbean, Atlantic and Gulf of Mexico	View Implementation Progress	Final Revision 1
	Leatherback sea turtle (<i>Dermochelys coriacea</i>)		Endangered	North Florida Ecological Services Field Office	Recovery Plan for Leatherback Turtles in the U.S. Caribbean, Atlantic, and Gulf of Mexico	View Implementation Progress	Final Revision 1
					Recovery Plan for U.S. Pacific Populations of the Leatherback Turtle	View Implementation Progress	Final Revision 1
	Green sea turtle (<i>Chelonia mydas</i>)	except where endangered	Threatened	North Florida Ecological Services Field Office	Recovery Plan for U.S. Population of Atlantic Green Turtle	View Implementation Progress	Final Revision 1
					Recovery Plan for U.S. Pacific Populations of the Green Turtle	View Implementation Progress	Final Revision 1
	Loggerhead sea turtle (<i>Caretta caretta</i>)		Threatened	North Florida Ecological Services Field Office	Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (<i>Caretta caretta</i>): Second Revision	View Implementation Progress	Final Revision 2
					Recovery Plan for U.S. Pacific Populations of the Loggerhead Turtle	View Implementation Progress	Final Revision 1

From: U.S. Fish & Wildlife Service Species Reports by County

PS 316Q
90-101st Avenue, Queens, NY 11416

S 1.2R – Site Selection

According to the New York Natural Heritage Mapping Program, the project site is not identified as habitat for any rare plants or animals. It is not within 100 feet of any wetlands as defined by the USCFR, or within 50 feet of any water body. The aerial map below demonstrates that the project meets the requirements of this credit.



From: The New York State Department of Environmental Conservation Environmental Resource Mapper

V. Supporting Credit Documentation

b. S 1.3 – Sustainable Site & Building Layout

PS 316Q
90-101st Avenue, Queens, NY 11416
S 1.3 – Sustainable Site & Building Layout (Analyses 1 & 3)
SCHEME A



June 21st, 9am



June 21st, 12pm



June 21st, 3pm

PS 316Q
90-101st Avenue, Queens, NY 11416
S 1.3 – Sustainable Site & Building Layout (Analyses 1 & 3)
SCHEME A



September 21st, 9am

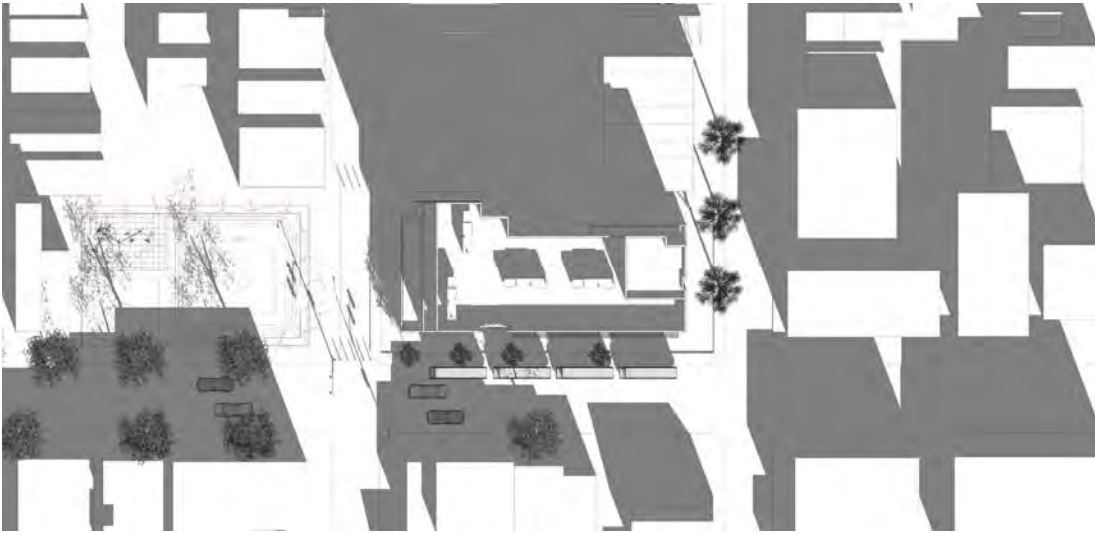


September 21st, 12pm

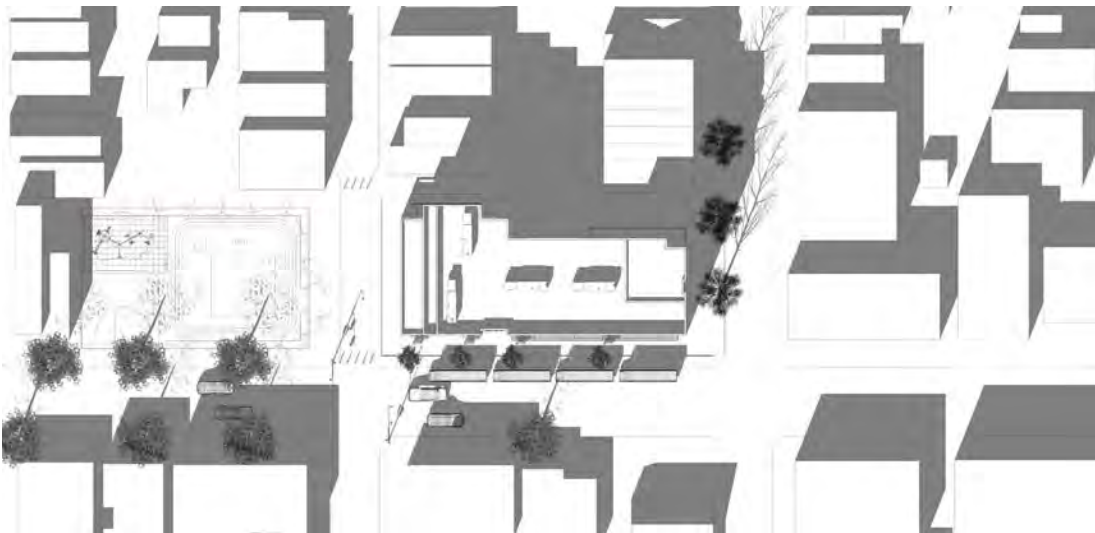


September 21st, 3pm

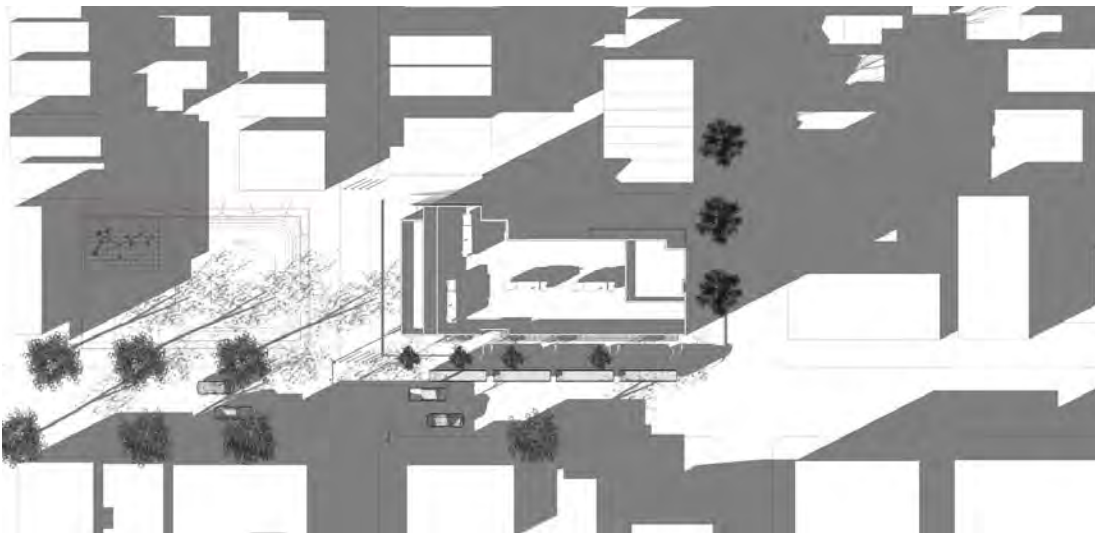
PS 316Q
90-101st Avenue, Queens, NY 11416
S 1.3 – Sustainable Site & Building Layout (Analyses 1 & 3)
SCHEME A



December 21st, 9am



December 21st, 12pm

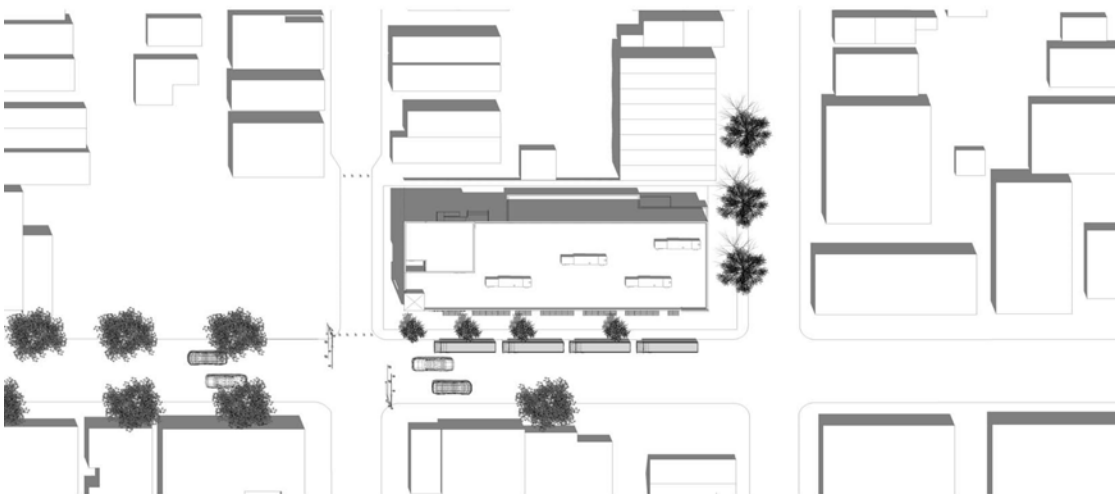


December 21st, 3pm

PS 316Q
90-101st Avenue, Queens, NY 11416
S 1.3 – Sustainable Site & Building Layout (Analyses 1 & 3)
SCHEME C



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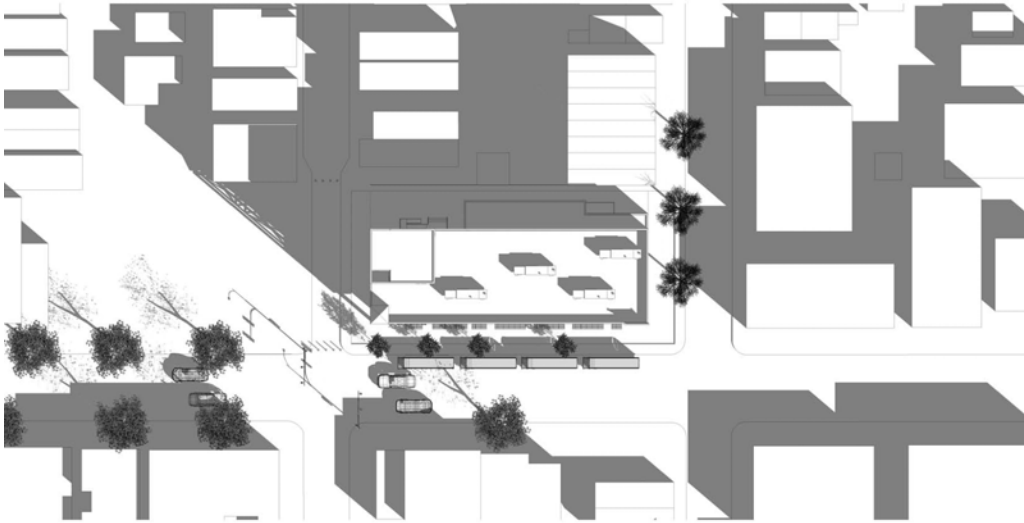


June 21st, 12pm



June 21st, 3pm

PS 316Q
90-101st Avenue, Queens, NY 11416
S 1.3 – Sustainable Site & Building Layout (Analyses 1 & 3)
SCHEME C



September 21st, 9am

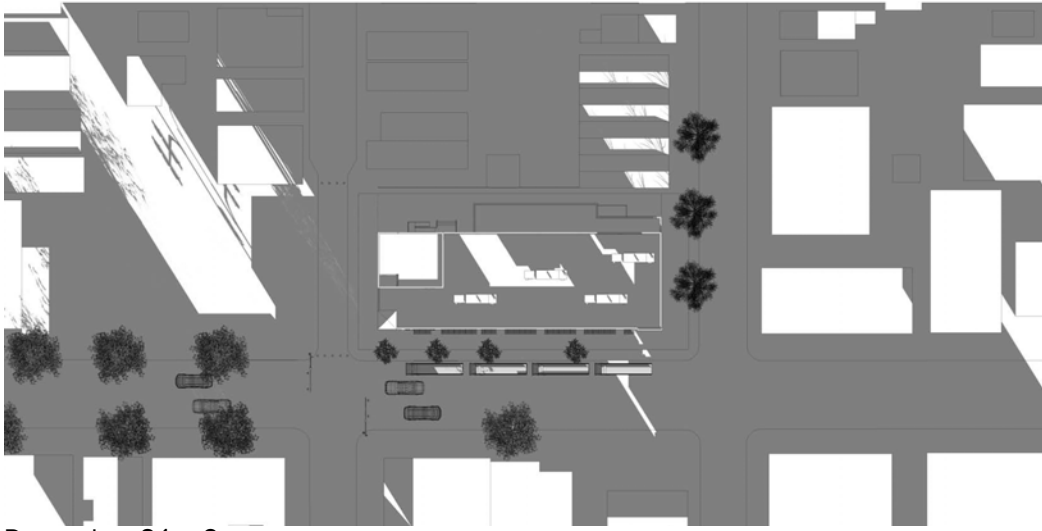


September 21st, 12pm



September 21st, 3pm

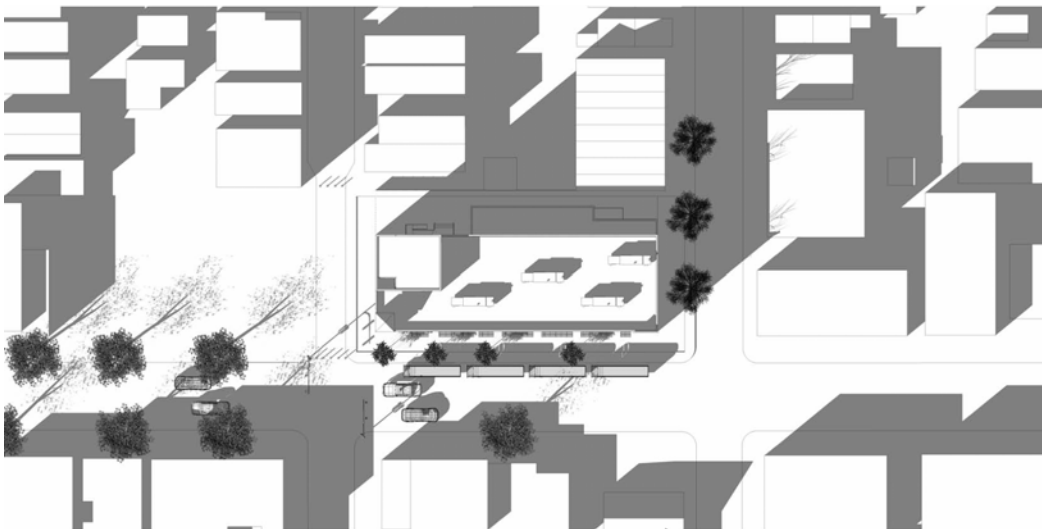
PS 316Q
90-101st Avenue, Queens, NY 11416
S 1.3 – Sustainable Site & Building Layout (Analyses 1 & 3)
SCHEME C



December 21st, 9am



December 21st, 12pm



December 21st, 3pm

S 1.3 – Sustainable Site & Building Layout
PS 316Q
90-101st Avenue, Queens, NY 11416

Analysis 7: Identify locations on the roof for potential renewable energy generation

SCHEME A:

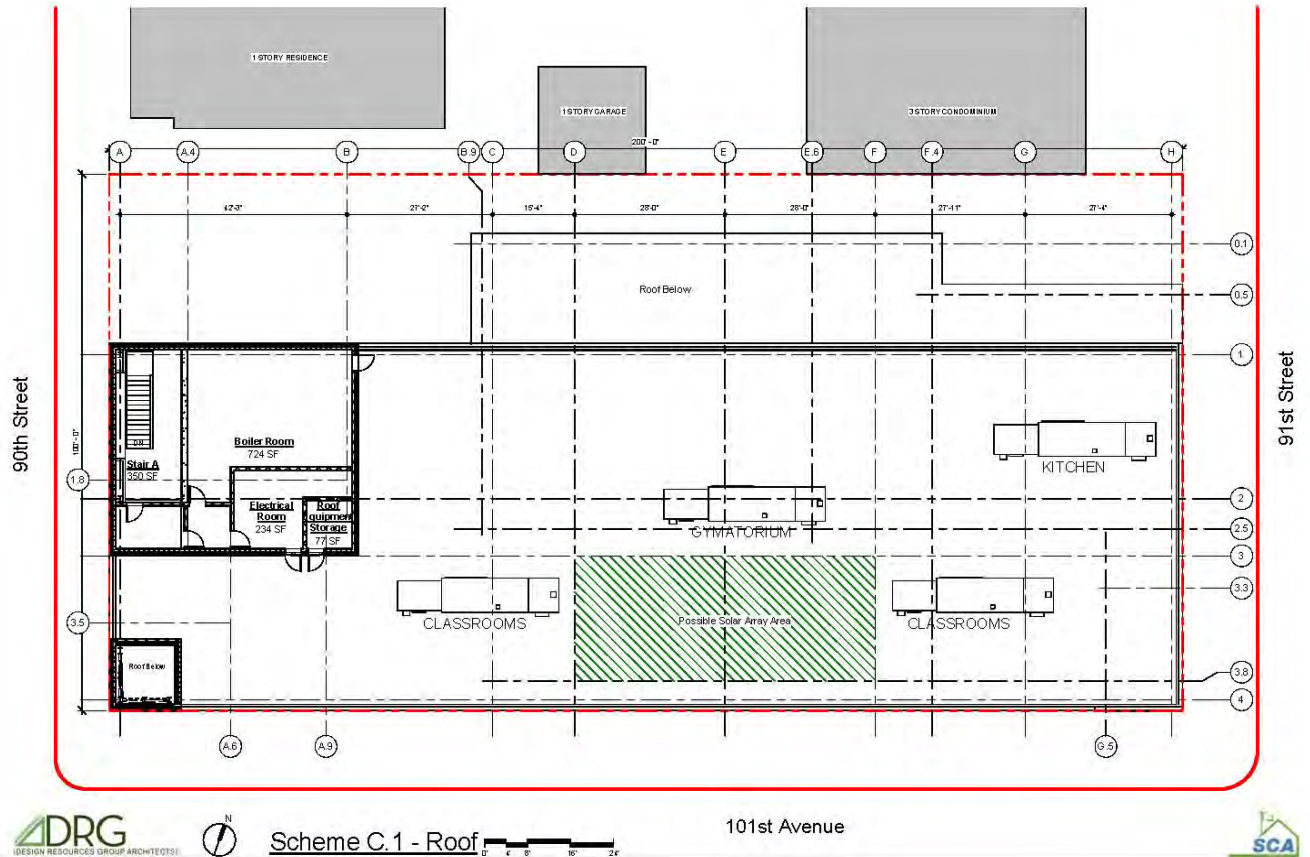


S 1.3 – Sustainable Site & Building Layout
PS 316Q
90-101st Avenue, Queens, NY 11416

REVISED 07.22.11

Analysis 7: Identify locations on the roof for potential renewable energy generation

SCHEME C:



V. Supporting Credit Documentation

c. S 1.4 – Development Density and Community Connectivity

**DEVELOPMENT DENSITY &
COMMUNITY CONNECTIVITY FORM**
Credit \$1.4



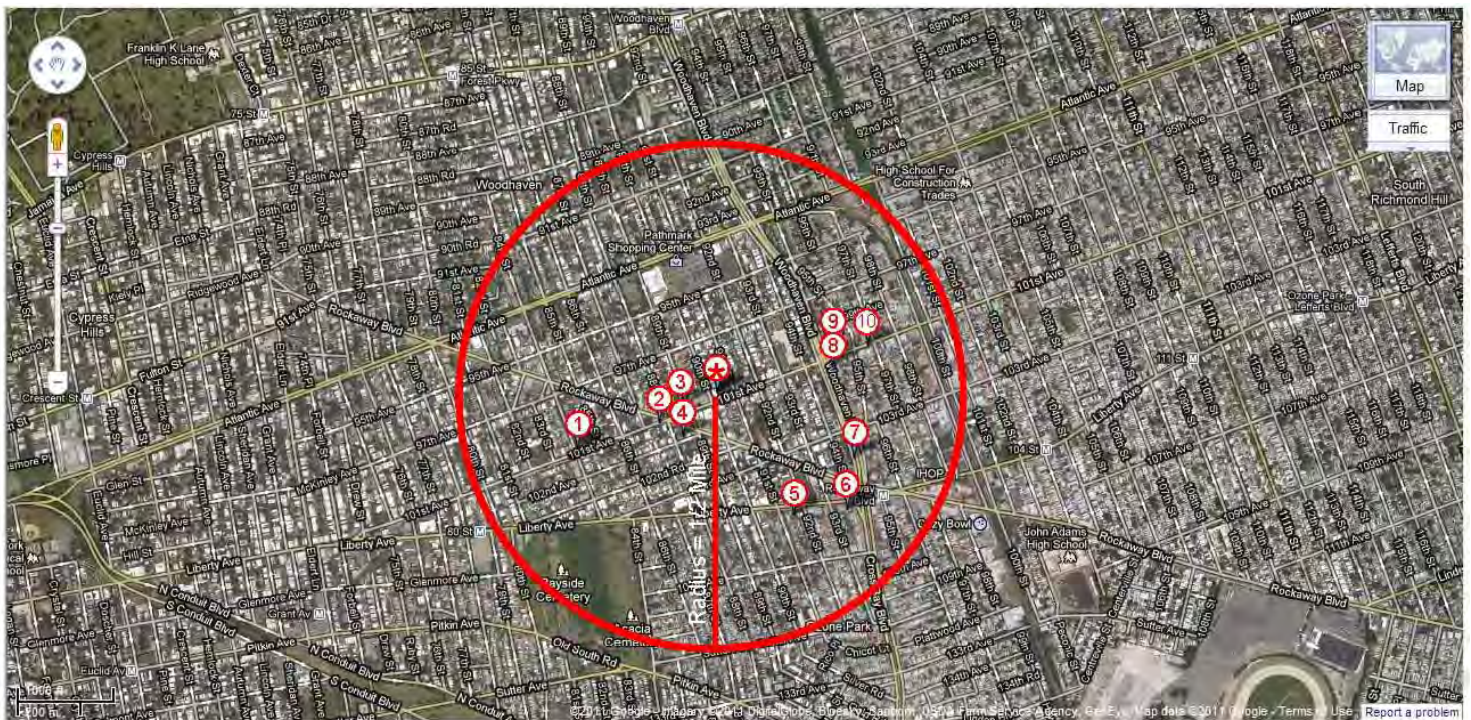
Project: PS 316 Queens
Address: 90-101st Avenue, Queens, NY 11416
LLW #: 65509 Design #: _____
Date: _____

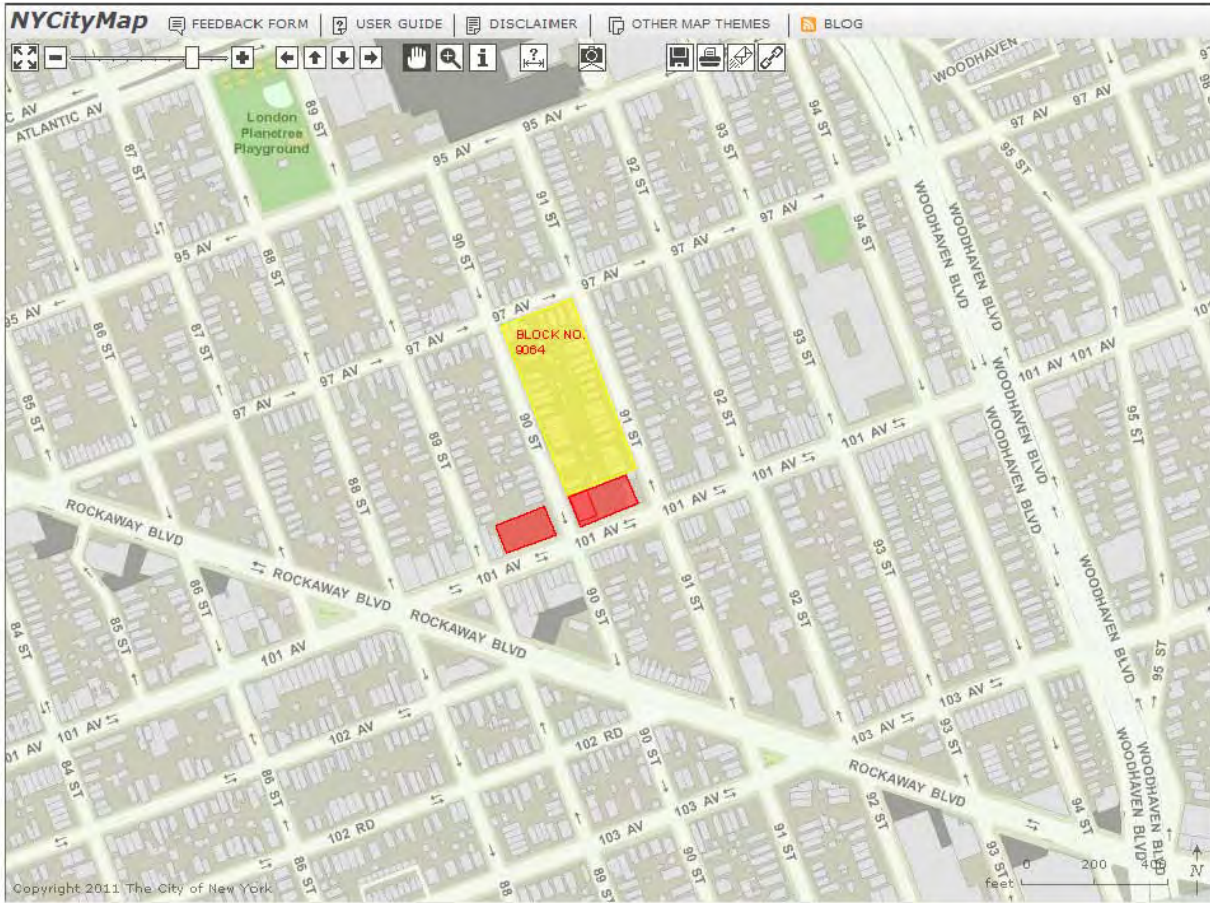
Architect: Design Resources Group
Preparer: M. Neptune
Telephone: 212-704-9920 ext. 104

Fill in either Option 1 or Option 2

Option 1 - Community Connectivity (Submit site plan with basic service locations noted matching table numbering and separate plan verifying dwelling units per acre)

Plan Key Identification	Business Name within 1/2 mile (2,640 feet) radius and accessible by pedestrian access	Service Type
1	Rossi Pharmacy	Pharmacy
2	Bubbles Laundry	Laundry
3	Andy's Grocery	Convenience Grocery
4	St. Stanislaus RC Church	Place of Worship
5	Joe Hardware and Rental	Hardware
6	Tommy's Pizza Restaurant	Restaurant
7	Transit Federal Credit Union	Bank
8	VIP Day Care	Day Care
9	China Fun Restaurant	Restaurant
10	Tops Formal & Cleaners	Cleaners





Sequential Number Assigned to Lot	Block No.	Lot No.	Lot Area in SF	Lot Area in Acres	Residential Dwelling Units per Lot
Project Site; PS 318Q	9064	1	2,400	0.06	6
		2	2,500	0.06	6
		4	2,500	0.06	2
		6	2,500	0.06	2
		8	2,500	0.06	2
		9	2,500	0.06	2
		10	2,500	0.06	2
		11	2,500	0.06	2
		12	2,500	0.06	2
		14	2,500	0.06	3
		16	2,500	0.06	2
		17	2,500	0.06	2
		18	2,500	0.06	2
		19	2,500	0.06	2
		20	2,900	0.07	3
		22	2,100	0.05	3
		23	2,183	0.05	3
		24	2,900	0.07	3
		25	2,500	0.06	2
		7501	9,010	0.21	12
		41	2,900	0.07	2
		44	3,000	0.07	1
		45	2,900	0.07	1
		46	2,100	0.05	3
		48	2,100	0.05	3
		49	2,100	0.05	4
		50	2,900	0.07	4
		52	2,700	0.06	1
		53	2,400	0.06	2
		55	2,400	0.06	2
		56	2,500	0.06	2
		57	2,500	0.06	2
		58	5,000	0.11	2
		5	2,500	0.06	0
				0.00	
		Combined Total Lot Area in SF	94,493		
		Combined Total Lot Area in Acres		2.17	
		Total Dwelling Units per Acre			42.4

V. Supporting Credit Documentation

d. S 1.6R- Site Assessment

1.0 EXECUTIVE SUMMARY

At the request of the New York City School Construction Authority (NYCSCA) Industrial and Environmental Hygiene (IEH) Division, AKRF Engineering, P.C. (AKRF) conducted a Phase I Environmental Site Assessment (ESA) of the St. Stanislaus School site located at 90-01 101ST Avenue in Ozone Park, Queens County, New York (hereafter referred to as the "Site"). The Site is legally defined as New York City Tax Block 9064, Lots 31 and 35 and Block 9063, Lot 27 with an area of approximately 36,000 square feet (SF). The Site consists of two sections: an eastern section (Lots 31 and 35) located east of 90th Street with a two-story St. Stanislaus school building, a two story convent building and a detached garage; and a western section (Lot 27) located west of 90th Street, consisting of an approximately 16,000-SF asphalt-paved parking lot. The structures and parking lot are part of the St. Stanislaus Roman Catholic Church complex. The Site is being considered for acquisition and redevelopment as a school facility by the NYCSCA. According to a Test Fit/Sketch Study of the proposed school facility prepared by the NYCSCA, the existing on-site buildings would be demolished and the proposed school would be located on the eastern portion of the Site, with a play yard located west of 90th Street.

The current on-site structures were constructed on the eastern portion of the Site (Lots 31 and 35) in approximately 1926 and have been used as a parochial school and convent since that time. The existing parking lot on the western has historically been used as a playground. Use of the surrounding area is predominately residential, commercial, and institutional in nature.

The main objective of the Phase I ESA is to identify recognized environmental conditions and environmental concerns that may affect the suitability of the Site for use as a school facility. Recognized environmental conditions are defined in American Society of Testing and Materials (ASTM) Standard Practice E 1527-05 as the presence or likely presence, use, or release on the Site of hazardous substances or petroleum products. In addition, other environmental issues and conditions that, in the opinion of the *environmental professional* conducting the assessment, would not be considered *recognized environmental conditions* are identified in this assessment. These may include *historical recognized environmental conditions* and/or *de minimis* conditions. The Phase I ESA also includes a preliminary evaluation of specific potential environmental issues or conditions that are, according to ASTM E 1527-05, considered non-scope considerations. These issues include potential soil vapor intrusion as per ASTM E2600-08, radon, asbestos-containing materials (ACM), polychlorinated biphenyls (PCBs) light ballasts and caulking materials, exterior lead-based paint (LBP), chemical storage, wetlands, regulatory compliance issues, dry cleaner and other industrial emissions, mold, biological agents, and methane. The Phase I ESA included a review of federal, state, and local records, previous reports (if available) and historical documents; visual observation of the Site and adjoining properties; and interviews with selected Site representatives.

The assessment requested by the NYCSCA is intended to identify conditions that would have the potential to impact the value of the Site or the use of the Site as a public school facility. The assessment was also conducted for purposes of environmental due diligence in order to qualify for the innocent landowner, a bona fide prospective purchaser, or a contiguous property owner defense under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). The Phase I ESA included, but was not limited to an assessment of the following potential environmental issues: current and historical Site usage; current and historical usage of adjoining properties; regulatory agency records review; on-site solid waste management and disposal practices; on-site hazardous materials and petroleum products management; chemical storage, ACM, PCBs, and exterior LBP management; wetlands; regulatory compliance issues; dry cleaner and other industrial emissions; radon; mold and moisture intrusion; biological agents and potential for methane generating materials.

PHASE I ENVIRONMENTAL SITE ASSESSMENT
ST. STANISLAUS SCHOOL - 90-01 101st AVENUE
QUEENS, NY, 11416

This assessment has revealed no evidence of *recognized environmental conditions (RECs)*, except the following:

On-Site RECs:

- Two known and one suspect underground storage tanks (USTs) containing fuel oil are located on the eastern portion of the Site (Lots 31 and 35). A petroleum spill associated with a tank integrity test failure in 2004 is listed with the New York State Department of Environmental Conservation (NYSDEC) as closed in 2007 without meeting cleanup standards.
- Potential buried demolition debris associated with a former dwelling, stable and a mineral water bottling plant on-site from prior to 1901 to approximately 1926 could include buried structures and historic fill.

Off-site RECs:

- Potential releases associated with the three nearby active gasoline filling stations/auto repair shops and one historic gasoline filling station located south or southwest of the Site.
- A nearby drycleaner (Cityline Drycleaners), located at 87-12 101st Avenue southwest of the Site with historic generation of halogenated solvents.
- Potential releases associated with historic manufacturing activities on the south-adjacent and southeast-adjacent blocks on the 1927 through 1950 Sanborn Maps, including the following:
 - Two structures labeled "CONC BL'K MFG." on the blocks south of the Site (Block 9093 and 9098) on the 1927 Sanborn Map.
 - A vegetable oil packing plant and a knitting mill noted on an adjoining block southeast-adjacent to Site (Block 9098) on the 1950 Sanborn Map.
 - A clothing manufacturer on a block south-adjacent to the Site (Block 9093) at 89-12 to 89-20 101st Avenue on the 1950 Sanborn Map.

The Phase I ESA also identified environmental concerns associated with suspect ACM, suspect LBP, and suspect PCB-containing materials in the on-site buildings.

Recommendations

Based on the findings of the Phase I ESA, a Phase II Environmental Site Investigation (ESI) should be conducted determine if the identified RECs have affected the suitability of the Site for use as a public school facility. The Phase II ESI should include a geophysical survey combined with the collection and analysis of soil, groundwater, and soil vapor samples.

Any suspect ACM, suspect PCB-containing light ballasts/fixtures and caulk, and/or suspect LBP must be properly managed during any demolition activities in accordance with NYCSCA policies and procedures. In addition, the property owner should properly register all petroleum bulk storage tanks with the New York State Department of Environmental Conservation (NYSDEC) including the 550 gallon UST at the convent building.

V. Supporting Credit Documentation

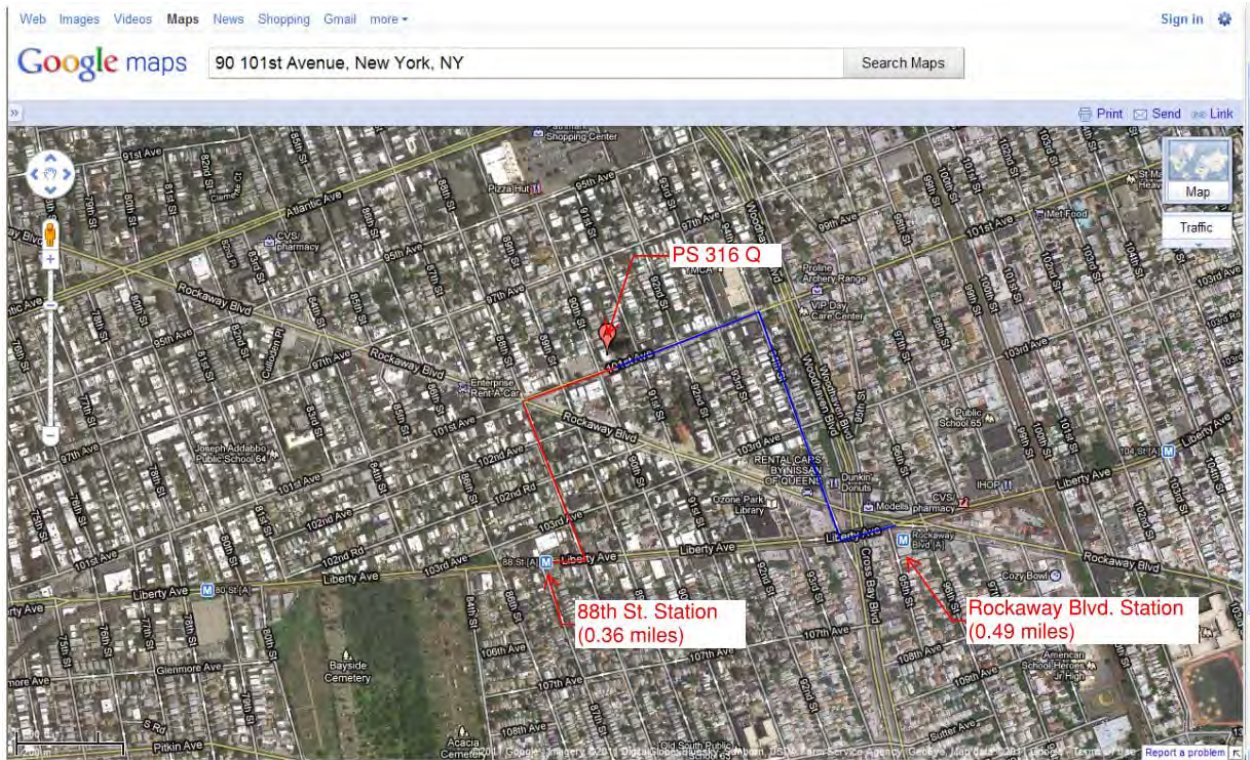
e. S 2.1- Alternate Transportation, Public Transportation Access

S 2.1– Alternative Transportation, Public Transportation Access

PS 316Q

90-101st Avenue, Queens, NY 11416

There are 2 subway stations (A train) located within a ½ mile (2,640 ft) pedestrian walking path of the PS 316Q School.



V. Supporting Credit Documentation

f. S 2.2- Alternate Transportation,
Bicycle Storage & Changing Rooms

Interior bicycle storage is part of the DOB Zoning regulations - so this provision (SCA DR 1.3.1.12) is in accordance with sections 25-811 and 36-711 of the NYC zoning regulations.

Interior Bike Storage Spaces (Floor area/10,000)

Gross SF from SCA Program of Requirements

SF	SF	Interior Needed
65,069	10,000	6.5069
Interior Needed	SF	Interior SF Required
7.00	15	105

Interior Bike Storage Area (15 SF per space)

Students
172.00

Student Capacity above 3rd grade

Full-time Staff (per DR 2.3.3.)

Part-time Staff (1 FTE per 200 occupants)

Visitors (1 FTE per 500 occupants)

Classroom capacity above 3rd grade & Special Ed

Total Adjusted Student Capacity:

Total Adjusted Student Capacity:

Total Occupants	246.65
STAFF ONLY	74.65

Total Bike spaces (5% of Total Occupants)

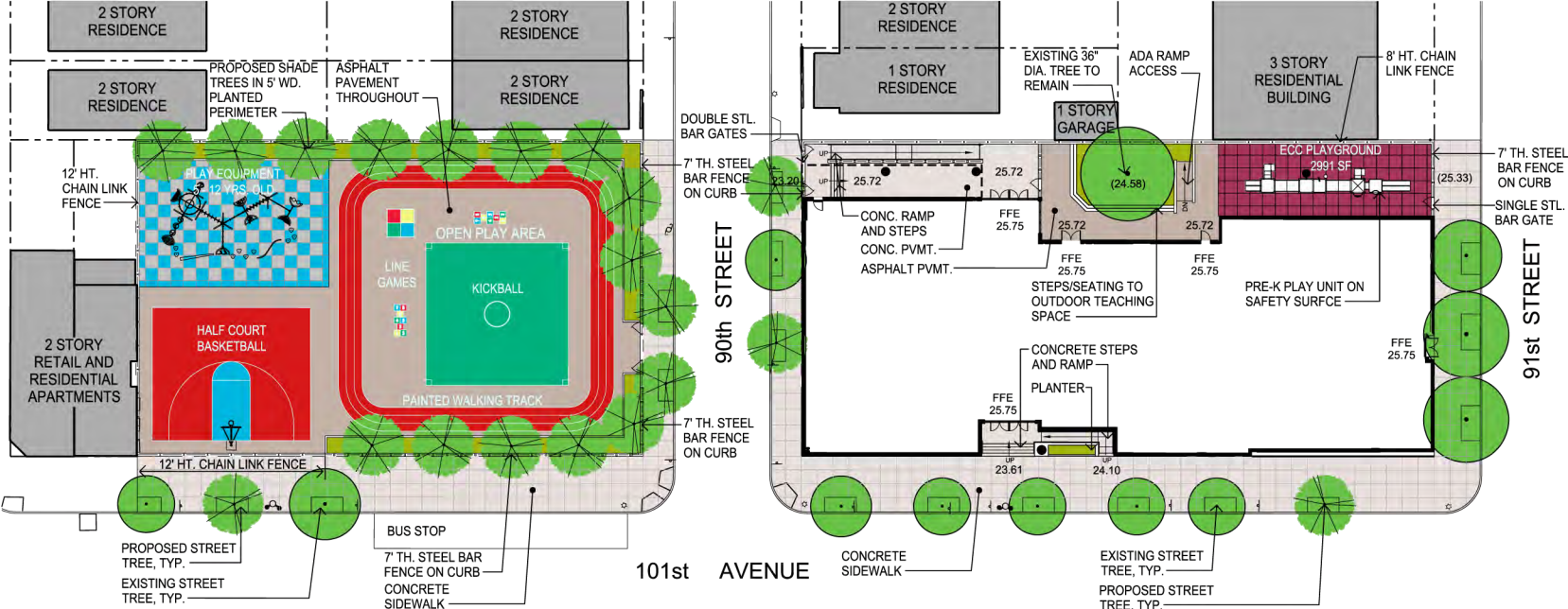
f)	TOTAL SPACES REQUIRED	13
	TOTAL INTERIOR REQUIRED*	7
	TOTAL EXTERIOR REQUIRED*	6
	TOTAL SHOWERS REQUIRED*	
		1

Total Showers (.5% of Full-Time Staff)

*SCA Green Schools Guidelines requires fractions to be rounded up to the nearest whole number.

V. Supporting Credit Documentation

g. S 3.1 & S 3.2 - Site Development,
Protect or Restore Habitat &
Maximize Open Space



① Scheme A.1 - Site Plan



DRG
[DESIGN RESOURCES GROUP ARCHITECTS]



Total Site Area	= 46,625 sf
Building Footprint	= 14,770 sf
Play Yard	= 16,201 sf
Total Vegetated Area	= 3,085 sf

