

**GUIDE TO THE ATLANTIC YARDS
ENVIRONMENTAL IMPACT STATEMENT**

COUNCIL OF BROOKLYN NEIGHBORHOODS

**Prepared by
Hunter College Center for Community Planning &
Development**

July, 2006

EXECUTIVE SUMMARY

PURPOSE OF THIS GUIDE

If you live or work in Brooklyn and care about the impact that the Atlantic Yards project might have on your life, this guide is meant for you. It is written to help you understand the ***Draft Environmental Impact Statement (DEIS)*** and comment on it. Whether you are for or against the project, commenting on the DEIS is one way to bring your concerns to the attention of city and state officials and the developer, Forest City Ratner (FCR).

FCR is required to prepare a DEIS to comply with New York State's Environmental Quality Review procedures. FCR has opted to comply with the City's Environmental Quality Review procedures, which are in some instances stricter. In doing this they need to follow the guidelines set out in the City's ***CEQR Manual***.

On September 16, 2005, FCR released a ***Draft Scope of Analysis*** that was to have followed the steps outlined in the CEQR Manual. This document outlined all of the things they promised to analyze and the methods they proposed to use. After receiving extensive feedback on the Draft Scope at a public hearing attended by over 800 people, and extensive written comments by the Council of Brooklyn Neighborhoods (CBN), Brooklyn Community Boards 2, 6 and 8, and many other individuals and organizations, FCR revised their Scope and issued a ***Final Scope of Analysis*** on March 31, 2006.

The ESDC is required to hold at least one public hearing to hear comments on the DEIS. At this hearing and after, they are not required to respond to public comments. Then they may issue a ***Final Environmental Impact Statement (FEIS)***, which normally coincides with approval of the final project proposal and all discretionary approvals.

Since the DEIS is a huge document with many chapters, where do you start? You can try to tackle the whole thing and comment about what you think is accurate, missing or incorrect. Or you can go directly to the chapters you are most concerned about. This guide is organized for the most part according to the chapters outlined in the Final Scope. A final section covers areas that were not included in the Final Scope but were requested in community comments.

In the Final Scope, FCR changed the build-out years for the two phases of its project to 2010 and 2016, one year later than previously planned. These years aren't mentioned in each section to avoid repetition.

Each chapter includes the following:

- What the **CEQR Manual** says should be included
- What the **Draft Scope** says
- Summary of comments by **CBN** and **Brooklyn Community Boards 2, 6, and 8**
- Changes that appear in the **Final Scope**
- What to look for in the **DEIS**

Table of Contents for the Full CEQR Handbook

Purpose of this Guide Error! Bookmark not defined.

The Atlantic Yards Project Error! Bookmark not defined.

TASKS 1 AND 2. PROJECT DESCRIPTION - ANALYSIS FRAMEWORK Error! Bookmark not defined.

TASK 3. LAND USE, ZONING AND PUBLIC POLICY Error! Bookmark not defined.

TASK 4. SOCIOECONOMIC CONDITIONS Error! Bookmark not defined.

TASK 5. COMMUNITY FACILITIES AND SERVICES Error! Bookmark not defined.

TASK 6. OPEN SPACE Error! Bookmark not defined.

TASK 7. CULTURAL RESOURCES Error! Bookmark not defined.

TASK 8. URBAN DESIGN AND VISUAL RESOURCES Error! Bookmark not defined.

TASK 9. SHADOWS Error! Bookmark not defined.

TASK 10. HAZARDOUS MATERIALS Error! Bookmark not defined.

TASK 11. INFRASTRUCTURE, ENERGY, AND SOLID WASTE Error! Bookmark not defined.

TASK 12. TRAFFIC AND PARKING; TRANSIT AND PEDESTRIANS Error! Bookmark not defined.

TASK 13. AIR QUALITY Error! Bookmark not defined.

TASK 14. NOISE Error! Bookmark not defined.

TASK 15. NEIGHBORHOOD CHARACTER Error! Bookmark not defined.

TASK 16. CONSTRUCTION IMPACTS Error! Bookmark not defined.

TASK 17. PUBLIC HEALTH Error! Bookmark not defined.

IMPACTS NOT INCLUDED IN THE FINAL SCOPE Error! Bookmark not defined.

WHAT TO EXPECT FROM THE DEIS

The DEIS is a *disclosure* document. Its purpose is that the developer make public all potentially significant impacts of the project. Having done that, the developer also has to say which of the impacts are *adverse* – impacts that have a negative effect on people. The CEQR Manual offers specific guidelines to help figure out which impacts should be considered “adverse” in each of the topic areas.

Once the adverse impacts have been identified, the developer can propose *mitigation* measures to deal with them. Sometimes these measures can be undertaken by the developer and sometimes city and state governments agree to do them. For example, if the air pollution caused by increased traffic is found to create a significant and adverse impact, the developer may work with the City to enact measures that reduce traffic.

But adverse impacts can also be unmitigated. The developer isn’t required to deal with adverse impacts because the CEQR process is only a disclosure process, not a decision-making process. Mitigation measures agreed to in the EIS should be enforced, but this often requires vigilance by the community groups who press for mitigation, and at times has led to legal challenges.

Given all of these limitations in the CEQR process, why even bother commenting?

In the case of Atlantic Yards, there is good reason to let all voices be heard. The CEQR process is the only mechanism for public comment and debate about FCR’s project. The project sponsor is the Empire State Development Corporation (ESDC), a State entity that has chosen not to submit the proposal for review under the City’s land use review process. ESDC can override local zoning and redevelopment policy. The community boards, City Council, and City Planning Commission, all of which normally hold public hearings and vote on major development proposals, play no role in public review of the FCR project.

So at this point review of the DEIS is the only mechanism whereby Brooklyn residents and businesses can formally weigh in. This guide is intended to provide information and help people engage in the process.

This Guide does not include sections on Mitigation and Alternatives.

IMPACTS THAT WILL NOT BE INCLUDED IN THE DEIS

The following were impact analyses that the Council of Brooklyn Neighborhoods and others proposed for inclusion in the Final Scope of Analysis. They were not included.

- Security and Terrorism
- Environmental Justice
- Wind

While FCR and the ESDC are not formally obligated to address these issues in the DEIS because they were not included in the Final Scope, there is no reason that community residents and organizations cannot continue to ask that the analysis be done, raise questions, and provide commentary. You can also comment on these topics within the context of the tasks that were adopted. For example, comments on Security and Terrorism may be submitted within the Urban Design or Open Space tasks; Environmental Justice is related to Public Health and Infrastructure tasks; and Wind impacts may be part of Urban Design and Open Space.

Summary of the Atlantic Yards Project

Adapted from the Final Scope of Analysis

The Atlantic Yards Arena and Redevelopment Project is a major mixed-use development project proposed for the Atlantic Terminal area of Brooklyn, New York. Atlantic Yards Development Company, LLC, and Brooklyn Arena, LLC, (the “project sponsors”) seek to construct an arena to be used by the Nets professional basketball team, as well as large-scale residential and commercial construction—including office, retail, hotel, publicly accessible open space and parking uses.

The development would occupy approximately 22 acres in the Atlantic Terminal area of Brooklyn. The development of the project may result in significant and adverse environmental impacts, thus the preparation of an EIS is required.

The proposed Atlantic Yards Arena and Redevelopment Project involves the reconfiguration, improvement, and platforming over of the storage and inspection uses of the LIRR Vanderbilt Yard and the clearance, planning, and reconstruction of the surrounding blocks.

The proposed development considers two program variations: residential mixed-use and commercial mixed-use; the commercial mixed-use variation would provide flexibility in the development plan to allow the project sponsors to meet potential future demand for office space in a location that will take advantage of the third largest transit hub in New York City and that is in close proximity to recent commercial development in Downtown Brooklyn. The variations reflect the fact that the programs for three of the project’s 17 buildings are not fixed and could be used for a mixture of residential and commercial uses.

Residential and Commercial Mixed Use Variation Programs

Proposed Uses	Residential Mixed-Use Variation	Commercial Mixed-Use Variation
Residential	6,790,000 gsf (6,860 units)	5,730,000 gsf (5,790 units)
Hotel (180 rooms)	165,000 gsf	0 gsf
Retail*	247,000 gsf	247,000 gsf
Commercial	606,000 gsf	1,829,000 gsf
Arena	850,000 gsf	850,000 gsf
Parking (spaces)	3,800 spaces	3,800 spaces
Private Open Space	< 1 acre	< 1 acre
Publicly Accessible Open Space	7+ acres	7+ acres

* A portion of the retail space is anticipated to house community facilities.

(Source: ESDC Final Scope of Work, Atlantic Yards Arena and Redevelopment Project. Table 1, Page 5.)

At full build-out, the residential mixed-use variation would include approximately 606,000 gross square feet (gsf) of commercial office space, 165,000 gsf of hotel use

(approximately 180 rooms), 247,000 gsf of retail and community facility space, up to 6.79 million gsf of residential use (approximately 6,860 residential units), approximately 3,800 parking spaces, more than 7 acres of publicly accessible open space, and the proposed 850,000 gsf arena, which would accommodate 18,000 to 20,500 seats and provide approximately one acre of private open space on its roof. Additionally, the proposed project would include an Urban Room, a publicly accessible covered pedestrian space and connection to the Atlantic Terminal mass transit complex.

The commercial mixed-use variation would allow for additional commercial use to substitute for the hotel use and the residential space in Buildings 1 and 2 on the arena site (Blocks 1118, 1119, and 1127) and on Site 5 of the Atlantic Terminal Urban Renewal Area (ATURA) Plan (Block 927). The other buildings and uses on the project site (the arena, Buildings 3 and 4, and all buildings east of 6th Avenue) would remain the same under either the residential mixed-use or the commercial mixed-use variations. The proposed project (with either variation) would also provide community facilities, including a health care center and an intergenerational community center offering child care and youth and senior activities. Community facilities built as part of the proposed project would occupy some portion of the 247,000 gsf of ground floor space.

As part of the residential mixed-use variation, a portion of the site known as Site 5 of the ATURA Plan would be developed with—in addition to approximately 47,000 gsf of existing retail—approximately 288,000 gsf of residential use and 270,000 gsf of office use, or, under the commercial mixed-use variation, with approximately 558,000 gsf of office use. Site 6A of the ATURA Plan (Block 1118, Lot 6) is also located on the project site and will be developed as part of the proposed project. The ESDC General Project Plan (GPP) for the Atlantic Yards Arena and Redevelopment Project would allow for the override of the ATURA Plan to allow for the development.

PROPOSED ROADWAY RECONFIGURATION AND PEDESTRIAN CIRCULATION IMPROVEMENTS

The proposed project would entail a number of permanent roadway closures and changes to vehicular circulation (see Figure 4), including:

- Closures of Pacific Street between Flatbush Avenue and 6th Avenue, and of 5th Avenue between Flatbush and Atlantic Avenues in order to provide a large contiguous footprint necessary to accommodate the arena complex;
- Closure of Pacific Street between Vanderbilt and Carlton Avenues to create more than 7 acres of publicly accessible active and passive open space;
- Widening of Flatbush Avenue at Atlantic Avenue by approximately 10 feet to provide a 750-foot drop-off lane adjacent to the site to decrease congestion at this intersection;
- Restriping and widening of Atlantic Avenue (through setback of the proposed development from the mapped street line) between Flatbush Avenue and 6th Avenue to provide a drop-off lane adjacent to the project site without decreasing the number of lanes; and
- Widening of 6th Avenue between Atlantic Avenue and Flatbush Avenue from 34 to 40 feet to provide two-way circulation through the project site and to provide a

drop-off lane adjacent to the project site. In addition, Pacific Street between 6th Avenue and Carlton Avenue would be widened from 34 to 38 feet to permit two-way traffic circulation.

The project also proposes the following permanent pedestrian circulation improvements:

- Providing 20-foot wide sidewalks along the south side of Atlantic Avenue from Flatbush Avenue to Vanderbilt Avenue and along the east side of Flatbush Avenue between Atlantic Avenue and Dean Street by setting the proposed buildings back from the street line; and
- Building a new subway entrance at the corner of Atlantic and Flatbush Avenues, providing direct pedestrian access at the western end of the project site to the Atlantic Terminal (also called the LIRR Flatbush Terminal) transit hub.

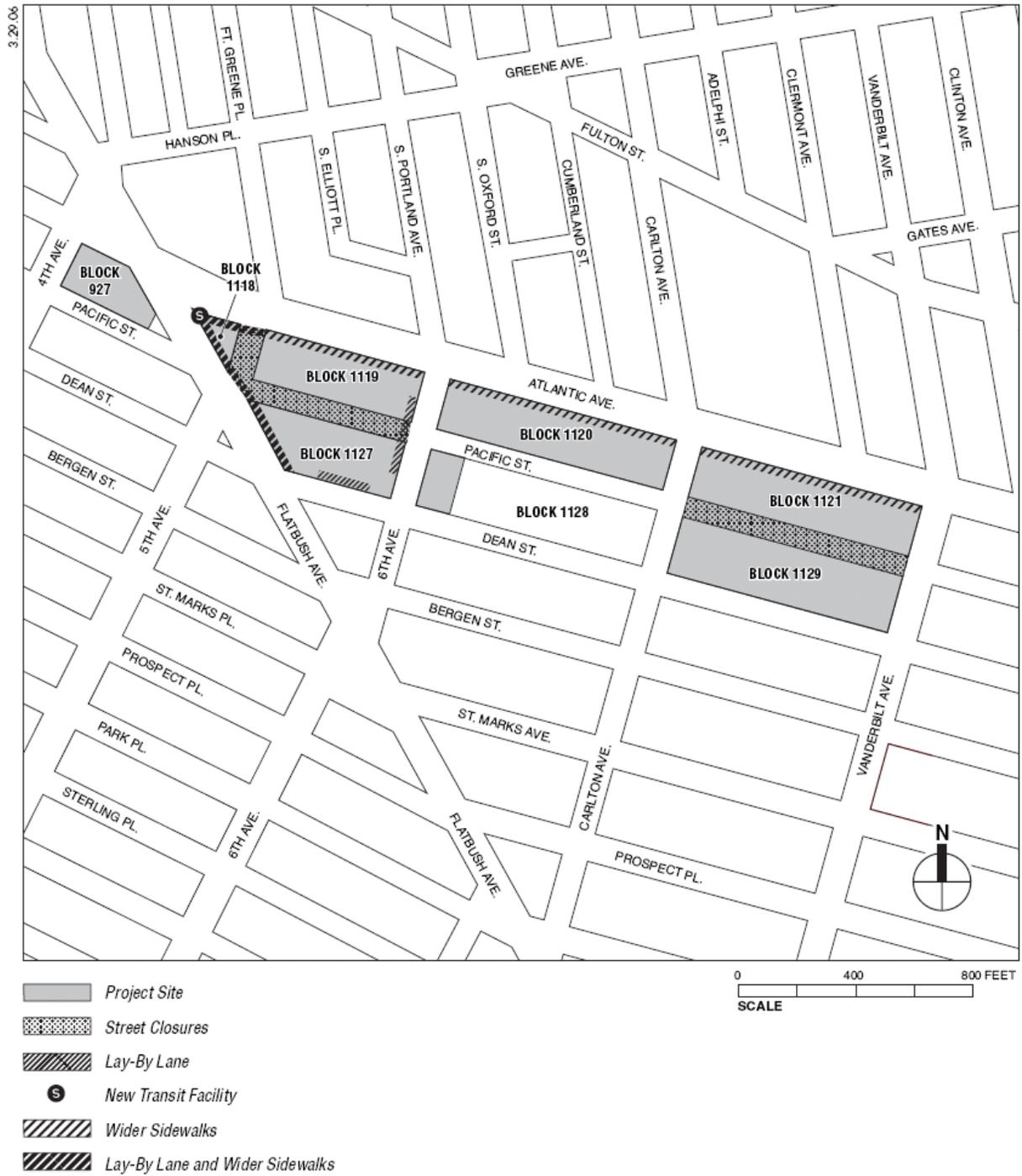
Because of the proposed street closures of sections of 5th Avenue and Pacific Street, the proposed project would need to relocate public infrastructure beneath these streets, particularly the water and sewer connections, as well as electric, gas, and telephone lines.

DISCRETIONARY APPROVALS REQUIRED

It is expected that the proposed project will require the following actions:

- Adoption of the GPP by ESDC, including overrides of certain local laws (described below);
- Override by ESDC of certain aspects of the *New York City Zoning Resolution*, including, but not limited to, use and bulk (including height and setback, floor area, and yards), signage, and parking requirements and allowances;
- Override by ESDC of the ATURA Plan as it relates to Site 5 and Site 6A (which requires consistency with zoning);
- Override of the City Map as it relates to Pacific Street between Flatbush and 6th Avenues, 5th Avenue between Flatbush and Atlantic Avenues, and Pacific Street between Vanderbilt and Carlton Avenues;
- Acquisition of property by ESDC through negotiation or condemnation and subsequent disposition of the property (by sale or long-term lease) to the project sponsors or a local development corporation;
- Approval by the Public Authorities Control Board;
- Disposition by MTA of a property interest in the rail yard to ESDC, project sponsors, or a local development corporation;
- Approval by MTA of relocated and upgraded rail yard and other transit improvements, and any related real property acquisitions by LIRR or MTA;
- Provision of state and city funding for affordable housing and other elements of the proposed project and tax exempt financing;
- Condemnation by ESDC of the City's interest in Pacific Street and 5th Avenue (as described above); and
- Condemnation or acquisition by ESDC or disposition by the City of the City's interest in Site 5 and other City-owned property within the project site.

Proposed Project Site and Reconfigurations



(Source: ESDC Final Scope of Work, Atlantic Yards Arena and Redevelopment Project. Figure 4.)

Site Plan: Residential Mixed-Use Variation



(Source: ESDC Final Scope of Work, Atlantic Yards Arena and Redevelopment Project. Figure 2a.)

Site Plan: Commercial Mixed-Use Variation



(Source: ESDC Final Scope of Work, Atlantic Yards Arena and Redevelopment Project. Figure 2b.)

GLOSSARY OF TERMS

General Terms

Build year: The year a proposed action would be substantially operational; this is the year for which the action's effects are predicted in environmental analyses.

Generic action: Program or plan that has wide application or affects a large area or range of future policies. Also referred to as "programmatic actions."

Mitigation: Measures to minimize or avoid an action's significant adverse impacts to the fullest extent practicable.

No action condition: Scenario of the future without the proposed action, used as a baseline against which incremental changes generated by an action can be evaluated in environmental review. Also referred to as "no build" condition.

No build condition: See no action condition.

Project site: The site that would be directly affected by a proposed action.

Scope of Work: A document that identifies in detail all topics to be addressed in the EIS, including the methods for study, possible alternatives to the proposed action, and mitigation measures.

Site-specific action: Actions proposed for a specific location.

Study area: The geographic area likely to be affected by the proposed action for a given technical area of analysis, or the area in which impacts of that type could occur. This is the area subject to assessment for that technical area.

3. LAND USE, ZONING AND PUBLIC POLICY

Bulk: The size and shape of a building, including height and floor area, relative to the size of its lot.

Floor area ratio (FAR): The total floor area on a zoning lot divided by the area of that zoning lot.

Footprint: The area of the ground occupied by a building.

Setback: A recession or stepping back of a building's facade.

Soft site: A site where no particular development is planned or proposed, but where development can reasonably be expected to occur (for example, a property that is underbuilt with respect to its zoning in an area with high development demand).

Use: Any activity, occupation, business, or operation carried on, or intended to be carried on, in a building or on a tract of land.

4. SOCIOECONOMIC CONDITIONS

Comprehensive Housing Affordability Strategy: Published annually. Provides information on government-assisted housing. Source: DCP, Housing, Economic, and Infrastructure Planning Division.

Displacement, direct: Involuntary displacement of residents or businesses from the site of an action. Also referred to as "primary displacement."

Displacement, indirect: Involuntary displacement of residents, businesses, or employees that results from a change in socioeconomic conditions created by an action. Also referred to as "secondary displacement."

6. OPEN SPACE

Open space, designated: Includes both mapped parkland and other land that, although not officially mapped, is under the jurisdiction of the DPR or another official body and has been set aside for public open space purposes. It excludes vacant land not designated for open space purposes.

Open space, improved: Open space that is developed to its intended potential such as playgrounds, ball fields, or promenades.

Open space, mapped: See parkland, mapped.

Open space, private: Property designated for open space use that is under private ownership and that may or may not be publicly accessible.

Open space, undeveloped: Natural areas not intended for development, such as wetlands.

Open space, unimproved: Open space that has been acquired or mapped and is planned for further development but has not yet been developed for open space use.

Park: Mapped open space under federal, state, or City jurisdiction.

7. CULTURAL RESOURCES

Historic resource: Districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance, including designated resources and eligible resources.

Historic significance: A historic resource that retains integrity and has important and meaningful associative values.

Historic archaeology: Archaeological study of cultures after the advent of written records.

Historic district: A geographically definable area that possesses a significant concentration of associated buildings, structures, objects, or sites, united historically or aesthetically by plan and design or historical and/or architectural relationships. This can include historic districts listed on the State or National Register of Historic Places, and New York City Historic Districts. New York City Historic Districts are further defined as distinct sections of the City that contain buildings, structures, places, or objects that have a special character or special historical or aesthetic interest or value, and that represent one or more periods or styles of architecture typical of one or more eras in the history of New York City.

Integrity: The unimpaired ability of a property to convey its historic or archaeological significance, evidenced by the survival of physical attributes that existed during the property's historic or prehistoric period.

Interior Landmark: An interior, or part thereof, any part of which is 30 years old or older, and that is customarily open or accessible to the public, or to which the public is customarily invited, and that has a special historical or aesthetic interest or value as part of the development, heritage, or cultural characteristics of the City, state, or nation, and that has been designated as an interior landmark pursuant to the New York City Landmarks Law.

Landmark: Any building, structure, work of art, or object, any part of which is 30 years old or older, that has a special character or special historical or aesthetic interest or value as part of the development, heritage, or cultural characteristics of the City, state, or nation, and that has been designated a landmark pursuant to the New York City Landmarks Law.

8. URBAN DESIGN AND VISUAL RESOURCES

Elevation: A straight-on view of the exterior face of a building on a vertical plane showing a building's external components.

HVAC: Heating, ventilation, and air conditioning.

Streetscape: The character and urban design features of a street or block, including such features as setbacks, architectural styles, and materials.

Streetwall: The wall created by the front face or faces of a building or several buildings.

Sympathetic contextual design: A plan for a new building or development that takes into account the setting, landscaping, shadow, and the visual impact that the proposed construction may have on an nearby existing historic resource; a mitigation option.

Visual corridor: An open area (including streets) providing a continuous view from a public place of the sky or focal object, such as the waterfront. A visual corridor is generally linear and unobstructed from its base to the sky.

9. SHADOWS

Entering angle: A shadow's angle from true north when it enters an open space.

Exiting angle: A shadow's angle from true north when it exits an open space.

Incremental shadow: The additional shadow a proposed building would cast, beyond the shadows cast by surrounding buildings.

10. HAZARDOUS MATERIALS

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System; an EPA inventory of sites (including Federal facilities) suspected to be contaminated by hazardous substances. It contains site identification data, financial expenditure data, and site tasks plans (if applicable). CERCLIS also includes some enforcement data on milestones and clean-up schedules (if applicable).

Hazardous wastes: Substances regulated under the Federal Resource Conservation and Recovery Act. Hazardous wastes are solid wastes that meet one of the four characteristics of being chemically reactive, ignitable, corrosive, or toxic.

PCBs: Polychlorinated biphenyls; pathogenic (disease-causing) and teratogenic (causing developmental malformations) industrial compounds formerly used as heat-transfer agents.

TRI: Toxic Release Inventory; annual report on chemical releases regulated industries must file with **EPA** under **SARA Title III**.

VOC: Volatile organic compound; family of highly evaporative organic materials used in a variety of industrial applications. Paints and solvents typically contain VOCs.

11. INFRASTRUCTURE, ENERGY AND SOLID WASTE

Combined sewer: Sewer system that collects both dry-weather wastewater and storm water.

Combined sewer overflow (CSO): Wastewater in excess of the combined sewer system's capacity that is discharged into the nearest waterway rather than being sent to a water pollution control plant for treatment.

Comprehensive Solid Waste Management Plan (Plan): A plan developed by the New York City Department of Sanitation for the period of 1992 through 2002 that establishes a strategy for waste management.

Coastal Zone: As mapped in the City's *Coastal Zone Boundaries* maps, a geographic area of New York City's coastal waters and adjacent shorelines, generally including islands, tidal wetlands, beaches, dunes, barrier islands, cliffs, bluffs, estuaries, flooding- and erosion-prone areas, port facilities, and other coastal features.

Non-putrescible solid wastes: Solid wastes that do not contain organic matter.

Putrescible solid wastes: Solid wastes containing organic matter having the tendency to decompose with the formation of malodorous by-products.

Water-dependent uses: Uses that require direct access to a body of water to function or that use waterways for transport of materials, products, or people.

Water-enhancing uses: Primarily recreational, cultural, entertainment, or retail uses that, when located at the water's edge, add to the public use and enjoyment of the waterfront.

Waterfront Revitalization Program: New York City's Local Waterfront Revitalization Program, adopted as a local plan in accordance with Section 197-a of the City Charter, which applies to all projects in a designated coastal zone.

Water Pollution Control Plant (WPCP): Plant used to treat wastewater, including sanitary sewage.

12. TRAFFIC AND PARKING/TRANSIT AND PEDESTRIANS

Arterial: Signalized streets that serve primarily through traffic and provide access to abutting properties as a secondary function.

Assignment: The routing of vehicle trips to and from a project site.

ATR counts: ATR, or automatic traffic recorder, counts are traffic volume counts recorded by machines with connected tubes placed across the roadway being counted. These counts are generally recorded every 15 minutes for 24 hours per day.

Average vehicle occupancy: The total number of occupants in an automobile (or a taxi), on average.

Background growth factor, traffic: An annual traffic growth percentage to be applied to traffic volumes in an area to account for normal expected traffic volume increases. Generally, it does not account for major new developments that may be proposed for an area.

Capacity: For vehicular traffic, the maximum number of vehicles that can pass a point on a street or highway during a specified time period, usually expressed as vehicles per hour. For pedestrians, the maximum number of persons that can be accommodated along a given point of a sidewalk or transit corridor, or that can be accommodated within a crosswalk, intersection corner reservoir, transit vehicle, or turnstile.

Channelization: Physical roadway improvements that "channel", or direct, the traffic flow into one or more lanes via either painted striping or physical means such as curbs or raised "islands" in the roadway.

Cordon line: An imaginary line drawn around an area, usually used to define an area being studied or an area through which traffic volumes are being counted or surveyed.

Cycle length: The length of time it takes a traffic light to pass through a full sequence of green, yellow, and red signal indications for all traffic movements.

Diverted-linked trips: Trips attracted to a proposed project from streets near the project site but not immediately adjacent to the site. Thus, these trips need to "divert" to other streets to access the site.

Downstream: The direction toward which traffic is headed.

Effective width: The width of a walkway that is usable by pedestrians; the total walkway width minus the width of physical obstacles and unusable buffer zones at such obstacles.

Headway: The amount of time elapsing between the arrival of buses or subway trains on a given route. For example, a bus route may operate at a headway of 6 minutes, meaning buses are scheduled to arrive at a given stop every 6 minutes.

Heavy Truck: A truck with three or more axles weighing more than 25,000 pounds gross weight.

Intermodal transfer: The transfer of passengers between travel modes, e.g., from bus to subway or from railroad to subway.

Level of service (LOS): A qualitative measure describing operational conditions within a vehicular or pedestrian traffic stream.

Light-duty truck: For noise analysis purposes, a truck weighing less than 9,400 pounds gross weight; for air quality analysis purposes, a truck with four wheels, including vans and ambulances.

Linked trips: The multideestination characteristic of trips in downtown type areas.

Load factor: The number of passengers occupying a transit vehicle divided by the number of seats on the vehicle.

Maximum load point: The geographic location of a subway or bus line that has the highest ridership level.

Maximum surge condition: The point at which the maximum number of pedestrians are in a crosswalk; usually occurs shortly after pedestrian signals change to green, when the lead pedestrian in opposing crossing platoons reaches the opposite corner.

Medium truck: A truck with two axles and six wheels, weighing between 9,400 and 25,000 pounds gross vehicle weight.

Modal split: The extent to which persons traveling to or from a site or an area utilize specific travel modes, such as autos, taxis, subways, buses, commuter rail, ferries, bicycles, or walking. Usually expressed as a percentage of all travel.

Origin/destination (O/D): The beginning and end point of a trip, used in determining the routing of vehicle trips to and from a project site.

Parking shortfall: The amount by which the parking demand generated by a proposed action exceeds the amount of parking it is proposing to provide.

Pass-by trips: Trips attracted to a proposed project from the streets immediately adjacent to the project site; these trips are usually intermediate stops being made en route from the vehicle's trip origin to its ultimate destination.

Peak hour factor: A measure of traffic volume demand fluctuation within the peak hour. It is the peak hour volume divided by four times the peak 15-minute period within that hour.

Reserve capacity: The capacity of a traffic lane at an unsignalized intersection minus the volume using that lane. It is the determinant of level of service at unsignalized intersections.

Time-space analysis: A methodology for evaluating pedestrian level of service for station platforms, waiting areas, street plazas, and other open space areas.

Transit share: The percentage of all person trips made to a given project or area by public transportation.

Trip assignment: The assumed routing, or "assignment," of trips (either vehicular or pedestrian) through an area en route to their destinations.

Trip generation: The volume of trips generated, or produced, by a particular land use or project. Trip generation can be specified in terms of person trips or vehicular trips.

Upstream: The direction from which traffic is coming.

Vehicle Classification: Mix of vehicular traffic segmented into autos, taxis, light-duty gas trucks, heavy-duty gas trucks, and heavy-duty diesel trucks.

Volume-to-capacity (v/c) ratio: The ratio of the vehicular or pedestrian volume passing a point on a street (or transit line) to the capacity of the street (or line).

13. AIR QUALITY

Background concentrations, air pollutants: Ambient air pollutant concentrations that are a function of regional emissions.

CAL3QHC: Mathematical dispersion model for simulation of carbon monoxide concentrations near roadway intersections.

Criteria air pollutants: Air pollutants with corresponding federal or state ambient air quality standards.

De Minimis: Minimum incremental increase in 8-hour average carbon monoxide levels that would constitute a significant adverse air quality impact under CEQR.

Dispersion model: Mathematical model that estimates dissipation of air pollutant concentrations from line, area, or point sources.

HVAC: Heating, ventilation, and air conditioning.

Macroscale: Analysis of air pollutant sources and levels over a very large region.

Microscale: Analysis of air pollutant sources and levels on a localized basis.

Mobile sources: Sources of air pollutant emissions such as motor vehicles, planes, boats, etc.

NOx: Nitrogen oxides; a class of compounds that includes NO and NO₂, which are of concern as ozone precursors and are criteria air pollutants.

Ozone (O₃): A criteria air pollutant formed by the reaction of hydrocarbons and nitrogen oxides with sunlight over long time periods and large regions.

PM10: A criteria air pollutant comprised of particulates that are less than 10 μ m in diameter.

Receptor: Location to which the public has access on a more or less continuous basis used for air quality predictions; or a defined area where human activity may be adversely affected when noise levels exceed predefined thresholds of acceptability or when levels increase by predefined thresholds of change, used for noise analyses.

Stability: Description of the rate at which air pollutants are dispersed, depending on atmospheric conditions.

Stationary sources: Sources of airborne emissions from fixed facilities.

14. NOISE

Background noise level: Noise levels that exist much of the time and that individual occurrences intrude upon. Usually, this "background" is coming from many directions and from a multitude of unrecognizable sources. L90 is considered a reasonable indication of this background noise (see also statistical noise levels below).

Day-night sound level (Ldn or DNL): A 24-hour continuous Leq with 10 dBA added to levels occurring between 10 PM and 7 AM to account for greater sensitivity during typical sleeping hours.

Decibel (dB): A unit of sound level or pressure level. It implies 10 multiplied by a logarithmic ratio of power or some quantity proportional to power. The logarithm is to the base 10.

dBA: A-weighted unit of sound pressure level in decibels.

Equivalent sound level (Leq): The level of continuous sound containing the same amount of acoustical energy as the fluctuating sound over the same period of time. The reference time period is usually specified in terms of hours in parentheses (e.g., Leq(1) refers to a 1-hour Leq value).

HVAC: Heating, ventilation, and air conditioning.

Inverse square law: The condition in open spherical sound propagation from a point source that intensity drops off as the reciprocal of the square of the distance from the source. This translates to the ideal condition that SPL drops off at a rate of 6 dB per doubling of distance from the source.

Ldn: Day-night sound level.

Leq: Equivalent sound level.

Leq(1): The one-hour equivalent sound level (see Equivalent sound level).

Leq(24): The 24-hour equivalent sound level.

Receptor: Location to which the public has access on a more or less continuous basis used for air quality predictions; or a defined area where human activity may be adversely affected when noise levels exceed predefined thresholds of acceptability or when levels increase by predefined thresholds of change, used for noise analyses.

Reflection: The act of sound bouncing off a partition, usually occurring from smooth, flat, hard surfaces.

Sound exposure level (SEL): A rating, in dB, of discrete events, such as aircraft flyovers or train passbys, that compresses the total sound energy of the event into a 1 second time period.

Statistical noise levels/percentile levels (L1, L5, L10, etc.): The practice to describe several important features of fluctuating or time-varying noise using statistical quantities. These percentile levels represent the percentage of the observed time period during which a given noise level is exceeded. For example, L90, the noise level exceeded 90 percent of the time, is often considered to be the background noise level, while L10 gives some indication of the intrusive nature of the noise.

17. PUBLIC HEALTH

Risk assessment: Evaluation of the magnitude of effects on human health and the environment posed by the presence of hazardous substances and any proposed controls to limit or eliminate such effects.

MEASUREMENTS

$\mu\text{g}/\text{kg}$: One microgram per kilogram, which is equal to one part per billion, ppb.

$\mu\text{g}/\text{L}$: One microgram per liter, which is equal to one part per billion, ppb.

$\mu\text{g}/\text{m}^3$: Micrograms per cubic meter.

μm : A micrometer, which is a unit of length equal to one millionth of a meter.

mg/kg : Milligrams per kilogram, which are equal to parts per million, ppm.

mg/L : Milligrams per liter, which are equal to parts per million, ppm.

mg/m^3 : Milligrams per cubic meter.

mw: Megawatt(s).

ppb: Parts per billion.

ppm: Parts per million.