SFC Development

Yonkers, New York

NOISE IMPACT ASSESSMENT STUDY

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1.0 INTRODUCTION

Amidst a growing need for increased economic viability in the City of Yonkers, a major revitalization project is proposed by Struever Fidelco Cappelli, LLC. The City of Yonkers is situated in Westchester County directly above the New York City boundary line, bordering a section of the Bronx. The proposed development consists of the River Park Center, Cacace Center, and Government Center (Gateway District) and Palisades Point (Project) and involves the addition of luxury housing, commercial and retail space, waterfront development and a baseball stadium (Sites). This noise impact assessment study has been prepared to support the environmental approval of the Project. The planned Project is expected to generate Project related traffic in the vicinity of the Project Sites. There is potential for noise to be generated by Project related activities such as construction, traffic and operations. Thus a noise study is required to evaluate the potential for localized noise impacts associated with Project related activities.

1.1 Purpose

This Noise Impact Assessment Study (Assessment) for the proposed Project has been prepared to support the environmental review process of the Project by providing a technical study of the potential for noise associated with the proposed Project. This Assessment addresses the River Park Center, Cacace Center and Palisades Point. River Park Center is to be located on the Chicken Island site, which is bounded by Nepperhan Avenue, New Main Street, Palisade Avenue and Elm Street. Cacace Center is south of Nepperhan Avenue across from City Hall. Palisades Point comprises a section of waterfront area within the City of Yonkers. This Assessment includes background noise monitoring, identification of major Project components (noise sources), projected Project related noise, and assessment of combined projected Project contributions and background conditions.

Paulus, Sokolowski and Sartor (PS&S), Environmental Engineers, prepared this Noise Impact Assessment Study for Struever Fidelco Cappelli, LLC. PS&S performed sound measurements and modeling to assess the potential for impacts from the proposed Project. This Assessment was prepared in accordance with applicable standards, requirements, and criteria as well as other guidance.

1.2 Scope

Preparation of this Impact Assessment involved reviewing existing conditions in the vicinity of the Project area, identifying noise sources influencing the area, assessing noise from the proposed redevelopment Project and identifying potential mitigation measures applicable to the proposed Project. Preparation of this Assessment included performing the following activities:

- Monitoring the existing ambient background (baseline) sound at the Site area along appropriate Site boundaries and nearby receptors;
- Identifying noise sensitive receptors/area nearby the Sites;
- Identifying and characterizing existing noise sources influencing the area;
- Reviewing, compiling and tabulating the ambient background sound levels obtained within the proposed Project area;
- Reviewing appropriate standards, guidance and criteria potentially applicable to the proposed Project;
- Performing modeling to evaluate the projected sound conditions for the Project horizon year and the potential sound levels from the proposed redevelopment Project;
- Comparing monitored and modeled sound levels to applicable standards / criteria;
- Identifying available mitigation measures (as necessary); and

- Summarizing and documenting the results of the Assessment, the existing and future conditions, in a technical document (this Report).

1.3 Sound Basics & Noise Descriptors

Sound is comprised of pressure waves that move or propagate through the air or other media. Noise is unwanted sound. The standard noise measurement unit is the decibel (dB). Sound energy dissipates (noise decreases) as the receiver distance from the noise source increases. Sound levels can also be dissipated by ground and atmospheric absorption and can often be significantly reduced by barriers that block the line of sight between the noise source and the receiver. The human ear can detect changes in sound level as small as 1 dBA; however a 3 dBA change in noise level is considered to be the smallest change detectable by humans over an extended period of time. There are a number of noise descriptors used to characterize noise that take into account the variability of noise levels over time which most environments experience. Various criteria and guidelines used to characterize noise are discussed below.

1.3.1 Sound

Sound is generated when a vibrating object (sound source) creates a physical disturbance that sets the parcels of air or other surrounding medium nearest to it in motion, causing pressure variations that form a series of alternating compression and expansion pressure waves that move or propagate outward away from a source usually in a spherical pattern.

Sound propagates at different speeds depending on the medium.

In air sound propagates at a speed of approximately 340 m/s;
In liquids the propagation velocity is greater,. and in water is approximately 1,500 m/s; and
In solids can be even greater, and is 5,000 m/s in steel.

Factors that affect the perception of sound by the human ear include the amplitude or loudness, the frequency, and the duration of the sound, as well as the location of the receiver relative to the source of sound. The sound levels we encounter in daily life vary over a wide range. The lowest sound pressure level the ear can detect is more than a million times less than that of a jet take-off. The audible sound frequency range for young persons is from approximately 20Hz to 20,000Hz. The decibel is a unit of sound amplitude or loudness, and is derived from a comparison sound pressure, in air, with a reference pressure. Broadband sound covers the whole of the audible frequency range and is made up of many tones.

1.3.2 Noise

The terms "sound" and "noise" are often used synonymously. Noise is unwanted sound usually composed of a spectrum of many single frequency components, each having its own amplitude. The disturbing effects of noise depend both on the intensity and the frequency of the tones. For example, higher frequencies are often more disturbing than low frequencies. Pure tones can be more disturbing than broadband sound.

1.3.3 A-Weighting (dBA)

Noise measurements are most often taken using the "A-weighted" frequency response function. The A-weighted frequency or dBA scale simulates the response of the human ear to sound levels (particularly low-level sound), and has been given prominence as a means for estimating annoyance caused by noise, for estimating the magnitude of noise-induced hearing damage, in hearing conservation criteria, for speech interference measurements, and in procedures for estimating community reaction to (general broad band) noise (Clayton, et al. 1978; Cheremisinoff, et al. 1977). Sound measurements are often made using the "A" frequency weighting when assessing environmental noise. The L_{eq} or, better, the LA_{eq} (the A-weighted equivalent continuous sound level) is an important parameter and is discussed below.

1.3.4 Noise Descriptors

There are a number of noise descriptors used to characterize various aspects of noise that take into account the variability of noise levels over time which most environments experience. The different descriptors are applicable to different situations. Commonly used descriptors are discussed below.

Equivalent Sound Level (L_{eq}) - The equivalent sound level (L_{eq} or LA_{eq}) is the value of a steady-state sound which has the same A-weighted sound energy as that contained in the time-varying sound. The L_{eq} is a single sound level value for a desired duration, which includes all of the time-varying sound energy during that measurement period. U.S. EPA has selected L_{eq} as the best environmental noise descriptor primarily because it correlates reasonably well with the effects of noise on people, even for wide variations of environmental sound levels and different time exposure patterns. Also, it is easily measurable with available equipment.

Statistical Descriptors - Statistical sound level descriptors, such as L_1, L_{10}, L_{50}, and L_{90}, are used to represent noise levels that are exceeded 1, 10, 50, and 90 percent of the time, respectively. L_{10}, the Sound Pressure Level (SPL) exceeded 10 percent of the time, provides an indication of intrusive sounds. L_{90} represents the residual level, or the background noise level without intrusive noises. These statistical descriptors are also referred to as LA1, LA10, LA50 and LA90 when they are calculated based on the A-weighted scale.

Residual Noise Level - Measurement of the residual or background sound level is useful in characterizing a community with respect to noise. The residual sound level is the minimum sound level in the absence of identifiable or intermittent local sources. It is not the absolute minimum sound level during a long observation period, but rather the lowest reading that is reached repeatedly during a given period. The L_{90} (referred to as the ambient level) is a statistical descriptor, which represents the level that is exceeded 90 percent of the time. Comparisons of data have shown that the L_{90}, measured with a continuous statistical sound meter, and the residual sound level, measured by trained personnel with a sound-level meter, are closely correlated with one another (Bolt, Beranek, and Neman, Inc. 1978).

Ambient noise is the noise from all sources combined - factory noise, traffic noise, birdsong, running water, etc. Specific noise is the noise from a source under investigation. The specific noise is a component of the ambient noise and can be identified and associated with the specific source.

1.4 Noise Standards, Criteria, and Guidelines

There are a number of noise standards, criteria, and guidelines used for evaluating and assessing noise associated with various projects, some of them are discussed below.

1.4.1 New York State Noise Criteria

The New York State Department of Environmental Conservation (NYSDEC) has published a policy and guidance document titled Assessing and Mitigating Noise Impacts (February 2, 2001). This document provides guidance on when noise due to projects has the potential for adverse impacts and requires review and possible mitigation in the absence of local regulations. The NYSDEC guidance indicates that local noise ordinances or regulations are not superseded by NYSDEC guidance. The New York State Guidance Document contains a table identifying expected human reaction to various increases in sound pressure levels. This table is included as Table 1-1.

The document provides guidance on thresholds for significant sound pressure level (SPL) increase and indicates that increases ranging from 0 to 3 dBA should have no appreciable effect on receptors, increases from 3 to 6 dBA may have potential for adverse noise impact only in cases where the most sensitive of receptors are present, and sound pressure increases of more than 6 dBA may require a closer analysis of impact potential depending on existing SPLs and the character of surrounding land use and receptors. The guidance indicates that a noise increase of 10 dBA deserves consideration of avoidance and mitigation measures in most cases, and in non-industrial settings the SPL should probably not exceed ambient noise by more than 6 dBA at the receptor. An increase of 6 dBA may cause complaints, however there may be occasions where an increase in SPLs of greater than 6 dBA might be acceptable.

It is further indicated that the addition of a noise source, in a non-industrial setting, should not raise the ambient noise level above a maximum of 65 dBA. Table 1-2 relates decibel change and relative loudness based on the Federal Highway Administration (FHWA) published noise sensitivity criteria.

1.4.2 City of Yonkers Noise Code

The City of Yonkers promulgated a noise code (Part VII, Chapter 66) in 1991, amended this code in 2005, and updated on 05-15-2007 as Supplement No. 11. The applicable provision (66-5 E) specifies that a sound level reading taken at a residential property, arising from a commercial property, an industrial property, a public space or a public right-of-way, above 70 dBA during daytime periods of 7 AM to 10 PM and above 50 dBA from 10 PM to 7 AM are considered prima facie evidence of noise disturbance. Sound-level readings above 70 dBA at any time at a commercial property or at an industrial property, Subparts (g) and (h) respectively, would be evidence of a noise disturbance. A sound that is plainly audible at a distance of 50 feet from its source, Chapter 66.5 (i), would be considered a noise disturbance. A copy of the Yonkers City Noise Code is provided in Appendix B.

Yonkers City Code: Chapter 66.4(f), exempts construction noise from regulatory noise levels between the hours of 7 AM and 6 PM on weekdays (weekend construction is prohibited). All motorized equipment used in construction and demolition activity shall be operated with a muffler. City of Yonkers Code Chapter 66-4(f) states that this provision shall not apply to road maintenance/improvement on pre-existing roads, on which daytime construction would prove disruptive of traffic flow so long as they are operating within the time and volume parameters set forth by the regulating department(s). Sounds from municipally sponsored construction projects, or repairs as ordered by the City Engineer or Commissioner of Department of Public Works and sounds from a municipally sponsored or approved celebration or event are also exempted.

1.4.3 HUD Noise Guidelines

The Department of Housing and Urban Development (HUD) has the responsibility to be aware of potential noise problems and potential noise impacts on HUD housing environments. HUD Regulations set forth the following exterior noise standards for new housing construction: 65 Ldn or less is acceptable, exceeding 65 Ldn but not exceeding 75 Ldn is normally unacceptable, and exceeding 75 Ldn is unacceptable.

Table 1-1 HUMAN REACTION TO INCREASES IN SOUND PRESSURE LEVEL	
Increase in Sound Pressure (dB)	**Human Reaction**
Under 5	Unnoticed to tolerable
5 – 10	Intrusive
10 – 15	Very noticeable
15 – 20	Objectionable
Over 20	Very objectionable to intolerable
Source: New York State Department of Environmental Conservation. Assessing and Mitigating Noise Impacts. (NYSDEC October 6, 2000.)	

Table 1-2 Noise Sensitivity Criteria Decibel Changes and Loudness	
Change (dBA)	**Relative Loudness**
0	Reference
3	Barely perceptible change
5	Readily perceptible change
10	Half or twice as loud
20	1/4 or four times as loud
30	1/8 or eight times as loud
Source: Based on Highway Traffic Noise Analysis and Abatement – Policy and Guidance. (FHWA, June 1995.)	

SECTION 2.0

PROJECT DESCRIPTION

2.0 PROJECT DESCRIPTION

2.1 Site/Area Description

Yonkers is the fourth largest city in the State of New York and the largest city in Westchester County. The proposed Project consists of three major redevelopment areas (Sites) in the Yonkers downtown and the adjacent waterfront area. These three project areas are referred to as River Park Center, Cacace Center and Palisades Point. The overall development includes 1,386 housing units, 473,000 square feet (SF) of retail space, 90,000 square feet of restaurant space, 475,000 square feet of office space, 6,600 parking spaces, and a 6,500 seat ballpark.

The Project Sites are located in relatively dense urban/suburban settings in the downtown area and southwestern portions of the City of Yonkers and along the Hudson River in the southwest part of Westchester County. River Park Center will be located in an area locally known as Chicken Island and is bounded by Nepperhan Avenue to the south, Elm Street to the north and east, Palisade Avenue to the north and west, and New Main Street to the west. The Yonkers City Hall is located just south of Getty Square (the main retail hub in downtown Yonkers) and is south of the proposed River Park Center development area. The new Government Center garage is located adjacent to City Hall and is bounded by New Main Street to the north and east, Nepperhan Avenue to the south, Broadway to the north and west. The Cacace Center Site is to be located to the south of this development bounded by Broadway, Nepperhan Avenue and Guion Street. The Palisades Point development is located west of the River Park Center, approximately 950 feet south of the downtown Yonkers Metro North Railroad Station, and is situated on the Hudson River waterfront between the River and the Metro North Hudson Line tracks on the east. The American Sugar Refinery adjoins the site and is located directly to the south. Much of the Project area has been built out with limited room for future development. The distance between the Palisades Point and River Park Center Project Sites is approximately a half of a mile.

2.2 Land Use

Aerial photographs were reviewed to identify and locate various land uses along the project area. According to the U.S. Census Bureau, the city of Yonkers has a total area of 20.3 mi^2 (18.1 mi^2 of it is land and 2.2 mi^2 of it is water) with an estimated population (2005) of roughly 196,500 residents. The city is spread out over many hills rising from sea level at the eastern bank of the Hudson River to as high as 416 feet at Sacred Heart Church (Wikipedia, 2006). The Project area is located in relatively dense urban/suburban setting in the downtown area of Yonkers. The downtown area is mixed use ranging from commercial and industrial to social/community service and residential. Residential units in downtown Yonkers range from two story housing to high-rise apartment buildings. Social and community services include churches, medical buildings/hospitals, schools, parks/recreation areas and other community related services (police department, fire department, courthouse, etc.).

2.3 Sensitive Receptors

Areas or receptors that are considered potentially sensitive to noise include residences, schools, hospitals, and recreational facilities (U.S. EPA 1974). The area near the Sites consists of potentially sensitive residential receptors. The closest residences are within approximately 200 feet from both Project Site boundaries. The closest hospital to both Sites is St. Joseph's Medical Center; the distance from the River Park Center and Palisades Point Project Sites to the hospital is less than 2,200 feet. The hospital is within 100 feet of the proposed Cacace Center Site location. The closest school to the River Park Center redevelopment area is Our Lady of Mt. Carmel–St. Anthony School; it is located approximately 200 feet from the site boundary. The closest school to the Palisades Point Site is City Harvest Pre-School (School 10); it is located approximately 600 feet from the site boundary. The closest church to the River Park Center redevelopment area is Our Lady of Mt. Carmel Church; it is located approximately 40 feet from the site boundary. The closest church to the Palisades Point Site is St. Mary's Church; it is located approximately 100 to 200 feet from the site boundary.

2.4 Project No-Build

The future No-Build conditions are assumed to be similar to the existing conditions with little, if any, major changes expected. The major change assumed in this analysis for the Project No-Build scenario is local traffic, based on traffic data (provided by John Collins Engineers, 2006).

2.5 <u>Project Build</u>

The proposed Project involves the following elements:

1) River Park Center Project Area – River Park Center consists of three components: a mixed-use residential and commercial component on the approximately 13 acre site consisting of the area commonly known as “Chicken Island” (excluding parcel 064, Martin’s retail store and parcels 31 and 35, Mount Carmel Baptist Church) and certain surrounding parcels; the redevelopment of an approximately 2.5 acre portion of the City Hall and Government Center Garage site and an adjoining parcel (sometimes called “Government Center”); and the redevelopment of a site at the northwest corner of Elm Street and Palisade Avenue (sometimes called “Palisade Avenue Office Building”). Mixed-use residential and commercial development is proposed on the ±13.14-acre site that includes the ±9.2 acre area known locally as Chicken Island and adjacent properties, and is bounded by Nepperhan Avenue to the south, Elm Street to the north and east, and New Main Street to the west. The proposed development is a mixed-use retail/residential/entertainment development including 465,000 square feet of retail, 325,000 square feet of office, 90,000 square feet of restaurants, 80,000 square feet for movie theaters, two (2) towers that will contain an aggregate total of approximately 950 residential units, a 6,500-seat Minor League baseball stadium, 4,598 parking spaces, and 3 new pedestrian bridges. A new replacement for the existing Fire Department Headquarters and a replacement for the existing City of Yonkers Annex Office Building are also proposed for this redevelopment. Included as an integral part of this development is the daylighting of approximately 400 linear feet of the Saw Mill River (from School Street to Henry Herz Street), and the provision of publicly accessible, landscaped open space along the length of the river as it traverses the site for approximately 1,100 linear feet.

2) Cacace Center – is a ±4.3-acre site bounded by New Main Street on the east, South Broadway on the west and Nepperhan Avenue on the north. The southern edge of the site adjoins adjacent City-owned properties that form the remainder of the block. The applicant proposes to develop Cacace Center as a mixed-use development comprised of office space, an approximately150 room hotel, a new City of Yonkers Fire Station (replacing the existing Fire Department Headquarters at 5-7 New School Street), and an approximately1,349 space parking structure containing 1,349 public spaces. The program for the Cacace Center is:

- Approximately 150 room hotel (approximately 75,000 square feet)
- Approximately 50,000 square foot Fire Department Headquarters and Station (new replacement for existing Fire Department Headquarters)
- Approximately 150,000 square feet of office space (a portion of which will replace municipal office space at the existing City of Yonkers Annex Office Building at 87 Nepperhan Avenue)
- Approximately 1,349 space parking garage all of which will be public spaces

3) Palisades Point – is comprised of two parcels totaling ±5.80 acres bounded by the Hudson River to the west and the Metro-North Railroad Hudson Line tracks to the east, and is situated nominally between Prospect Street to the north and Saint Mary Street to the south. The length of the Palisades Point's Hudson River shoreline is approximately 840 feet. The Applicant proposes to develop a mixed-use residential development with "neighborhood" retail and/or professional office uses, publicly accessible open space along the Hudson River, an extension of the existing Hudson River Esplanade, and on-site structured and at-grade parking, including replacement parking for Scrimshaw House, a condominium development to the north of Palisades Point. More specifically, Palisades Point includes the following principal components:

- Approximately 436 residential units in (2) two 25-story towers. Each unit averages 1,300 square feet for a total of 567,163 square feet. The projected unit mix will be as follows:
    - 25% 1-bedroom units
    - 50% 2-bedroom units
    - 25% 3-bedroom units

- Approximately 670 parking spaces in two (2) five-story parking garages located adjacent to each tower building (this includes replacement for 184 existing surface parking spaces that currently serve the adjacent Scrimshaw House).

- Approximately 8,700 sf of retail and/or professional office space.

- ±136,000 sf of publicly accessible open space along the Hudson River with an extension of the Hudson River Esplanade, cantilevered boardwalk, canoe and kayak boat launch, and 57 on-street parking spaces located in the street between the two buildings and in a parking area located at the southern portion of the site.

- New road and pedestrian access to the site with a public bridge crossing the Metro-North tracks from Prospect Street to the proposed development.

SECTION 3.0

EXISTING NOISE CONDITIONS

3.0 EXISTING NOISE CONDITIONS

Existing noise was measured at several locations surrounding the proposed River Park Center and Palisades Point Sites in Yonkers, New York during October 2006 at representative sensitive receptor locations in the vicinity of the Project Sites. Noise measurements were obtained at five (5) locations in the vicinity of the Project at various times for a total of 13 noise monitoring events including one 24-hour monitoring event. Noise was measured at four (4) locations during: the morning (m), afternoon/early evening (a), and night (n); during peak hour traffic periods on adjacent roadways; and for 24 consecutive hours at one location.

La Guardia International Airport is located approximately 10 miles southeast of the Project Sites. Overhead planes were observed during the monitoring periods and were included in the noise measurements.

The MTA lines (Hudson Line and Harlem Line) used for commuter trains borders both the River Park Center District and Palisades Point. The Hudson Line runs along the Hudson River to the west of River Park Center and east of Palisades Point (adjacent to the Site). The Harlem Line runs east of the Project area.

3.1 Noise Monitoring Methodology

Noise was measured using the A-weighted scale (dBA). Integrated sound level measurements (i.e., 1/min, 1/10sec, etc.) were stored in the Bruel and Kjaer (B&K) Hand Held Analyzer Type 2231 and/or B&K Hand Held Analyzer Type 2250 memory and then the data was transferred to a computer for compilation and tabulation. Noise monitoring was performed for approximately 20 minutes at given locations and different times of the day. Existing nearby noise sources potentially influencing the area, observed during noise monitoring, were noted. The noise monitoring approach utilized follows appropriate general guidelines and recommended practices.

Observations were made, during measurement, such as with regard to temperature, wind, relative humidity, cloud cover, and wind induced noises (i.e., leaves rustling, etc.). Atmospheric conditions such as rainfall (precipitation), high humidity (greater than 90 percent), and high wind (greater than around 12 to 15 miles per hour) are avoided during field measurement because of their potential influence to have an adverse effect on noise measurements. A microphone windscreen was utilized (as appropriate) during measurements to minimize potential wind effects.

3.2 Selection of Noise Monitoring Locations

Criteria considered in selecting noise monitoring locations included: proximity of the location to the Project areas, existing traffic data, noise sensitive receptors (residential areas, schools, churches, hospitals, etc.) and the representativeness of the location to other Project areas. In addition, logistical concerns including equipment placement, proper equipment exposure, access, and security were also considered.

Available Land Use information was used to categorize areas near the Project for noise assessment purposes. PS&S compiled aerial/land use maps of the Project area, and reviewed the Project based on the selection criteria described above, and utilized this information coupled with site visits, traffic data and information for existing conditions (provided by John Collins Engineers, PC) to select the noise monitoring locations.

Monitoring locations include a location along Nepperhan Avenue on a grassy knoll in a "triangular" lot between Nepperhan Avenue, Maple Street and Waverly Street, one location at Mt. Carmel Baptist Church (located along Nepperhan Avenue on the east side of the proposed River Park Center Development), a location along Palisade Avenue (a residential area north of the proposed River Park Center Development), and one location along Buena Vista Avenue (to the east of the proposed Palisades Point Development).

3.3 Noise Monitoring Locations (October 2006)

A-Weighted sound-level measurements were taken at locations NM-1 (24-hour), NM-2 (m, a, n), NM-3 (m, a, n), NM-4 (m, a, n), and NM-5 (m, a, n) (see Figure 3-1) in the vicinity of the River Park Center and Palisades Point development areas. These monitoring locations were selected to identify ambient background sound-levels in the vicinity of the proposed Project areas.

Noise monitoring locations are listed in Table 3-1 along with land use categories and observations. Figure 3-1 shows the noise monitoring locations which are described below.

<u>City of Yonkers Courthouse and Police Department</u> [NM-1] (24-hour)

Monitoring location NM-1 was in the Municipal Parking lot of the City of Yonkers Courthouse and Police Department along the southern boundary of the River Park Center Development. The monitoring location is adjacent to the intersection of Nepperhan Avenue and South Broadway, an intersection of concern (existing LOS D or worse). The land use directly surrounding the monitoring location is considered social or community service (i.e., medical center, courthouse, etc.), with residential areas to the east, south and west. This was the location chosen for 24-hour monitoring due to access, security, and proximity to development. The monitor was located in the northeast corner of the courthouse parking lot approximately 60 to 80 feet to the south of Nepperhan Avenue in Yonkers, NY.

The predominant noise influence is local and distant traffic, activity in the courthouse parking lot (people walking by, cars parking, etc.), and distant and overhead aircraft.

<u>Maple Street/Nepperhan Avenue/Waverly Street</u> [NM-2] (Morning/Afternoon/Night)

Monitoring location NM-2 was on a grassy knoll in a "triangular" lot between Nepperhan Avenue, Maple Street and Waverly Street. The monitor was located on the grassy knoll, approximately 50 feet to 80 feet off of Nepperhan Avenue, in a residential area along the eastern boundary of the proposed River Park Center Development.

The predominant noise influence is local and distant traffic (including brakes squealing, car horns, trucks, etc.), sirens, local residential activities (i.e., people walking down the street), distant and overhead aircraft, and distant construction noise.

<u>Mt. Carmel Baptist Church</u> [NM-3] (Morning/Afternoon/Night)

Monitoring location NM-3 was in front of "Our Lady of Mt. Carmel" Baptist Church along Nepperhan Avenue (near Elm Street). The monitor was located on the sidewalk approximately 20 feet from Nepperhan Avenue. Mt. Carmel – St. Anthony School is located across the street.

The predominant noise influence is local and distant traffic (including brakes squealing, car horns, trucks, etc.), sirens, local residential activities (i.e., people walking down the street), distant and overhead aircraft, and distant construction noise.

Palisade Avenue [NM-4] (Morning/Afternoon/Night)

Monitoring location NM-4 was adjacent to a high-rise residential area along Palisade Avenue. This road is located in a residential area north of the proposed River Park Center Development. On the eastern side of Palisade Avenue are a playground (with basketball courts) and several high-rise apartments. Palisade Avenue is "up-slope" from the base of the playground and apartments. The monitor was located on a sidewalk "above" the adjacent basketball courts (playground). Several residential houses are located on the western side of Palisade Avenue "up-slope" of the road. A car wash is located on the western side of the road nearby the monitoring location.

The predominant noise influences at this location are local and distant traffic (including brakes squealing, car horns, trucks, etc.), sirens, local residential activities (i.e., people walking down the street), distant and overhead aircraft, and birds chirping. Some light noise from the car wash was observed and some activity from fire trucks (idling without sirens) was observed near the apartments during the nighttime period.

Buena Vista Avenue [NM-5] (Morning/Afternoon/Night)

Monitoring location NM-5 was along Buena Vista Avenue on a sidewalk in front of St. Mary's (Holy Apostolic Catholic) Church, directly across from the American Sugar Refinery Company, Inc, Metro-North Hudson Line, and proposed Palisades Point Development. This location is in a residential area situated along the eastern boundary of the proposed Palisades Point Development. The houses on the eastern side of Buena Vista Avenue are "up-slope" of street grade. The houses on the western side of Buena Vista Avenue are at street grade and the Hudson Line, American Sugar Refinery and proposed development parcel are all "down-slope" of street grade (Buena Vista Ave).

The predominant noise influences are local and distant traffic (including brakes squealing, car horns, trucks, etc.), sirens, local residential activities (i.e., people walking down the street), dogs barking, the occasional train pass-by, sugar refinery, distant and overhead aircraft, and birds chirping.

3.4 Noise Monitoring Results (A-Weighted)

Existing ambient sound-level monitoring data obtained near the Project areas during October 2006 has been compiled and tabulated. Appendix A provides listings of sound monitoring data (ten-second and one-minute integrated sound measurement values).

A summary of the noise monitoring data is presented in Table 3-2. This data represents the ambient sound environment in the area surrounding the proposed Project. This Table lists the L_{eq}, L_{10} and L_{90} values for each monitoring location for the morning, afternoon/evening and nighttime monitoring periods in the vicinity of the Project (NM-1, NM-2, NM-3, NM-4, and NM-5). Figure 3-2 shows a comparison of the L_{eq} for each monitoring location and monitoring period. Three of the five monitoring locations exhibit lower sound levels during the nighttime period. The two locations, NM-2 and NM-3, with elevated (Leq) sound levels during the nighttime period are located along Nepperhan Avenue and are heavily influenced by extraneous noise (i.e., traffic noise). However, the residual or background (L_{90}) sound levels at these two locations are lower during the nighttime period as would be expected. Figure 3-3 presents the 24-hour A-weighted (L_{eq}) sound level measurements along with the daytime and nighttime residential standard. This figure shows that existing daytime sound levels are below the Yonkers residential noise standard. The trend is for sound levels to decrease at night (between 10 PM and Midnight) and increase in the morning (between 6 AM and 7 AM). This figure also shows that the nighttime sound levels, although lower than the daytime noise levels, are above the Yonkers residential nighttime noise standard.

Sound levels surrounding the Project areas are typical of an urban environment. The sound levels at each of these locations are influenced by local traffic conditions. Sound levels at Mt. Carmel Church (NM-3) and the intersection of Maple Street, Waverly Street and Nepperhan Avenue (NM-2) are significantly influenced by traffic on Nepperhan Avenue; Nepperhan Avenue is a six-lane roadway that is a major through street in downtown Yonkers.

The residual (L_{90}) sound level is representative of the ambient environment without the influence from extraneous noise sources. These values ranged from 55 dBA to 62 dBA during the day and 51 dBA to 54 dBA at night.

A summary of estimated L_{eq} values, the lowest L_{eq} value and the highest L_{eq} value, from each monitoring period (morning, afternoon/evening, and night) are presented in Table 3-3.

The morning period L_{eq} values ranged from 65 dBA to 72 dBA at the various monitoring locations; two locations that have a greater traffic influence had recorded L_{eq} values of approximately 68 dBA and 72 dBA for the morning period. The afternoon/evening period L_{eq} values ranged from 65 dBA to 71 dBA and the nighttime measurement period L_{eq} values ranged from 60 dBA to 72 dBA; two locations with a greater traffic influence had L_{eq} values of approximately 68 dBA and 72 dBA for the morning period, significantly higher than the residual sound levels indicating a large contribution from intrusive noise sources, typical of an urban environment with traffic influences.

3.5 Discussion

River Park Center Project Area:

The highest sound levels observed are during peak traffic periods. Traffic along Nepperhan Avenue, a major thoroughfare in downtown Yonkers, was a significant contributor to sound levels at several of the monitoring locations. Traffic on local streets and contributions from general "urban noise influences" (i.e., car alarms, sirens, pedestrians, construction, etc…) also contributed a significant amount to existing ambient sound levels. The ambient sound environment in the area surrounding the proposed River Park Center ranges from 65 dBA to 72 dBA during the daytime, with the higher ambient noise levels being just above the City of Yonkers noise regulation of 70 dBA, and ranges from 60 dBA to 72 dBA during the nighttime, above the City of Yonkers noise regulation of 50 dBA.

Palisades Point:

The existing ambient sound environment in the area surrounding the proposed Palisades Point Development is comprised of local traffic, pedestrians, noise from the existing sugar refinery and train pass-bys. Traffic has the greatest influence on sound levels in this area followed by the noise influence from the American Sugar Refinery Company, Inc. Noise from the sugar refinery has the greatest influence on the closest residential area, including St. Mary's Church. The predominant sound associated with the refinery is a mechanical/exhaust sound. During the noise measurements at the Buena Vista Avenue location, several train pass-bys along the Metro-North Hudson Line rail corridor were noted. The trains were proceeding through the community at a rapid speed (approximately 50 miles per hour), and were only a few cars in length. Train horns could be heard in the distance (possibly to the north near the Yonkers Station). The current rail corridor has approximately 100 pass-bys per day according to the Metro-North Hudson Line Schedule. The total time of a train pass-by at this location was a few seconds in duration and no horn sounded along the length of rail adjacent to the community. The contribution of sound levels from the train pass-bys to background sound levels does not appear to be significant.

The ambient sound environment in the area adjacent to the proposed Palisades Point Development is approximately 65 dBA during the daytime, below the City of Yonkers noise ordinance of 70 dBA, and 60 dBA during the nighttime, above the City of Yonkers residential noise ordinance of 50 dBA.

Table 3-1 Noise Monitoring Locations

ID#	Location	Period	Land Use	Observations
NM-1	Yonkers Courthouse Municipal Lot	24-hour	Social or Community Service / Residential	local and distant traffic, car stereos, car horns, sirens, local residential activities (i.e., pedestrians walking/talking on phones), some auto activity in the parking lot, distant and overhead aircrafts and birds
NM-2	Waverly Street / Maple Street / Nepperhan Avenue	morning afternoon night	Residential / Commercial	local and distant traffic, car stereos, car horns, sirens, local residential activities (i.e., pedestrians walking), distant and overhead aircrafts and birds
NM-3	177 Nepperhan Ave (Mt. Carmel Church)	morning afternoon night	Social or Community Service / Residential / Commercial	local and distant traffic, car stereos, car horns, sirens, local residential activities (i.e., pedestrians walking), distant and overhead aircrafts and a street cleaner
NM-4	Palisade Avenue	morning afternoon night	Residential / Commercial	local and distant traffic, car stereos, car horns, sirens, public activities (i.e., playing/shouting in the ball court), distant and overhead aircrafts and birds
NM-5	Buena Vista Avenue	morning afternoon night	Residential / Social or Community Service	local and distant traffic, car stereos, car horns, sirens, local residential activities (i.e., pedestrians walking), distant and overhead aircrafts, commuter rail line, sugar factory sounds, dogs and birds

Note:

(a) Approximate noise monitoring locations are shown on Figure 3-1

(b) The monitoring location ID# NM-2 m, a, n indicates the part of the day when monitoring was performed, i.e., m = morning, a = afternoon/evening, n = night

(c) Daytime is defined as 7:00 a.m. to 10 p.m. and nighttime is defined as 10:00 p.m. to 7:00 a.m.

Table 3-2 Yonkers SFC Development Existing Noise Monitoring Data						
Morning Monitoring Period		**LAeq [dB]**	**LA10 [dB]**	**LA90 [dB]**	**LAMax [dB]**	**Yonkers Standard (dBA)**
NM-1 (Ld)	Courthouse Municipal Lot	65.4	69.2	58.5	86.7	70
NM-2m	Waverly St/Maple St/Nepperhan Ave	68.8	72.3	60.0	87.1	
NM-3m	Mt. Carmel Baptist Church/Nepperhan	72.4	75.3	62.3	87.1	
NM-4m	Palisade Ave	66.5	68.4	55.5	87.9	
NM-5m	Buena Vista Ave	65.1	68.1	57.3	83.6	
Afternoon / Evening Monitoring Period		**LAeq [dB]**	**LA10 [dB]**	**LA90 [dB]**	**LAMax [dB]**	
NM-1 (Ld)	Courthouse Municipal Lot	65.4	69.2	58.5	86.7	70
NM-2a	Waverly St/Maple St/Nepperhan Ave	68.5	71.5	58.0	87.1	
NM-3a	Mt. Carmel Baptist Church/Nepperhan	68.3	70.5	58.3	91.9	
NM-4a	Palisade Ave	70.8	71.8	58.0	97.1	
NM-5a	Buena Vista Ave	65.6	69.0	55.5	89.7	
Nighttime Monitoring Period		**LAeq [dB]**	**LA10 [dB]**	**LA90 [dB]**	**LAMax [dB]**	
NM-1 (Ln)	Courthouse Municipal Lot	60.9	64.8	52.2	85.2	50
NM-2n	Waverly St/Maple St/Nepperhan Ave	68.5	65.2	50.9	93.6	
NM-3n	Mt. Carmel Baptist Church/Nepperhan	71.7	70.3	54.0	96.1	
NM-4n	Palisade Ave	65.5	67.2	52.7	89.7	
NM-5n	Buena Vista Ave	60.2	63.8	51.7	78.6	

Note:

(a) Approximate noise monitoring locations are shown on Figure 3-1

(b) The monitoring location ID# NM-2 m, a, n indicate the part of the day when monitoring was performed, i.e., m = morning, a = afternoon/evening, n = night

(c) Daytime is defined as 7:00 a.m. to 10 p.m. and nighttime is defined as 10:00 p.m. to 7:00 a.m.

Table 3-3 Yonkers SFC Development Existing Noise (Leq) Summary		
Yonkers	**Minimum LAeq [dB]**	**Maximum LAeq [dB]**
Morning Monitoring Period	65.1	72.4
Afternoon / Evening Monitoring Period	65.4	70.8
Nighttime Monitoring Period	60.2	71.7

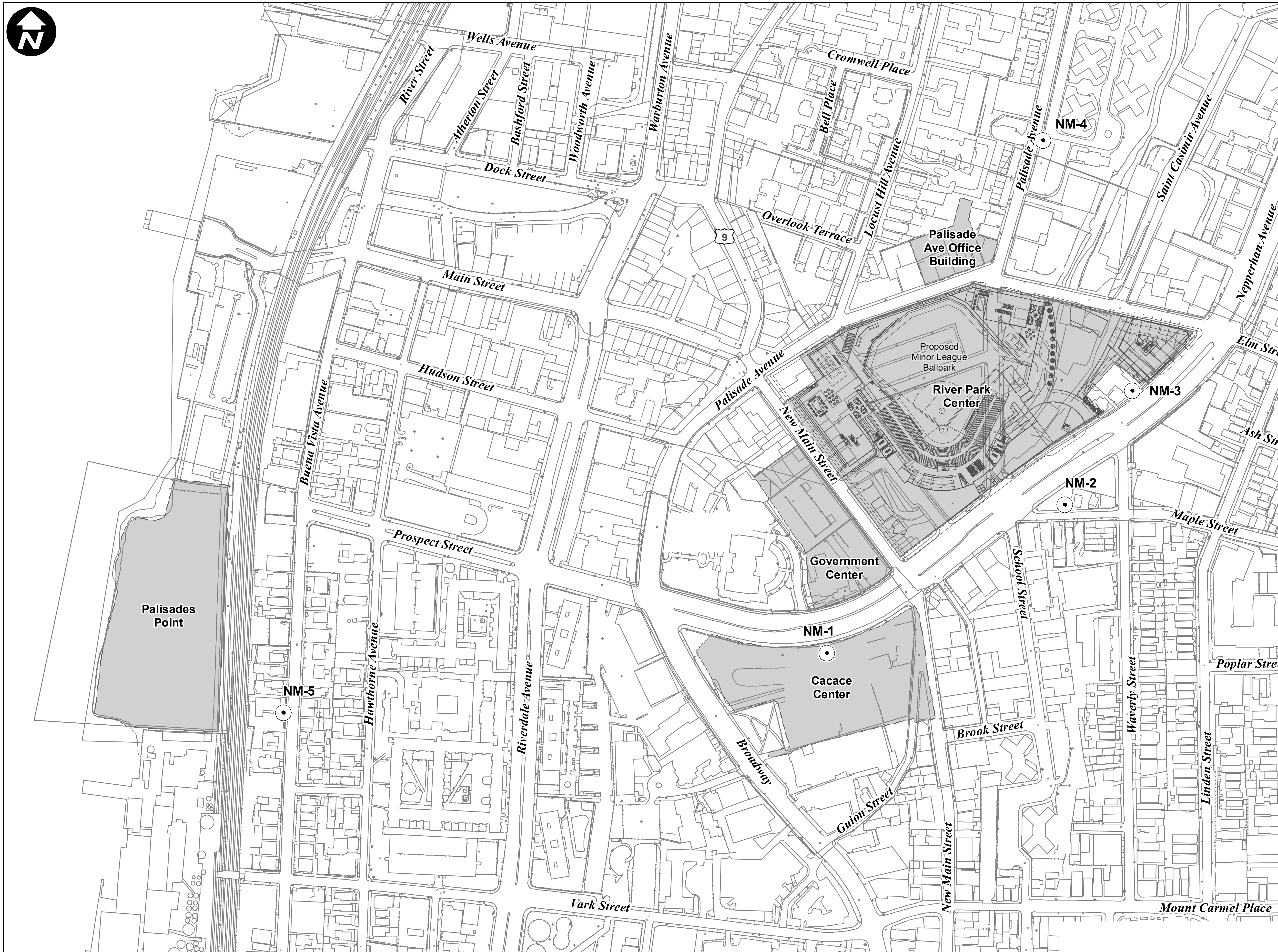
Note:

(a) Approximate noise monitoring locations are shown on Figure 3-1

(b) The monitoring location ID# NM-2 m, a, n indicate the part of the day when monitoring was performed, i.e., m = morning, a = afternoon/evening, n = night

(c) Daytime is defined as 7:00 a.m. to 10 p.m. and nighttime is defined as 10:00 p.m. to 7:00 a.m.

(d) Morning monitoring period measurements were collected between 7:00 a.m. and 9:30 a.m., afternoon/evening monitoring period measurements were collected between 3:30 p.m. and 6:00 p.m. and nighttime monitoring period measurements were collected between 9:30 p.m. and 12:00 a.m.



Legend

- Noise Monitoring Location
- Redevelopment Project Site

Source:
Redevelopment Project Sites taken from SFC plan entitled "SFC Infrastructure Budget Water Main Improvements", dated 4/30/07.

Proposed Junior League Ballpark taken from SFC plan entitled, "Field Level Plan", dated 04/03/07.

Basemap taken from plan entitled "SFC Development Project: Yonkers Gateway and Palisades Point Traffic Study.", prepared by Struever, Fidelco Capelli, LLC, dated August, 2006.

Noise Monitoring Locations are approximate.

0 150 300 Feet

PS&S
integrating design & engineering

SFC REDEVELOPMENT PROJECT
CITY OF YONKERS
WESTCHESTER COUNTY, NEW YORK

NOISE MONITORING LOCATIONS

Drn By: JA	Scale: 1" = 300'	Project: 03113.003.024
Ch'kd By: MH	Date: 01/04/08	Figure No. : 3-1

Map Document: (P:\03113\003\Y\N\Maps\Fig3-1_NoiseMonLoc_010408_01.mxd)
1/4/2008 -- 2:47:37 PM

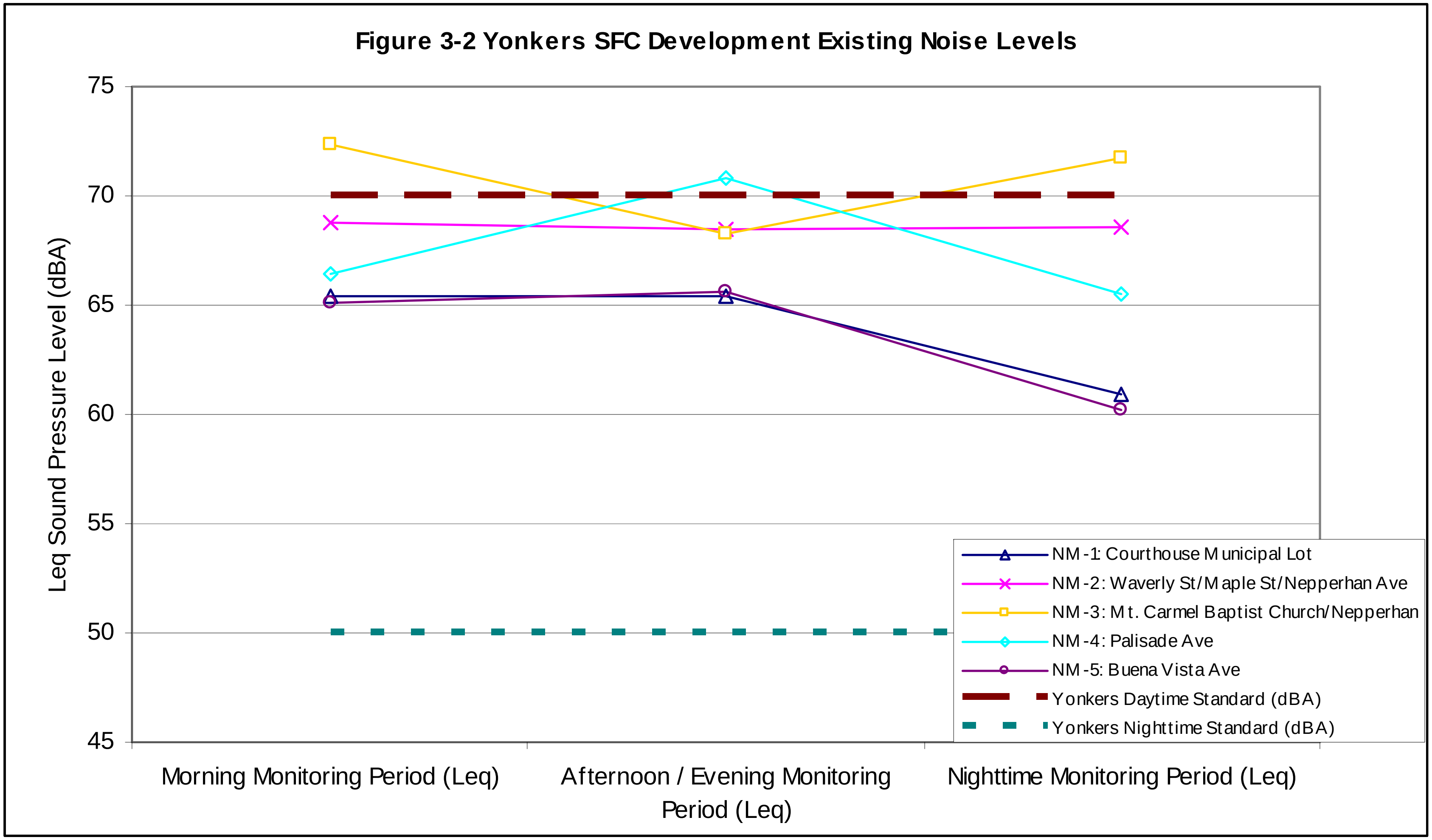


Figure 3-2 Yonkers SFC Development Existing Noise Levels
75
70
65
60
55
50
45
Leq Sound Pressure Level (dBA)
Morning Monitoring Period (Leq)
Afternoon / Evening Monitoring Period (Leq)
Nighttime Monitoring Period (Leq)
NM-1: Courthouse Municipal Lot
NM-2: Waverly St/Maple St/Nepperhan Ave
NM-3: Mt. Carmel Baptist Church/Nepperhan
NM-4: Palisade Ave
NM-5: Buena Vista Ave
Yonkers Daytime Standard (dBA)
Yonkers Nighttime Standard (dBA)

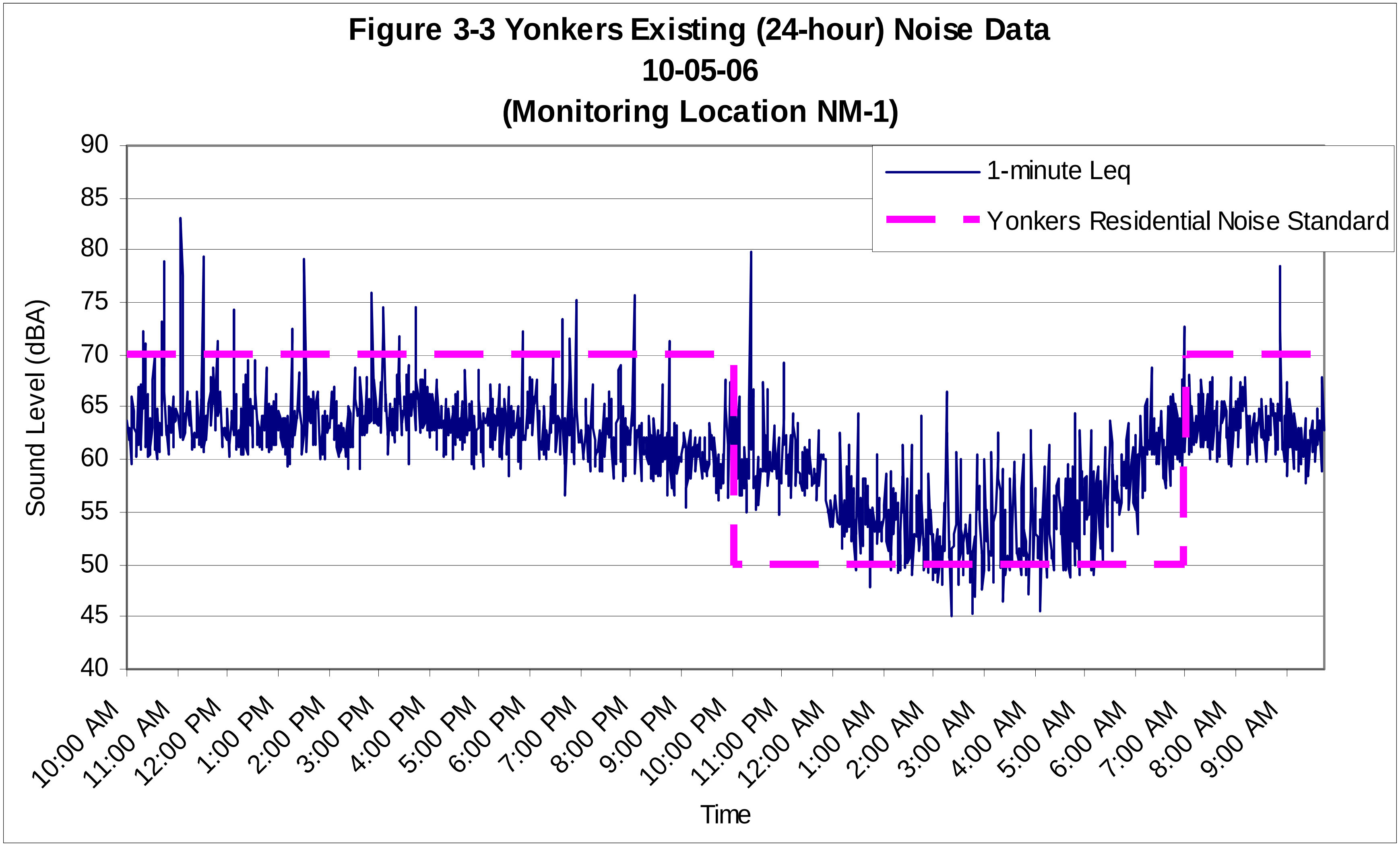


Figure 3-3 Yonkers Existing (24-hour) Noise Data
10-05-06
(Monitoring Location NM-1)
Sound Level (dBA)
90
85
80
75
70
65
60
55
50
45
40
1-minute Leq
Yonkers Residential Noise Standard
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
Time

SECTION 4.0

NOISE IMPACT ASSESSMENT

4.0 NOISE IMPACT ASSESSMENT

Potential noise impacts associated with the proposed Project have been assessed using quantitative techniques as discussed below. The evaluation criteria, vehicular noise screening methodology, Project No-Build, Project Build, other Project components, and mitigation measures are discussed.

4.1 Project No-Build

The No-Build Scenario reflects current ambient sound conditions in the Project area. The existing noise levels (Section 3.0) in the proposed Project area are presented in Table 3-2, and are used to represent noise levels at various locations surrounding the Project area for the No-Build condition. The Table shows the intersection, noise monitoring location ID#, and the measured L_{eq}, L10, L90 and Lmax for the morning, afternoon and nighttime periods. The existing noise levels are not anticipated to change significantly in the future without Project development.

It is clear that under the No-Build condition, existing vehicular noise tends to dominate the noise exposure at nearby receptors almost everywhere surrounding the Project area.

4.2 Noise Impact Assessment - Project Build

The Project Build Scenario involves the following proposed elements:

River Park Center – The proposed development is a mixed-use retail/residential/ entertainment development including retail, office, restaurants, movie theaters, hotel rooms, residential units, parking and a 6,500-seat minor league baseball stadium.

Palisades Point – is comprised of two parcels totaling approximately 5.8 acres along the Hudson River. Two (2) 25-story residential towers with 436 dwelling units, along with structured and on-street parking and publicly accessible open space along the Hudson River are proposed.

4.2.1 River Park Center

Traffic Noise:

Mobile Source Analysis – Vehicular Noise Screening Procedure

The existing ambient sound environment in the Project area is heavily influenced by vehicular traffic noise. The screening analysis employed is suggested by the New York City Environmental Quality Review (NYC CEQR) Technical Manual for first level noise screening purposes.

A traffic analysis was performed using an established procedure (NY CEQR, 2001). This approach summarizes a framework for an initial screening procedure for traffic related noise based on the estimated traffic volumes. This screening procedure uses the concept of Passenger Car Equivalents (PCEs) to apply an adjustment factor to trucks and buses, since they generate more noise than individual automobiles. For example, an automobile will count as one PCE, a bus will count as 18 PCEs, and a heavy duty truck will count as 47 PCEs. This method adjusts the traffic volume of trucks and buses (the louder vehicles) to the equivalent number of passenger cars. If the existing passenger car equivalent values are increased by more than 100% due to a proposed Project, a detailed noise analysis may be needed for that location. The rationale for this methodology is that an increase in traffic volume of 100% or greater at similar travel speed is considered to result in a noise increase due to traffic by an approximate 3 dBA increase in sound level, the level that is barely perceptible to humans. If a more detailed analysis is required, a set of logarithmic equations are used to compute the Future No Action Condition and the Future Action Condition for comparison to assess the incremental change and applicable standards/thresholds.

The FHWA Traffic Noise Model (TNM) is commonly used to assess potential noise impacts where project Build conditions will result in significant changes to roadways, street geometries, travel speed and traffic volumes, all factors that can influence vehicular generated noise. There are no roadways in the project area that carry no or very low traffic volumes, and no planned significant change to roadways and traffic conditions, so the use of the FHWA Traffic Noise Model (TNM) is not necessary.

Noise Impact Criteria

Two methods are utilized to determine potential significant noise impacts. The first approach deals with using absolute noise level limits. Absolute limits relate to published standards (i.e., noise impact criteria). The applicable provision (66-5 E) in the Yonkers Noise Code specifies that a sound level reading taken at a residential property, arising from a commercial property, an industrial property, a public space or a public right-of-way, above 70 dBA during daytime (7 AM to 10 PM) or above 50 dBA during nighttime (10 PM to 7 AM) is considered a noise disturbance.

The second approach from the CEQR Technical Manual utilizes an incremental change from no action conditions (relative impact criteria), i.e., comparing the action (Build) condition noise levels with the no action (No-Build) condition noise levels.

The NYC CEQR Technical Manual impact assessment approach for vehicular noise involves comparing the proposed action L_{eq} noise level to levels calculated for the no action condition. The noise exposure guidelines indicate an incremental significant impact threshold for vehicular noise based upon a 65 dBA criteria. If existing sound levels are less than this criteria then an allowable increase is determined based on the degree of difference. The following criteria summarize a significant noise impact at sensitive receptors:

- During daytime with No-Build levels less than 60 dB(A) L_{eq}, a significant impact would be an increase equal to or greater than 5 dB(A) L_{eq} for the Build condition.
- During daytime with No-Build levels that are 61 dB(A) L_{eq}, a significant impact would be an increase equal to or greater than 4 dB(A) L_{eq} for the Build condition.
- During daytime with No-Build levels equal to or greater than 62 dB(A) L_{eq}, a significant impact would be an increase equal to or greater than 3 dB(A) L_{eq} for the Build condition.
- During nighttime, a significant impact would be an increase equal to or greater than 3 dB(A) L_{eq} for the Build condition.

Methodology

Traffic volumes for the existing, No-Build, Build and Build with Ballpark conditions have been reviewed, for the sixty (60) intersections of concern studied by the traffic Engineer for the Project, to assess the potential traffic generated noise due to projected increases in traffic volumes. The Build (without Ballpark) and Build (with Ballpark) increase in intersection traffic volumes are shown below (Table 4-1). Table 4-1 shows each intersection and the greatest percent traffic increase of the three peak scenarios (AM, PM, and Saturday) provided by the traffic engineer for both the Build without and with Ballpark traffic scenarios. Three (3) of the 60 intersections have a projected traffic volume increase that will be greater than 100% over the No-Build traffic volumes. These intersections (No.'s 5, 7, and 8) warrant further study.

Table 4-1 Intersection Traffic Volume Increase for Build (without Ballpark) and Build (with Ballpark)

Key	Intersection	2012 Build Volume (w/out Ballpark) % Traffic Increase	2012 Build Volume (w/ Ballpark) % Traffic Increase
1	Nepperhan Ave & Elm St	<40	<65
2	Nepperhan Ave & School St/New School St	<20	<40
3	Nepperhan Ave & New Main St	<45	<70
4	So Broadway & Prospect St/Nepperhan Ave	<30	<30
5	**So Broadway & Hudson St (nobuild unsig.)**	<85	**>100**
6	So Broadway & Main St	<85	<85
7	**Palisade Ave & Main St**	**>100**	**>100**
8	**Palisade Ave & Locust Hill Ave (all-way stop)**	**>100**	**>100**
9	Palisade Ave & Elm St/School St/Site Access	<75	<80
10	Ashburton Ave & Warburton Ave	<30	<40
11	Ashburton Ave & No Broadway	<30	<35
12	Ashburton Ave & Locust Hill Rd (unsig.)	<30	<30
13	Ashburton Ave & Palisade Ave	<25	<30
14	Ashburton Ave & Nepperhan Ave	<30	<40
15	Ashburton Ave & NYS Rt 9A/Walnut St	<20	<25
16	Yonkers Ave & Walnut St	<35	<60
17	Yonkers Ave & Prescott St	<30	<50
18	Yonkers Ave & Ashburton Ave (SIP)	<20	<35
19	Yonkers Ave & SMRP SB Ramps (nb unsig.)	<20	<35
20	Yonkers Ave & SMRP NB Ramps	<20	<30
21	Buena Vista Ave & Dock St (all-way stop)	0	0
22	Buena Vista Ave & Main St	<30	<30
23	Buena Vista Ave & Hudson St (unsig.)	<25	<25
24	Warburton St & Dock St/Nepperhan St	<25	<35
25	Riverdale Ave/Warburton Ave & Main St	<25	<30
26	Riverdale Ave & Hudson St	<35	<50
27	Riverdale Ave & Prospect St	<30	<35
28	Riverdale Ave & Vark St	<35	<35
29	Riverdale Ave & Herriot St	<45	<50
30	Riverdale Ave & Ludlow St	<35	<40
31	Riverdale Ave & Radford St	<50	<55
32	Riverdale Ave & Valentine Ln	<50	<55
33	So Broadway & Vark St	<35	<45
34	So Broadway & Herriot St	<35	<50
35	So Broadway & Bright Place	<30	<40
36	So Broadway & Ludlow St	<25	<35
37	So Broadway & McLean Ave	<25	<30
38	So Broadway & Radford St	<20	<20
39	So Broadway & Valentine Ln	<20	<20
40	Yonkers Ave & Midland Ave - West	<20	<20
41	Yonkers Ave & Midland Ave - East	<20	<25
42	Yonkers Ave & Seminary Ave	<20	<30
43	Yonkers Ave & Central Park SB	<20	<25
44	Yonkers Ave & Central Park NB	<10	<15
45	Warburton Ave & Glenwood Ave	<45	<50
46	Warburton Ave & Lamartine Ave	<40	<45
47	North Broadway & Glenwood Ave	<45	<50
48	North Broadway & Lamartine Ave	<50	<60
49	Nepperhan Ave & Lake St	<30	<35
50	Prospect St & Buena Vista Ave (all way stop)	<20	<20
51	Prospect St & Hawthorne Ave	<20	<20
52	Rumsey Rd & SMRP/CCP Ramps	<15	<20
53	Rumsey Rd & Spruce St	<20	<25
54	Van Cortlandt Park Ave & Spruce St (AWS)	<60	<80
55	Elm St & Van Cortlandt Park Ave (unsig)	<65	<90
56	Elm St & Walnut St	<40	<55
57	Elm St & Linden St (all way stop)	<50	<70
58	Lockwood Ave & SMRP SB Ramp (unsig)	<40	<50
59	Palmer Rd & SMRP NB Ramp (unsig)	<30	<40
60	Nepperhan Ave & Executive Blvd	<10	<10

The intersection of Palisade Avenue and Locust Hill Avenue during AM, PM and Saturday Peak hour and the intersection of Palisade Avenue and New Main Street during PM and Saturday Peak hour have projected traffic increase greater than 100% during Build without Ballpark traffic.

The intersection of South Broadway and Hudson Street during Saturday peak hour has a projected traffic increase greater than 100% during Build with Ballpark traffic. The intersection of Palisade Avenue and Locust Hill Avenue and the intersection of Palisade Avenue and New Main Street during PM and Saturday peak hour have projected traffic increase greater than 100% during Build with Ballpark traffic.

Three (3) out of sixty (60) intersections have Build with or without Ballpark traffic projected increase in traffic volumes greater than 100%; therefore a more detailed modeling analysis is required for these three intersections. Noise modeling of these intersections was performed using a set of logarithmic equations that calculate the No Action Noise Condition (No-Build) and the Action Noise Condition (Build).

The PCE's calculated for the No-Build traffic data were used to calculate the No Action (No-Build) noise levels with the following logarithmic equation (NY CEQR, 2001):

FNA NL = 10 log (NA PCE / E PCE) + E NL

where:

FNA NL = Future No Action Noise Level
NA PCE = No Action PCEs
E PCE = Existing PCEs
E NL = Existing Noise Level

Similarly the PCEs were calculated for the Build scenario. The projected Build traffic was used to calculate the Action noise levels using the above equation, substituting the Action PCEs for the No Action (No-Build) PCEs (NY CEQR, 2001).

This process was performed on the three intersections of concern for Saturday Peak Hour ballpark traffic, the worst-case traffic scenario for each intersection. Traffic data used in the equations were obtained from John Collins Engineering (JCE 2006).

Traffic Noise Impact Analysis Results

The estimated traffic related noise levels associated with three intersections that have the greatest estimated increases in traffic volume in the Project area are shown in Table 4-2. The existing, projected No-Build noise level, and projected Build noise level for Palisade Avenue and New Main Street (the worst-case) and the projected Build (with ballpark traffic) noise level for Saturday Peak Hour traffic are shown in Table 4-2. The existing and projected No-Build noise levels are just at or above the City of Yonkers' applicable daytime residential criteria of 70 dBA. The projected noise increase for the Build condition over the No-Build condition is less than 3 dBA, the incremental significant impact threshold.

Results of noise modeling indicate that traffic associated with the proposed Project will increase noise at the three worst intersections by an approximate 1 to 2.5 dBA above the projected No-Build condition sound levels. Projected Build condition sound levels will range from approximately 72 to 74 dBA at these intersections during peak hour event traffic. The estimated noise level increase at the three worst case roadway segments are less than the 3 dBA threshold (detectable by the human ear). Therefore, the projected traffic noise increase due to Project related traffic is not expected to represent a significant increase in the ambient noise levels. Changes in noise level of this magnitude would be barely perceptible.

Table 4-2 Projected Vehicular Noise Levels			
Saturday Peak	**Palisade Ave & New Main St**	**Palisade Ave & Locust Hill Ave**	**South Broadway & Hudson St**
Existing Noise Level is 70.5 dBA Leq (a)	Future Projected Noise Levels (dBA Leq)	Future Projected Noise Levels (dBA Leq)	Future Projected Noise Levels (dBA Leq)
No Build	71.6	71.6	71.6
Build with Ballpark (b)	73.9	73.7	72.7
Noise increase in Build with Ballpark condition above No Build condition	**2.3**	**2.1**	**1.1**

Notes:
(a) Existing Noise Level obtained from measurements at Palisade Avenue.
(b) The incremental significant impact threshold, based on existing measurement data, is an increase of at least 3 dB(A) Leq for the projected Build condition over the projected No Build condition.

Mitigation

Mitigation measures typically used to address increases in noise caused by traffic include berms and sound barrier walls. However, noise mitigation measures such as these are not practical along these roadways due to sidewalks, driveway openings and safety concerns. Impacts to exterior areas of residential units near the main thoroughfares would be mitigated to some degree by various project and existing intervening building structures.

Stadium Noise:

Baseball Game Event Noise Impact Assessment

Potential exists for noise to be generated by stadium noise sources that include the sounds of the crowd cheering, the public address systems, music and firework displays during baseball game events at the proposed stadium.

Baseball game noise can be characterized as having three major components that include crowd cheering noise, public address announcer sounds, and amplified music in the form of short sound bites or sound clips that often go along with big screen video clips. The contributions from these major components of baseball game noise can vary greatly in loudness, time intervals, and duration throughout the game event. Baseball events typically will last approximately 3 to 4 hours and would occur most frequently during the afternoon and evening hours (i.e., 6 to 10 PM).

The closest sensitive receptors (residential) are located at a distance of approximately 100 feet from the northern boundary of the stadium site, or approximately 450 feet from the center of the baseball diamond. Spectator noise would tend to be projected toward these residential uses given stadium seating placement, however these receptors will be located at a 'lower' elevation than the stadium and therefore will not have a direct line-of-sight due to the stadium geometry.

Two (2) residential towers are to be located, to the east (near right field) and west (near left field), adjacent to the ballpark. Many of the upper floors of the two residential towers will have outdoor balconies, and those units facing the ballpark will have direct line-of-sight to the stadium. It is assumed that those people, who will live in the towers facing the ballpark, will be aware that there would be noise from events at the ballpark.

The proposed stadium will be relatively open toward the outfield portion of the site. Seating will tend to be along the first and third baselines around home plate, with a viewing area (for residential patrons) in the northwest corner (behind left field) of the ballpark. The stadium seating area will extend well above the field and tend to serve as a barrier to sound in the south, southeast, and southwest directions.

The P.A. system design for the stadium will include a distributed system of speakers, located around each section of the park to focus sound into the park and minimize the need for extra-loud and high-mounted units. The potential noise from baseball game events would be primarily from crowd noise from within the proposed stadium. Therefore, crowd noise is expected to result in the greatest source of noise from baseball events. P.A. system noise will contribute to peak noise levels as will crowd roar, and music sound bytes. Stadium noise is most appropriately measured, reported, and assessed in terms of dBA (L_{max} and L_{eq}).

The L_{eq} for a game event has been estimated at approximately 65 dBA which roughly represents the average noise during a baseball game event. Highlights during the game can bring about the roar of the crowd and sound bites at the same time resulting in short periods of high noise levels; peak levels or L_{max}. The peak, or L_{max}, noise levels during baseball events at the proposed stadium are estimated to be approximately 73 dBA (L_{max}) at approximately 300 feet from the center of the baseball diamond. It is anticipated that peak noise levels occur approximately 10 percent of the time, with the remaining 90 percent of the event generating substantially less noise which will be conservatively estimated to be at an L_{eq}(game event) level of 65 dBA (at approximately 300 feet from the center of the diamond).

Noise level contributions due to a particular noise source can be estimated using quantitative techniques (noise modeling). Projected noise levels can be estimated using a noise modeling technique, based on a relationship that expresses noise attenuation as a logarithmic function of receptor distance from the noise source. Noise contribution levels from a noise source can be estimated at selected receptor locations (i.e., noise monitoring locations, residential areas, etc.). Figure 4-1 shows a layout of the ballpark and receptors used in the sound modeling analysis.

Table 4-3 presents a summary of projected ballpark noise levels. The maximum noise levels from a ballpark event at the residential receptors located just beyond the outfield (around 450 feet from the center of the diamond) are projected to be approximately 62 dBA L_{eq}(game event) and 70 dBA L_{max}. For the residential tower receptors east and west of the stadium, the L_{max} is estimated at 73 dBA (L_{max}; east tower) and 76 dBA (L_{max}; west tower). It is reasonable to consider the outdoor balconies on the two residential towers as an extension of the stadium to some extent.

The existing sound levels (L_{eq}) range from 65 dBA to 72 dBA in the Project area, including River Park Center, during the daytime. Projections at residential locations to the north of the ballpark (outside the ballpark) indicate that ballpark noise levels are approximately 62 dBA Leq and projections at the east and west residential towers indicate that noise levels are approximately 65 and 69 dBA Leq, respectively (shown in Table III.F-8). Projections indicate that there will not be an increase in sound levels of 3 dBA or greater. Therefore the contribution from the ballgame to existing noise levels is not expected to be significant. As shown in monitoring results from the surrounding residential uses, existing noise at residential uses adjacent to the Site currently range from approximately 80 dBA (L_{max}) to 93 dBA (L_{max}) due to existing noise sources such as vehicular noise and overhead aircraft. Projections at residential locations to the north of the ballpark (outside the ballpark) indicate that projected ballpark noise levels are approximately 70 dBA L_{max} and projections at the east and west residential towers are approximately 73 and 77 dBA L_{max}, respectively (shown in Table 4-3). The Project estimated peak noise levels during baseball game events are lower than the existing peak noise levels from other existing sources.

This assessment of baseball stadium event noise is based in part on previous noise analyses that were performed for similar projects involving baseball stadium event noise monitored at a number of facilities that are, in general, similar to the proposed stadium. Specific noise estimates for the new ballpark are based on measurements taken at Qualcomm Stadium, a much larger stadium (40,000 seating capacity) than the Yonkers stadium seating capacity of 6,500. In addition, information from previous noise analyses for 3Com Park (San Francisco, CA) and

PETCO Stadium (San Diego, CA), were adapted for this study (LSA Associates, 2006).

Building Materials and Sound Transmission Loss

The interior noise level established by the EPA required to protect public health is 45 dBA L_{dn} for residential uses. Typical residential structures in southern New York provide an exterior-to-interior noise reduction of approximately 25 dBA with windows closed and 15 dBA with windows open. Based on the analysis, several residential sites in the project area would be exposed to noise levels that would exceed the criteria with windows open. The most potential for noise impacts are anticipated to be upon the two proposed residential towers overlooking the stadium. The residents of these buildings would likely expect that there would be noise from events at the park.

The anticipated materials and construction to be used will provide a level of sound attenuation to mitigate most outdoor to indoor noise and especially as related to ballpark events and train pass-bys. Building designs and materials of construction have not been finalized at this time. However, the exterior design and construction of the residential buildings of the Palisades Point and River Park Towers will include typical materials such as brick exterior facing, concrete block, pre-cast concrete panels, with insulation and interior skin on the outer walls of sheetrock wall board (i.e., 1/2 thick) or equivalent. The specific designs and construction may vary but will be of materials to achieve equivalent or similar sound attenuation (sound reduction of outside noise to the interior of these residential units facing the stadium).

Windows will likely include a variety of configurations such as fixed view glass, view glass sliders, non-vision spandrel glass, etc. Typical double pane 1" thick windows consist of fixed vision glass of double-pane 1/4" glass panes and a 1/2" spacing between. Spandrel glass is a non-vision, double-pane glass both 1/4" thick with 1/2" thick spacing between panes.

Both high sound transmission loss and good low frequency performance can be achieved with masonry walls **(**masonry cavity wall**)** concrete blocks, or pre-cast or cast-in-place concrete of the same weight give similar performance. Masonry walls commonly have wallboard applied to the interior face as a finishing material.

Estimated sound transmission loss of a typical double-pane 1" thick non-vision and/or vision glass is approximately 30 to 35 dB. This assumes a generous application of sound-absorbent material on the reveal, or wall space between the panes be applied, and the use of elastic glazing compound such as polybutene mastic, polysulfide elastomer, etc. The attenuation of outside sound by windows can vary from standard windows to more acoustically efficient windows. Windows will be selected that will achieve an appropriate attenuation of sound from the train pass bys and ballpark events. Masonry cavity walls with 4" of brick for the outer walls and 6" of inner masonry with 2" of air space (plus 4" of insulation and wallboard) can achieve a conservative 50 dB sound transmission loss from exterior sound to interior. It is anticipated that with construction and materials such as these with sound transmission loss of 30 to 50 dB, that estimated noise from the ballpark of an approximate Lmax of 73 to 77 dBA will easily be attenuated to less than 45 dBA and in most cases much less likely than 35 dBA. Similarly, ballpark Leq levels are expected for the most part to be attenuated to 20 to 30 dBA inside residential tower units facing the ballpark. Some of the residential units facing the train line and the ballpark may have outdoor balconies that may be subject to unabated noise from ballpark events and train pass bys.

Concert Event Noise

It is anticipated that the stadium will have alternate event seating configurations. An alternate configuration from ballgames is for concerts. Concert configuration would not necessarily increase the number of seats as seating in the grandstands may be eliminated due to the limited views of the stage. The stage would potentially be located in the field with speakers oriented towards home plate and the stands. It is assumed that twelve concert events would occur at the stadium each year. Anticipated crowd levels would vary with event. Some concerts would be held using less than the stadium's full seating capacity, while others could potentially use the maximum seating capacity. The noise effects of amplified music would be noticeably different from that of baseball game events. The sounds from concerts would likely not be as variable as baseball games depending on the type of music.

Peak Noise during Concert Events

For outdoor concerts for which the attraction is rock or other popular music, typical noise levels for a sound mixing board usually located approximately 100 feet from the stage is 95 dB. Amplifiers for concerts are usually located at field level facing the stadium seating. Concerts at the stadium would be unique for outdoor music in that the stadium would provide a barrier behind the audience that would reduce the speaker volume needed to achieve the same sound effect in a completely open outdoor environment and would reduce off-site sound propagation, since the sound would be directed toward the seats. Under this concert configuration the stadium stands and the people in them would absorb a substantial amount of the acoustic energy. However, some noise could spill over to the surrounding areas.

Using a distance divergence factor (the reduction in noise due to loss of energy from the source with distance) of 9 dB, music at the nearest residence with a direct line-of-sight (proposed east and west towers) could experience levels on the order of 86 dB L_{max}, potentially higher than the maximum outdoor noise level for a baseball game.

Ambient Noise During Concert Events

Unlike baseball events, concert noise typically would have higher overall L_{eq} because music from the speaker system is more continuous at a louder level than crowd cheers. The hourly L_{eq} is estimated to be 6 dB less than the L_{max} for concert noise (based on results of the Environmental Noise Model (ENM) for the San Francisco Giants Ballpark which proposed open air concerts with similar crowd capacity).

A significant impact would exist if the Project increases the ambient noise levels in the project vicinity more than 6 dBA over levels existing without the project. Existing noise during evening hours in the project area as documented by field surveys ranges from an L_{eq} of 65 dBA to 70 dBA. Baseball games at the proposed stadium are not anticipated to significantly increase the L_{eq} in the surrounding neighborhoods of the project site. However, there is potential for noise from concerts at the stadium to significantly increase the ambient sound levels in the area, especially to the north, during concert hours.

Venue layout plans, stage configuration, sound equipment layout and seating plans for concerts can vary greatly as resultant noise levels will.

Concert events have the potential for noise impact at localized residents and can be quite varied depending on the type of concert. Because of the uncertainty with regards to the type of concerts and significant differences in sound character, sound systems and physical layout, it is recommended that a Noise Management Plan be prepared for proposed concerts.

Development of a Noise Management Plan is recommended to minimize disturbance of nearby residents from concert events with sound amplification at the Stadium that addresses the specifics related to any proposed concerts, and should be approved by the City of Yonkers. The plan would assess the concert and specify appropriate mitigation measures such as line array speaker systems, optimum speaker aiming, etc.

Stadium sound systems are usually suited for music such as is needed for concerts. Concert speaker systems are often located in speaker clusters near the stage and directed at the audience. These speaker clusters usually are fairly directional in contrast to public address type sound systems. Since the speaker clusters are usually farther away from the audience than public address system speakers, the concert noise from central speaker clusters will tend to be louder at the same distance.

Fireworks Display Noise Impact

Sound from a municipally sponsored or approved celebration or event are exempt from the City of Yonkers noise code. Fireworks require a City permit and would have to be approved by the municipality. An approved fireworks display would be exempt from noise ordinance standards. However, explosive noise sources such as fireworks can be disturbing to residents. Because the explosions associated with firework displays occur high in the air, explosions can be heard from five to ten miles from the source, depending on the type of fireworks. In general, explosions from fireworks would be of a short duration, however they would be louder than other sources of noise from the stadium such as concert noise or crowd noise.

The proposed stadium currently does not have a proposed schedule for firework displays. However, ballparks occasionally have a short-duration fireworks display at the end of a ballgame, and the occasional major display on holidays such as the 4^{th} of July. Isolated explosive noise associated with fireworks displays could occur and could constitute potential for significant noise impact.

Development Related Noise

Potential noise impacts from the River Park Center proposed development would be from mechanical systems such as those that provide heating, ventilating, and/or cooling (HVAC) within the proposed buildings. Sources of noise include air handlers, chillers, and any emergency generator systems that may be planned. Detailed specifications and placement information on these mechanical systems is not available at this time. The design, layout/placement, specification, and sound mitigation will be considered for these mechanical systems to minimize potential noise impacts on nearby residences in the area and on the proposed east and west residential towers from these systems. Conceptual design information for the two residential towers includes two (2) 600 hp boilers in each residential tower with discharge at the top of the buildings, one (1) 500 kW generator per building located within an interior space, and cooling towers on the roof of each residential tower. Conceptual design information for the River Park Center retail component includes two (2) 1000 kW generators located within an interior space and several rooftop air handlers with furnaces (i.e., packaged equipment). These air handlers will be smaller units distributed at roof level to service commercial spaces below. These systems will be shielded by barrier panels to mitigate potential noise effects. Potential noise impacts from these 'Project' related mechanical systems will be minimized by a combination of design considerations, sound attenuation due to distance from the residences, and mitigation measures as may be needed. Building design will include a low STC rating on each building envelope. Mitigation measures such as mechanical equipment placement within an acoustically treated area (i.e., screening around HVAC systems, generators in enclosures, etc.), use of smaller HVAC units and design considerations such as mechanical systems "sunken" into the roof level of the towers will minimize noise impacts. The River Park Center mechanical system design will avoid causing any significant noise impacts and will be designed to conform to applicable local noise code requirements.

No-Build Noise Levels

Existing noise during evening hours in the project area as documented by field surveys ranges from an L_{eq} of 65 dBA to 70 dBA throughout the Project area. In the event that no ballpark is constructed, Future No-Build scenario, the existing noise in the project area is not anticipated to change significantly from the measured levels.

Mitigation Measures - Noise

The proposed project design incorporates a number of features that will serve to mitigate noise from the development operations. These include:

Traffic noise for the Build scenario is not expected to result in significant increases in noise levels in the area. No specific noise mitigation measures are warranted. The noise analysis is based on the traffic data that incorporated various traffic improvements that are to be integrated into the Project.

It is anticipated that the stadium public address system will be designed as a distributed speaker system on-site, which would locate speakers around each section of the park to focus sounds toward the park and minimize the need for extra-loud and high-mounted units.

A design acoustic study related to the construction of the residential towers should be conducted to select materials and design elements to reduce noise within these residential spaces as may be needed. The study shall be used to determine noise attenuation measures to reduce stadium noise levels at the interior of the nearby tower residences.

Provide notifications to the tower residents of events and times when stadium sounds can be expected.

Building design will include a low STC rating on each building envelope.

Possible mitigation for generators and HVAC equipment (i.e., air handlers, cooling towers, chillers) includes:

- Design considerations – The design, layout/placement, specification, and sound mitigation will be considered for these mechanical systems to minimize potential noise impacts on nearby residences in the area from these systems. Design and selection should consider the low frequency tones inherent with mechanical noise.

- Use of smaller HVAC units and design considerations such as mechanical systems "sunken" into the roof level of the ballpark to minimize impacts.

- Check/improve installation. Since connections and enclosures can cause increased noise levels, make connections with flexible conduits and coupling to prevent transmitting vibration to other equipment.

- Mechanical equipment placement within an acoustically treated area
    - Generators in ground level enclosures.
    - Sound absorption panels/barrier panels and rooftop screening panels around HVAC systems.

Retrofit to improve a noise problem after equipment installation/operation can be difficult, time consuming and costly. The initial design, location and installation are important components to proactively reducing potential sound levels associated with this equipment.

4.2.2 <u>Palisades Point</u>

<u>Traffic Noise:</u>

Mobile Source Analysis – Vehicular Noise Screening Procedure

The existing ambient sound environment in the area surrounding the proposed Project is influenced by vehicular traffic noise. Project Build conditions will result in changes and/or improvements to roadways, street geometries, traffic volumes, traffic operations; all factors that influence traffic generated noise. The previous section on the "River Park Center" discussed the NY CEQR Technical Manual screening procedure used to assess traffic noise based on the estimated traffic volumes from traffic studies. This screening procedure uses the concept of Passenger Car

Equivalents (PCEs) to apply an adjustment factor to trucks and buses, since they generate more noise than automobiles. The method adjusts the traffic volume of trucks and buses (the louder vehicles) to the equivalent number of passenger cars. If the existing passenger car equivalent values are increased by more than 100% due to a proposed Project, a detailed analysis is suggested.

Noise Impact Criteria

See Section 4.2.1 for a discussion of the impact criteria used.

Traffic Noise Impact Analysis Results

Results indicate that increases in traffic noise to surrounding roadways would not be significant. The vehicular noise screening procedures (NY CEQR 2006) were used to evaluate traffic-related noise conditions in the vicinity of the Project area. Traffic volumes for the existing, No-Build, Build and Build with stadium traffic have been reviewed, for the intersections of concern near the Palisades Point development to assess traffic generated noise. The estimated Build traffic volumes near the Palisades Point development are not expected to increase the existing traffic volumes by 100% or greater. Thus incremental noise associated with Palisades Point related traffic is not expected to be significant. Therefore, a more detailed traffic noise analysis is not required.

Development Related Noise:

The Palisades Point proposed development will include the construction of two (2) 25-story residential towers with 436 dwelling units, along with structured and on-street parking and publicly accessible open space along the Hudson River. Mechanical systems such as those that provide heating, ventilating, and/or cooling (HVAC) for the proposed buildings have potential to generate noise. Sources of noise include air handlers, cooling towers and emergency generator systems. Emergency generator systems will be located in enclosures in interior spaces. Noise associated with this equipment would be for short periods of time to routinely test the stand-by readiness of the generators and during the actual electrical outage emergencies. These operations are not anticipated to cause significant noise impacts due to short operating cycles, enclosures and equipment layout. Cooling towers are mechanical equipment that have potential for generating noise and will be located on building Tower rooftops. Cooling towers usually operate continuously, mostly during the daytime, at various load conditions depending on a variety of factors including system demand, season, and time of day. Sound associated with operation of this equipment is generated by various complex sources that operate both continuously and intermittently. Major equipment components that can generate noise associated with operation of this equipment include: compressors, motors, fans, pumps, etc. Mechanical systems would be located on the roof or top floor of the towers and will be shielded by a parapet like design, such as screening barriers, and not expected to impact a residential community along the eastern Palisades Point property boundary beyond the train tracks. Layout/placement, specification, and sound mitigation will be considered in the design of mechanical systems to minimize potential noise impacts on nearby residences in the area from these systems, which will conform to applicable local noise code requirements.

Conceptual design information for the two residential towers includes two (2) 400 hp boilers in each residential tower with discharge at the top of the buildings, one (1) 500 kW generator per building located in enclosures in interior spaces, and cooling towers on the roof of each residential tower. Potential noise impacts from these 'Project' related mechanical systems will be minimized by a combination of design considerations, equipment layout and enclosures, sound attenuation due to distance from the residences, and mitigation measures as may be needed. Building design will include a low STC rating on each building envelope. Mitigation measures such as mechanical equipment placement within an acoustically treated area (i.e., screening around HVAC systems, generators in enclosures, etc.) are proposed to minimize impacts. Palisades Point mechanical system design will avoid causing any significant noise impacts and will conform to applicable local noise requirements.

Train Noise:

The current rail corridor, the Metropolitan Transportation Authority (MTA) Metro-North Hudson Line, has approximately 100 commuter train pass-bys per day. The number of commuter train pass-bys is not expected to increase significantly. The contribution of sound levels from commuter train pass-bys to sound levels in the immediate Project area are not expected to have a significant impact. Figure 4-2 shows a time history of 10-second L_{eq} sound level measurements during three monitoring periods (morning, afternoon and evening) at the Buena Vista Avenue noise monitoring location. This noise monitoring location is east of the Metro-North Hudson Line at a similar distance (approximate) to the proposed Palisades Point development. Train pass-bys last seconds in duration and no horn is sounded along the length of rail adjacent to the Project locations. Noise monitoring at location NM-5, near the rail corridor included train pass-bys. The noise levels monitored at this location are 65 dBA L_{eq} during the daytime and 60 dBA L_{eq} at night, typical of downtown Yonkers. The trains noise is momentary during pass-bys and was a minor contributor to the measured noise levels as can be seen from Figure 4-2. No significant change to these background sound levels is expected in the future.

Sound measurements indicate that at an equivalent distance to the Palisades Point residential towers, monitored noise levels during a momentary train pass-by typically peak at 72 dBA L_{eq}(10 sec). Indoor noise levels are generally accepted to be approximately 45 dBA or less. Typical construction techniques (including typical double paned view glass windows) provide approximately 30 to 35 dBA of noise transmission loss, from "outdoors to indoors". The two residential towers proposed for the Palisades Point development will use modern construction techniques and materials that are expected to provide sound attenuation such that indoor noise impacts from train pass-bys at Palisades Point residential tower units are not anticipated to be significant. Proposed construction techniques/materials are expected to provide sufficient noise attenuation (outdoors to indoors), thus noise impacts due to train pass-bys will be insignificant. See Section 4.2.1 "Building Materials and Sound Transmission Loss" for a discussion of the anticipated building materials, construction and sound transmission loss.

No-Build

Existing noise during evening hours in the project area as documented by field surveys is approximately 65 dBA (L_{eq}). In the event that no residential towers are constructed, Future No-Build scenario, the existing noise in the project area is not anticipated to change.

Mitigation

Traffic information and data for the Project Build scenarios include numerous improvements to the roadway network to improve traffic flow. Results of the NY CEQR traffic noise screening analysis procedure indicates that increases in traffic noise to surrounding roadways would not be significant and that no further mitigation is required for traffic noise.

Building design will include a low STC rating on each building envelope.

Possible mitigation for generators and HVAC equipment (i.e., air handlers, cooling towers) includes:

- Design considerations – The design, layout/placement, specification, and sound mitigation will be considered for these mechanical systems to minimize potential noise impacts on nearby residences in the area from these systems. Design and selection should consider the low frequency tones inherent with mechanical noise.

- Check/improve installation. Since connections and enclosures can cause increased noise levels, make connections with flexible conduits and coupling to prevent transmitting vibration to other equipment.

- Mechanical equipment placement within an acoustically treated area
  - Generators in ground level enclosures.
  - Sound absorption panels/barrier panels and rooftop screening panels around HVAC systems.

Retrofit to improve a noise problem after equipment installation/operation can be difficult, time consuming and costly. The initial design, location and installation are important components to proactively reducing potential sound levels associated with this equipment.

Table 4-3 Summary of Projected Ballpark Noise Levels			
Receptor Number	Receptor Name	Projected Faclity Noise Contribution	
		Lmax dBA	Leq dBA
1	SR-1 @ 300 ft	73.2	65.2
2	SR-2 @ 450 ft	70.2	62.2
3	SR-3 @ Residential Tower East	73.4	65.4
4	SR-4 @ Residential Tower West	77.4	69.4

Figure 4-1 SFC Yonkers Stadium - SOUND RECEPTOR POINTS

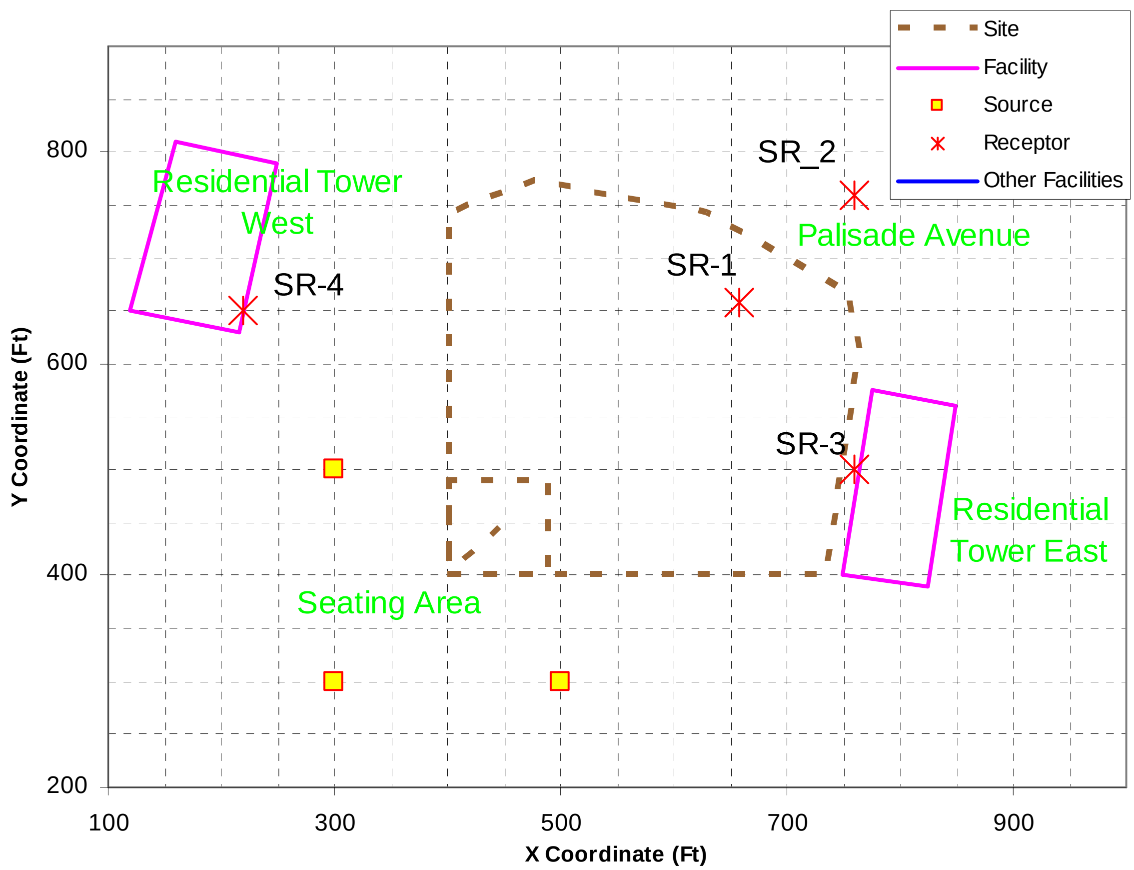
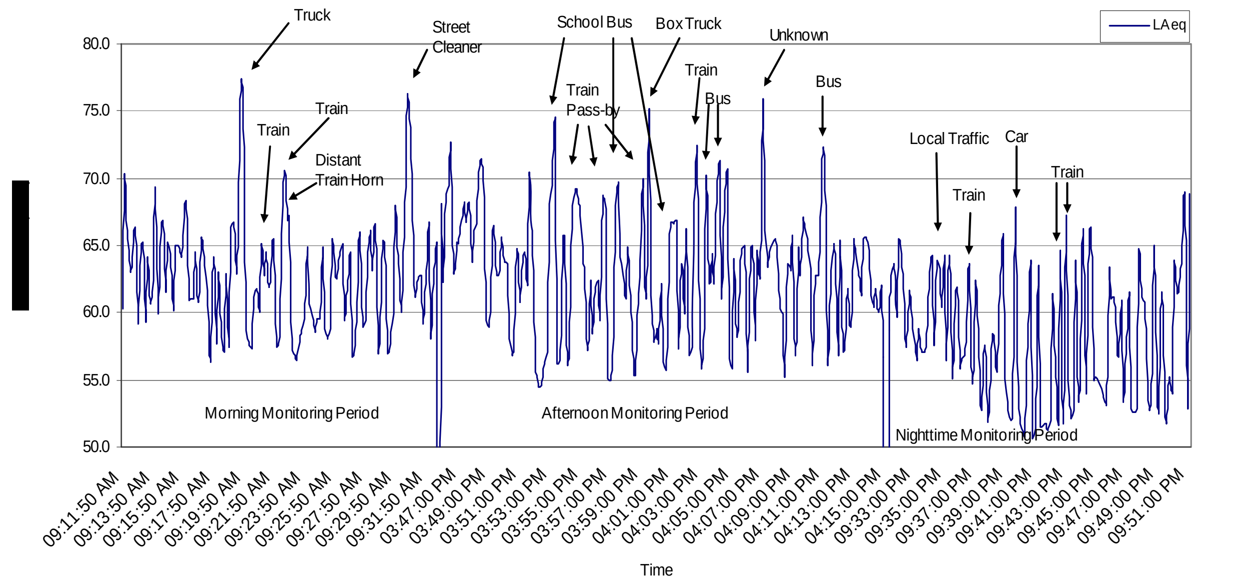


Figure 4-2 Buena Vista Avenue Noise Monitoring Data (with Train Pass-bys)



SECTION 5.0

CONSTRUCTION NOISE

5.0 CONSTRUCTION NOISE

Construction activities for the proposed Project have the potential to generate noise in the vicinity of the work areas. Various construction activities that will occur in the Project area will be temporary and tend to be localized at the site of activity.

5.1 Description of Construction Activities

Building Construction: Building construction associated with the River Park Center will consist of two residential towers (950 residential units), hotel, office buildings (including the Palisade Avenue Office Building), fire station, restaurants and retail space. Building construction associated with Palisades Point will consist of two (25-story) residential towers (436 residential units). Building construction associated with Cacace Center Site includes the Carnegie Building (office building), hotel, a parking structure and new Fire Station. Construction activities associated with the buildings will include clearing (site preparation and demolition), foundation, erection (of the superstructure) and the finishing phases of construction (enclosure). Some excavation and building demolition may be necessary for this development. This construction activity may use jackhammers, hoe rams, line drills, delivery trucks, concrete cutters, bulldozers, graders, asphalt pavers, rollers/compactors etc. Blasting and pile driving are anticipated to be the most significant noise sources related to the Project construction. Blasting is scheduled to occur during the excavation phase of construction at the Cacace Site and pile driving is scheduled to occur during the foundation phase of construction at Palisades Point.

Roadway Improvements: The proposed Project will include minor changes to roadways, street geometries and traffic volumes throughout the Project area. A new bridge (road access) crossing the Metro-North tracks is proposed for the Palisades Point development. Construction activities associated with roadway improvements will include clearing, grading, widening, foundation and sidewalk construction; erection and finishing phases of construction will be a component of the bridge building.

Publicly accessible space: The Palisades Point development plans for publicly accessible space along the Hudson include a promenade, boardwalk, boat launch, and on-street parking. Construction activities associated with the development/improvement of open space will include clearing, leveling, widening, foundation and sidewalk construction.

Parking Garages: Parking garages are planned for the River Park Center Project Area, Cacace Center Site and Government Center, and two parking garages (located adjacent to each building) are planned for Palisades Point. Construction activities related to parking facilities would be similar to that for construction of new buildings.

Ballpark: A 6,500 seat Minor League Baseball Stadium (Ballpark) is proposed for the roof of the River Park Center. Construction activities related to the Ballpark would be similar to that for construction of new buildings.

5.2 Evaluation criteria – Construction Noise

Construction activities associated with the Build scenario would be required to adhere to Federal, State, and local noise regulations and restrictions. Construction noise would be limited by the City of Yonkers Noise Code and by the NYSDEC noise policy guidance for daytime and nighttime noise levels from industrial and commercial operations. The City of Yonkers Noise Code has an exemption allowing construction noise between the hours of 7 AM and 6 PM on weekdays (weekend construction is prohibited).

Two approaches are suggested to assess significant noise impact from construction. The first approach uses absolute noise level limits (such as FTA Construction Noise Guidelines) and the second approach, suggested in the NYC CEQR Manual for “sensitive receptors that would be subjected to high construction noise levels for an extended period of time”, assesses the incremental change from existing noise conditions (relative impact criteria).

The FTA construction noise guidelines are presented in Table 5-1. The FTA has established a one-hour residential guideline daytime noise level of 90 dBA L_{eq}.

The NYC CEQR Technical Manual impact assessment approach for incremental change in noise levels due to construction noise involves comparing the proposed construction L_{eq} noise level to the existing noise level. The NYC CEQR noise guidelines indicate an incremental significant impact threshold. This threshold for vehicular noise is based upon a 65 dBA criteria. If existing sound levels are less than this criteria then an allowable increase is determined based on the degree of difference. The following criteria summarize a significant noise impact at sensitive receptors:

- During daytime with No-Build levels less than 60 dB(A) L_{eq}, a significant impact would be an increase equal to or greater than 5 dB(A) L_{eq} for the Build condition.
- During daytime with No-Build levels that are 61 dB(A) L_{eq}, a significant impact would be an increase equal to or greater than 4 dB(A) L_{eq} for the Build condition.
- During daytime with No-Build levels equal to or greater than 62 dB(A) L_{eq}, a significant impact would be an increase equal to or greater than 3 dB(A) L_{eq} for the Build condition.
- During nighttime, a significant impact would be an increase equal to or greater than 3 dB(A) L_{eq} for the Build condition.

If the potential for significant noise impact at a sensitive receptor is identified, the feasibility and effectiveness of implementing mitigation should be examined.

5.3 Construction Noise

Noise associated with construction activities will be generated primarily by equipment such as heavy equipment operation (i.e., bulldozers, trucks, pile driving, etc.), generators, compressors, cranes, vibratory/impact pile driving hammer, welding equipment, water pumps, trucks on-site and other construction-related vehicles and equipment. Table 5-2 shows typical noise levels 50 feet from the source for specific types of construction equipment.

The most widespread source of noise from construction equipment is generally due to internal combustion engines, usually diesel, which provide operating power. Engine-powered construction equipment includes earthmoving equipment that is highly mobile, handling equipment that is partly mobile, and stationary equipment. Stationary equipment such as air compressors and generators generally run continuously at relatively constant power and speed, although sound levels may vary according to the work cycle (e.g., loading).

Sound levels associated with blasting will likely be the greatest source of noise associated with construction activity during building and parking garage construction at the Cacace Site. Blasting is associated with the excavation construction phase. Rock blasting is the controlled use of explosives to reduce a solid body, such as rock, to fragments for excavation or removal. It is a necessary part of many engineering operations. Modern methods of blasting involve four operations: drilling the holes to receive the charge, placing a charge and detonator in each hole, stemming the holes (i.e., filling the hole above the charge with earth or clay), and igniting or detonating the charge. The remaining broken material is cleared away. The location, size, and number of holes drilled are to be determined depending upon local conditions and the nature of the work. The charge is made up of some explosive, such as dynamite or ammonium nitrate. Multiple charges are sometimes set off, either simultaneously or in sequence.

Sound levels associated with the driving of piles will likely be the greatest source of noise associated with construction activity during building construction at Palisades Point. Pile driving is associated with the foundation construction phase. The installation of piles is fairly common for modern construction projects. Piles are used to support parking structures, bridges, overpasses, many types of buildings and also are used as retaining structures or barriers. Piles often form the backbone of structures that can serve as framework to support great weight and pressure of concrete loads. They can be used as barriers that confine ground pressures and prevent unwanted movement. Getting the piles into the ground, as with other construction activities, cannot be done without causing some noise and vibration.

These activities can raise concern with regard to the potential for off-site impacts to neighbors. Blasting and pile driving are, however, necessary construction activities.

5.3.1 Construction Noise Assessment

Noise from construction activities associated with implementation of the Proposed Project will be temporary in duration, vary between the types of construction and the types of equipment used for the different stages of construction and may have the potential to create nuisance conditions at some nearby sensitive receptors. Construction activities for the Project would be expected to result in an increase of existing noise levels. Construction operations will be limited to the daytime hours in compliance with The City of Yonkers Noise Code.

River Park Center, Government Center and Cacace Center Sites:

Building construction associated with the River Park Center will consist of two residential towers (950 residential units), hotel, an office and a commercial building and a Minor League Baseball Stadium (Ballpark). Building construction associated with the Cacace Center Site will consist of a new Fire Station, a hotel and an office building. Construction associated with Government Center will consist of a parking garage. Construction activities associated with this combined development will include demolition, rock removal (Cacace Site), clearing, excavation, foundation, erection (of the superstructure) and the finishing phases of construction (enclosure). Blasting during rock removal is anticipated to be the most significant noise source related to Project construction.

Sensitive Receptors

Areas or receptors that are considered potentially sensitive to noise include residences, schools, hospitals, and recreational facilities (U.S. EPA 1974). The area surrounding the River Park Center Site is a mix of residential (ranging from single family residential to apartment complexes), commercial and social and community service. Figure 5-1 shows land use and sensitive receptors in the area surrounding the Site. Sensitive receptors can be identified through a numbering key included as Table 5-3. Several sensitive receptors are located in proximity (within 100 to 200 feet) to the Site boundary including residential dwellings, a hospital (St. Joseph's Hospital), a school (Our Lady of Mt. Carmel–St. Anthony School) and several churches (Latin American Pentecostal Church, Mt. Carmel Baptist Church, St. Johns Church, and the Immaculate Conception Church).

Existing Sound Environment

Existing noise was measured at several locations surrounding the River Park Center Site during October 2006 at representative sensitive receptor locations in the vicinity of the Project Sites (see Figure 5-1). Noise measurements were obtained at several locations in the vicinity of the Project at various times during the morning, afternoon/early evening, and night. The existing daytime sound environment ranges from 65 dBA to 70 dBA in the area surrounding the project Site. The area adjacent to main thoroughfares (i.e., Nepperhan Road) have existing noise levels of approximately 70 dBA mostly due to traffic related noise. This includes receptors adjacent to, and within 100 feet of, the Site boundary.

Construction Schedule

Table 5-4 shows a preliminary quarterly construction schedule for the River Park Center Project Site, Cacace Center Site and Government Center for each phase of construction. River Park Center construction is projected to last 10 quarters (30 months) with Building Erection/Construction to be completed by the end of the sixth quarter (12 to 18 months). Clearing is expected to last approximately 3 to 6 months and overlap with some excavation. The foundation stage is scheduled to last 12 months, the erection stage is scheduled to overlap and last 12 to 15 months, and finishing is scheduled to be completed within a 12 month period.

Cacace Center Site construction is projected to last 5 quarters (15 months) with Building Erection/Construction to be completed by the end of the third quarter (6 to 9 months). Clearing and Rock Removal (blasting) is expected to last approximately 3 to 6 months and overlap with some excavation. The foundation stage is scheduled to last 3 months, the erection stage is scheduled to overlap and last 6 months, and finishing is scheduled to be completed within 6 months.

Construction of the Government Center parking garage is expected to last 4 quarters (12 months) with ground clearing and foundation work lasting 6 to 9 months, the erection stage is scheduled to last 3 months and overlap with finishing which is scheduled to last approximately 6 months.

Noise Levels during Construction

Table 5-5 shows typical outdoor noise levels associated with construction activity for typical phases of construction at various distances from the Site boundary. Noise levels associated with the ground clearing phase is estimated to be approximately 84 dBA, the excavation phase approximately 89 dBA, the foundation phase approximately 77 dBA, the erection phase approximately 84 dBA, and the finishing phase approximately 89 dBA at the Project Site boundary. These sound levels will decrease with increasing distance from the construction Site. Projected sound levels at the Site boundary will also vary with the type and location of the construction activity on the Site. Because construction activities would be carried out at various locations and because these activities change as work progresses, the construction site would have both spatial and temporal noise dimensions. Noise levels at the various receptors will depend on the work activity, the proximity of the work activity (relative location on site/distance to receptor), and extraneous sources (i.e., sirens, buses, and other background sources).

Distance contours in the area surrounding the Project Site, shown in Table 5-5 and Figure 5-1, were developed by projecting typical construction sound levels at the Site boundary to various distances from the Site boundary. No adjustments were made to account for shielding from intervening structures, therefore projected noise levels are considered conservative. Typical sound levels associated with construction at River Park Center (including the Cacace Site and Government

Center) are compared to existing sound levels at various distances in Table 5-6. The differences in sound levels are discussed below.

Construction Impacts:

Rock Removal (Blasting)

Sound levels associated with blasting operations will likely be the greatest source of noise associated with construction activity during building and parking garage construction at the Cacace Site. Blasting will result in increased noise levels including warning whistles and the blasting event itself which will be audible across the Site and in the project vicinity. Noise from blasting operations could be clearly discernable and may be considered intrusive, especially at nearby locations. A blasting event can generate an airborne shock wave resulting from the detonation of explosives. This may be caused by burden movement, or the release of expanding gas into the air, and may or may not be audible. This can be diminished by good blasting techniques. The air overpressure (airborne shock wave) and loudness are independent of one another and will depend upon the frequency and total energy of the shock wave. A comprehensive blast plan should be completed prior to any blasting activity. Blasting also generates vibration that can be perceptible at distances greater than 200 to 300 feet but generally would not result in damage to nearby structures. Blasting during the excavation phase is anticipated to result in potentially significant noise impacts at sensitive receptors within 2,500 feet of the activity. All blasting activities would be required to comply with Town, State and Federal requirements.

Blasting operations will occur on an intermittent short-term basis and will cause only momentary increases in noise levels for the duration of actual blasting (usually less than 10 seconds). Blasting operations would be temporary, and are expected to occur for a relatively short period of time during a portion of the initial construction phase. In general, due to the short duration of these events, average hourly noise levels would not be significantly impacted. However, the rapid and dynamic change in noise levels that result from blasting operations may be considered intrusive at the closest receptors (such as St. Josephs Hospital, St. Mary's School, Latin American Pentecostal Church, Immaculate Conception Church and local residences).

Sensitive Receptors at the Site Boundary

Noise associated with the construction at the Project Site boundaries is estimated to range from 77 to 89 dBA, depending on the construction phase/activity as noted in Table 5-5. The most sensitive receptor at this distance is 'Our lady of Mt Carmel' Church, located along the Project Site boundary adjacent to Nepperhan Avenue, which is anticipated to experience significant noise impacts due to its close proximity to the Project Site. Noise mitigation such as temporary sound barrier panels should be considered for this and other sensitive receptors along the Site boundaries.

Sensitive Receptors within 100 feet

Noise associated with the construction phase is estimated to range from 71 to 83 dBA within 100 feet of the construction Site boundaries, 1 to 13 dBA above existing levels. The most sensitive receptors at this distance include churches (Latin American Pentecostal Church, 'Our lady of Mt Carmel' Church, Philippi Pentecostal Church), other social and community services and residential dwellings located within 100 feet of the proposed Site. Sensitive receptors located within 100 feet of the Site are anticipated to experience significant noise impacts of greater than 3 dBA at times during construction.

Sensitive Receptors within 100 to 200 feet

Noise associated with the construction phase is estimated to range from 65 dBA to 77 dBA within 100 to 200 feet of the construction Site boundaries, up to 12 dBA above existing levels. The most sensitive receptors at this distance include a school (Our Lady of Mt. Carmel–St. Anthony School), a church (St. Marys-Church of the Immaculate Conception) and residential dwellings located within 200 feet of the proposed Site. Sensitive receptors located within 100 to 200 feet of the Site are anticipated to experience significant noise impacts greater than 3 dBA at times during construction.

Sensitive Receptors within 200 to 300 feet

Noise associated with the construction phase is estimated to range from 62 dBA to 74 dBA within 200 to 300 feet of the construction Site boundaries, up to 9 dBA above existing levels. The most sensitive receptors at this distance include residential dwellings, churches (Corp of St. Johns Church, St. Marys-Church of the Immaculate Conception) and a school (St. Marys-Church of the Immaculate Conception). Sensitive receptors located within 200 to 300 feet of the Site are anticipated to experience significant noise impacts greater than 3 dBA at times during construction.

Sensitive Receptors within 600 feet

Noise associated with the construction phase is estimated to range from 59 dBA to 71 dBA within 400 to 600 feet of the construction Site boundaries, up to 6 dBA above existing levels. The most sensitive receptors at this distance include residential dwellings, churches and religious centers (Calvary Center, Soul Saving Station, Church of the Immaculate Conception, Convent of Mary the Queen), schools (St. Marys-Church of the Immaculate Conception, Church of St. Casimir School) and a hospital (St. Josephs Hospital). Sensitive receptors located within 600 feet of the Site are anticipated to experience significant noise impacts greater than 3 dBA at times during the finishing phase of construction and excavation activities.

Blasting during the excavation phase is anticipated to result in potentially significant noise impacts at sensitive receptors within 2,500 feet of the activity. Once blasting is complete, no significant noise impacts during construction are anticipated beyond 600 feet from the Site boundary as shown in Table 5-6.

Palisades Point Site:

Building construction associated with Palisades Point will consist of two (25-story) residential towers (436 residential units). Construction activities associated with this Project will include clearing (site preparation), foundation, erection (of the superstructure) and the finishing phases of construction (enclosure). Pile driving is anticipated to be the most significant noise source related to Project construction.

Sensitive Receptors

Areas or receptors that are considered potentially sensitive to noise include residences, schools, hospitals, and recreational facilities (U.S. EPA 1974). The area surrounding the Palisades Point Site is predominantly residential (ranging from single family residential to apartment complexes), with some social and community service and industrial to the south. Figure 5-1 shows land use and sensitive receptors in the area surrounding the Site. Sensitive receptors can be identified through a numbering key included as Table 5-3. Several sensitive receptors are located in proximity (within 100 to 200 feet) to the Site boundary including residential dwellings and a church (St. Mary's/Holy Apostolic Catholic Church).

Existing Sound Environment

Existing noise was measured at several locations surrounding the Palisades Point Site during October 2006 at a representative sensitive receptor location in the vicinity of the Project Site (see Figure 5-1). Noise measurements were obtained in the vicinity of the Project at various times during the morning, afternoon/early evening, and night. The existing daytime sound environment is 65 dBA in the area near the project Site.

Construction Schedule

Table 5-4 shows a preliminary quarterly construction schedule for the Palisades Point Site for each phase of construction. Construction is projected to last 6 quarters (18 months) with Building Erection/Construction scheduled to be completed by the end of the fifth quarter (15 months). Clearing (and pile driving) is expected to last approximately 3 months. The foundation and erection stages are scheduled to overlap, with foundation work scheduled to be completed within 6 months and erection scheduled to last approximately 12 months. Finishing is scheduled to be completed within 12 months.

Noise Levels during Construction

Table 5-5 shows typical outdoor noise levels associated with construction activity for typical phases of construction at various distances from the Site boundary. Pile driving will likely have the greatest noise impact on the surrounding community. Noise levels associated with the ground clearing phase are estimated to be approximately 84 dBA, the foundation phase approximately 77 dBA, the erection phase approximately 84 dBA, and the finishing phase approximately 89 dBA at the Project Site boundary. These sound levels will decrease with increasing distance from the construction Site. Projected sound levels at the Site boundary will also vary with the type and location of the construction activity on the Site. Because construction activities would be carried out at various locations and because these activities change as work progresses, the construction site would have both spatial and temporal noise dimensions. Noise levels at the various receptors will depend on the work activity, the proximity of the work activity (relative location on site/distance to receptor), and extraneous sources (i.e., sirens, buses, and other background sources).

Distance contours in the area surrounding the Project Site, shown in Table 5-5 and Figure 5-1, were developed by projecting typical construction sound levels at the Site boundary to various distances from the Site boundary. No adjustments were made to account for shielding from intervening structures, therefore projected noise levels are considered conservative. Typical sound levels associated with construction at Palisades Point are compared to existing sound levels at various distances in Table 5-7. The differences in sound levels are discussed below.

Construction Impacts:

Pile Driving

Sound levels associated with the driving of piles will likely be the greatest source of noise associated with construction activity during building construction at Palisades Point. Pile driving may be required, which could generate noise levels above 101 dBA L_{max} and generate ground vibration. Noise associated with pile driving can be loud, impulsive sounds, resulting from a large hammer that drops on piles (i.e., steel, wood, etc.). Individual noise impacts are of short duration (under one second), but the noise is repetitive, occurring about once every two seconds. Pile driving also generates vibration that can be perceptible at distances of 200 to 300 feet but generally would not result in damage to nearby structures. Pile driving during the foundation phase is anticipated to result in potentially significant noise impacts at sensitive receptors within 2,000 feet of the activity.

Sensitive Receptors within 100 feet

Noise associated with the construction phase is estimated to range from 77 to 89 dBA at the construction Site boundary, 12 to 24 dBA above existing levels. There are no sensitive receptors at this distance.

Sensitive Receptors within 100 to 200 feet

Noise associated with the construction phase is estimated to range from 65 dBA to 77 dBA within 100 to 200 feet of the construction Site boundary, up to 12 dBA above existing levels. The most sensitive receptors at this distance include one church (St. Mary’s/Holy Apostolic Catholic Church) and several residential dwellings. Sensitive receptors located within 100 to 200 feet of the Site are anticipated to experience significant noise impacts greater than 3 dBA at times through the duration of construction.

Sensitive Receptors within 200 to 300 feet

Noise associated with the construction phase is estimated to range from 62 dBA to 74 dBA within 200 to 300 feet of the construction Site boundary, up to 9 dBA above existing levels. The most sensitive receptors at this distance include residential dwellings. Sensitive receptors located within 200 to 300 feet of the Site are anticipated to experience significant noise impacts greater than 3 dBA at times during construction.

Sensitive Receptors within 400 to 600 feet

Noise associated with the construction phase is estimated to range from 59 dBA to 71 dBA within 400 to 600 feet of the construction Site boundary, up to 6 dBA above existing levels. The most sensitive receptors at this distance include a school (City Harvest Pre-School: School 10) and residential dwellings. Sensitive receptors located within 400 to 600 feet of the Site are anticipated to experience significant noise impacts greater than 3 dBA at times during the finishing phase of construction and excavation activities.

Pile driving during the foundation phase is anticipated to result in potentially significant noise impacts at sensitive receptors within 2,000 feet of the activity. Once pile driving is complete, no significant noise impacts during construction are anticipated beyond 600 feet from the Site boundary as shown in Table 5-7.

Parking Garages: Several parking facilities will be constructed and would generate similar construction noise levels as those identified for the building construction. Typical noise levels associated with excavation are approximately 89 dBA at the construction site boundary. Noise impacts would also be associated with the operation of paving equipment, such as asphalt pavers and dump trucks, at parking lots. However, it is anticipated that noise from construction of the parking lots would be confined to the local area at the Project Sites.

Roadway Improvements: Roadway improvements will be made throughout the Project and surrounding area. Minor changes to roadways and street geometries may result in some construction activity. Typical noise levels associated with clearing, leveling, widening, and sidewalk construction are anticipated to be approximately 84 dBA at the construction site boundary. Noise sources also include the operation of paving equipment, such as asphalt pavers and dump trucks. Construction of the new bridge will include the foundation, erection and finishing phases of construction with typical noise levels in the range of 77 dBA to 89 dBA at the construction site boundary.

Publicly accessible space: Construction activities associated with the development/improvement of open space will include clearing, leveling, foundation and sidewalk construction. Noise sources also include the operation of paving equipment, such as asphalt pavers and dump trucks, and possibly pile driving for bulkhead construction.

Construction Travel (River Park Center and Palisades Point):

Other potential project related noise during Project construction would be associated with travel to and from the Site by the construction workforce, transport of construction equipment, and deliveries of construction materials. It is planned that the construction workforce will be shuttled to the Site using four (4) Shuttle Buses. The use of Shuttle Buses will reduce the noise component associated with the transport of construction workers to the project Site. The delivery of equipment and construction materials is unavoidable. These noises would be of a temporary duration, relatively intermittent, and are not anticipated to be significant relative to existing noise in the vicinity of the actual construction site and actual construction activities.

5.3.2 **Construction Noise Mitigation**

A noise and vibration mitigation work-plan should be developed for addressing construction activities, specifically potential pile driving and blasting impacts, prior to the start of construction activities. This plan should incorporate construction activities associated with the River Park Center, Cacace Center, Government Center and Palisades Point Sites. General construction noise should also be addressed in this work-plan. In addition, a blasting plan is needed for the blasting permit. This plan should comply with all applicable requirements.

Appropriate steps will be taken to minimize potential noise impacts during blasting operations. Mitigation measures for noise from blasting operations may include the following as appropriate:

- Use of air percussion drills during placement of explosives;
- Use of modern blasting techniques, such as timed multiple charges, use of low-energy charges, use of overburden, blastmats, etc., which tend to lessen the severity of blasting noise levels;
- Establishing a scheduled time period during early phases of construction and during normal working hours, with an anticipated frequency of occurrence for blasting activities and providing advance warning of blasts;
- Implementing a public relations program;
- Incorporating a blasting specification and guidelines into construction contracts requiring the contractor to implement a vibration protection program in coordination with the responsible governmental entities;
- Require the contractor to take appropriate measures to minimize noise impacts and to prevent vibration-induced damage from occurring at nearby structures during blasting operations; and
- In any event, the blasting activities would be required to comply with Town, State and Federal requirements.

Acoustic Barriers

The NYC CEQR Manual suggests that "when a significant noise impact at a sensitive receptor is determined, the feasibility and effectiveness of implementing mitigation should be examined”. Our lady of Mt Carmel Church is estimated to have the greatest noise impacts associated with construction noise at the River Park Center Site. Acoustic barriers should be designed with a minimum 10 to 15 dB sound transmission class to attenuate sound levels at this location. The use of acoustic barriers (a minimum height of 6 feet and sound transmission class of 10 dB) should be implemented along the perimeter of the River Park Center Site.

<u>Other Mitigation</u>

Most construction equipment today comes equipped with engine noise control devices, such as exhaust mufflers and acoustic casing enclosures, in accordance with Federal and State regulations. In addition to proper maintenance and operation of construction machinery, several means of controlling construction noise impacts would be employed as needed and as may be practical include:

- Prepare a noise and vibration mitigation work-plan addressing construction activities, with a focus on potential pile driving impacts, prior to the start of construction activities;

- Implement “quiet” pile-driving technology, where feasible, in consideration of geotechnical and structural requirements and conditions;

- Route heavily loaded truck traffic and heavy equipment movements to minimize impacts on sensitive uses (i.e., away from residential streets);

- Operate stationary noise generating construction equipment (i.e., air compressors and portable generators) along with earthmoving equipment on the construction lot as far away from noise-sensitive receptors as possible (i.e., keep equipment as far from site boundaries as possible);

- Avoid nighttime activity - operate equipment during weekday afternoons to limit any potential disturbance during the nighttime (sleep interference) periods to the extent possible;

- Combine noisy operations to occur in the same time period;

- Conduct monitoring where pile driving, drilling, or blasting is being carried out, particularly if sensitive structures are within 100 feet;

- Utilize walled enclosures around especially noisy activities, or clusters of noisy equipment (i.e., compressors, generators, etc.);

- Install temporary noise barriers (where practical) to minimize noise impacts on nearby sensitive uses;

- Select demolition methods not involving impact, where possible (i.e., use of concrete cutters (where practical), instead of pavement breakers, to minimize noise associated with the removal of existing paved or concrete surfaces);

- Utilize smaller equipment instead of large equipment where applicable (i.e., small bulldozers instead of large bulldozers);

- Equip construction vehicles or equipment, fixed or mobile with properly operating and maintained mufflers; and

- Unnecessary idling of internal combustion engines will be prohibited.

Table 5-1
FTA Construction Noise Guidelines

Land Use	**One-Hour Leq**	
	Day(a) (dBA)	**Night(b)** (dBA)
Residential	90	80
Commercial	100	100
Industrial	100	100

Notes:

(a) Daytime criteria apply to activities occurring between the hours of 7:00 AM and 10:00 PM.

(b) Nighttime criteria apply to activities occurring between the hours of 10:00 PM and 7:00 AM.

Source: ***Transit Noise and Vibration Impact Assessment Guidance Manual*** *(Report No. DOT-T-95-16), Federal Transit Administration, April 1995.*

Table 5-2 Construction Equipment Noise Emission Levels	
Equipment	**Typical Noise Level 50 feet from source (dBA)**
Air Compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile Driver (Impact)	101
Pile Driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	88

Notes: Table Reproduced from FTA Table - Table based on EPA Report, Measured from Railroad construction equipment taken during the Northeast Corridor Improvement Project and other measured data.

Table 5-3 Key to Sensitive Receptors (refer to Figure 5-1)

NUMBER	Property Address	Type	Current Owner Name	Owner Mailing Address
1	77 PARK HILL AVE	SCHOOL	BOARD OF EDUCATION	SCHOLASTIC ACADEMY FOR
2	35 JACKSON ST	RELIGIOUS	DEEPER TRUTH MIRACLE	C/O RUTH BYRD
3	42 PARK HILL AVE	RELIGIOUS	UNITED METHODIST CITY SOC	
4	70 PARK HILL AVE	RELIGIOUS	CHURCH OUR LADY MT CARMEL	% REV TERZO VINCI
5	84 SCHOOL ST	RELIGIOUS	SOUL SAVING STATION 2	C/O JOHNYE SMASH
6	82 SCHOOL ST	RELIGIOUS	SOUL SAVING STATION	
7	35 VARK ST	RELIGIOUS	CONVENT OF MARY THE QUEEN	
8	127 S BWAY	HOSPITAL	ST JOSEPH'S HOSPITAL	
9	18 ST MARYS ST	SCHOOL	CHURCH OF THE IMMACULATE	
10	14 ST MARYS ST	RELIGIOUS	IMMACULATE CONCEPTION CH	ST MARY'S
11	6 ST MARYS ST	RELIGIOUS	IMMACULATE CONCEPTION CH	ST MARY'S
12	18 ST MARYS ST	SCHOOL	IMMACULATE CONCEPTION CH	ST MARY'S
13	56 VAN CORT PK AVE	SCHOOL	BOARD OF EDUCATION	SCHOOL 23
14	7 ST MARYS ST	SCHOOL	IMMACULATE CONCEPTION CH	ST MARY'S
15	105 S BWAY	RELIGIOUS	IMMACULATE CONCEPTION CH	ST MARY'S
16	235 NEW MAIN ST	VACANT COMM	ARIZA JAIRO	
17	95 S BWAY	RELIGIOUS	IMMACULATE CONCEPTION CH	ST MARY'S
18	233 NEW MAIN ST	RELIGIOUS	DIXON, A.M.E. ZION	
19	7 ST MARYS ST	SCHOOL	IMMACULATE CONCEPTION CH	ST MARY'S
20	129 BUENA VISTA AVE	RELIGIOUS	HOLY APOSTOLIC CATHOLIC	ASSYRIAN CHURCH
21	60 HAWTHORNE AVE	SCHOOL	BOARD OF EDUCATION	SCHOOL 10
22	132 WAVERLY ST	RELIGIOUS	COMM MEMORIAL CHURCH	
23	206 NEW MAIN ST	RELIGIOUS	LATIN AMERICAN PENTECOST.	
24	102 LINDEN ST	SCHOOL	BOARD OF EDUCATION	ENRICO FERMI SCHOOL FOR
25	82 ASH ST	RELIGIOUS	ST NICHOLAS OF MYRA CHURC	
26	79 ASH ST	RELIGIOUS	GREEK CATHOLIC CHURCH OF	ST NICHOLAS OF MYRA
27	75 ASH ST	RELIGIOUS	GREEK CATHOLIC CHURCH OF	ST NICHOLAS OF MYRA
28	205 ELM ST	RELIGIOUS	GOOD SHEPARD PRESBYTERIAN CHURCH	
29	72 WAVERLY ST	SCHOOL	MT. CARMEL	ST. ANTHONY'S SCHOOL
30	40 HUDSON ST	RELIGIOUS	CITY HARVEST CHURCH	
31	21 HUDSON ST	RELIGIOUS	CHURCH OF GOD	CENTRAL YONKERS
32	1 HUDSON ST	RELIGIOUS	CORP OF ST JOHNS CHURCH	
33	175 NEPPERHAN AVE	RELIGIOUS	MT CARMEL BAPTIST CHURCH	
34	47 OAK ST	RELIGIOUS	ST THOMAS MALANKARA CHURC	
35	26 RIVERVIEW PL	RELIGIOUS	ST THOMAS MALANKARA	

Table 5-3 Key to Sensitive Receptors (refer to Figure 5-1)

36	22 RIVERVIEW PL	RELIGIOUS	ST THOMAS MALANKARA	
37	20 RIVERVIEW PL	RELIGIOUS	ST THOMAS MALANKARA	
38	16 RIVERVIEW PL	RELIGIOUS	ST THOMAS MALANKARA	
39	2 RIVERVIEW PL	RELIGIOUS	ST. THOMAS ORTHODOX	SYRIAN CHURCH
40	60 PALISADE AVE	RELIGIOUS	PHILIPPI PENTECOSTAL CHUR	
41	43 CHESTNUT ST	RELIGIOUS	GREATER NEW YORK SEVENTH	ADVENTISTS
42	41 CHESTNUT ST	RELIGIOUS	GREATER NEW YORK SEVENTH	ADVENTISTS
43	29 CHESTNUT ST	SCHOOL	NY SEVENTH-DAY ADVENTISTS	
44	50 N BWAY	RELIGIOUS	FAITH DELIVERNCE TABERNAC	
45	5 MANOR HOUSE SQ	RELIGIOUS	CHRISTIAN LOVE TABERNACLE	
46	11 MANOR HOUSE SQUARE	RELIGIOUS	BRONX BIBLE CHURCH	
47	58 N BWAY	RELIGIOUS	GETHSEMANE HOLINESS CHURC	C/O A.B.CARRUTH
48	255 NEPPERHAN AVE	SCHOOL	CHURCH OF ST CASIMIR	
49	57 LOCUST HILL AVE	RELIGIOUS	CALVARY CENTER, INC.	
50	259 NEPPERHAN AVE	RELIGIOUS	CHURCH OF ST CASIMIR	
51	265 NEPPERHAN AVE	RELIGIOUS	CHURCH OF ST CASIMIR	
52	76 WARBURTON AVE	RELIGIOUS	MESSIAH BAPTIST CHURCH	C/O TRUSTEE BOARD
53	81 LOCUST HILL AVE	RELIGIOUS	RECTOR HOLY CROSS CHURCH	
54	78 WARBURTON AVE	RELIGIOUS	MESSIAH BAPTIST CHURCH	
55	84 WARBURTON AVE	RELIGIOUS	TRUSTEES OF MESSIAH BAPTI	
56	115 LOCUST HILL AVE	SCHOOL	BOARD OF EDUCATION	MARTIN LUTHER KING HIGH
67	156 N BWAY	RELIGIOUS	COMMUNITY BAPTIST CHURCH	
68	164 ASHBURTON AVE	SCHOOL	YONKERS COMMUNITY ACTION	SCHOOL 12
69	9 ASHBURTON PL	RELIGIOUS	ST. PAULS CHURCH OF GOD I	
60	160 N BWAY	RELIGIOUS	COMMUNITY BAPTIST CHURCH	
61	1 JONES PL	RELIGIOUS	CHURCH OF ST JOSEPH LODGE	
62	5 JONES PL	RELIGIOUS	CHURCH OF ST JOSEPH YOUTH	
63	147 ASHBURTON AVE	RELIGIOUS	CHURCH OF ST JOSEPH RECTO	
64	141 ASHBURTON AVE	RELIGIOUS	CHURCH OF ST JOSEPH	

Table 5-4 Yonkers SFC Redevelopment Project Construction Matrix

Project Phase	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	5th Quarter	6th Quarter	7th Quarter	8th Quarter	9th Quarter	10th Quarter
River Park	Ground Clearing	Ground Clearing								
	Excavation	Excavation								
	Foundation	Foundation	Foundation	Foundation						
		Erection	Erection	Erection	Erection	Erection				
				Finishing	Finishing	Finishing	Finishing	Finishing		
Cacace Site	Ground Clearing									
	Rock Removal									
	Excavation	Excavation								
		Foundation								
		Erection	Erection							
				Finishing	Finishing					
Government Center Garage							Ground Clearing	Ground Clearing	Ground Clearing	
								Foundation	Foundation	
									Erection	
									Finishing	Finishing
Palisades Point	Ground Clearing									
	Pile Driving									
		Excavation								
		Foundation	Foundation							
		Erection	Erection	Erection	Erection					
			Finishing	Finishing	Finishing	Finishing				

Table 5-5 Estimated Outdoor Construction Noise Levels (dBA)

Construction Phase	Typical Average Outdoor Noise Levels at Construction Site Boundaries (a)	Estimated Outdoor Construction Noise Levels at Distances from Site Boundary (b,c) 100 ft	200 ft	300 ft	400 ft	500 ft	600 ft	1000 ft	2000 ft
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
Ground Clearing	84	78	72	69	66	64.5	63	58.5	52.5
Excavation	89	83	77	74	71	69.5	68	63.5	57.5
Pile Driving	101	95	89	86	83	81.5	80	75.5	69.5
Foundation	77	71	65	62	59	57.5	56	51.5	45.5
Erection	84	78	72	69	66	64.5	63	58.5	52.5
Finishing	89	83	77	74	71	69.5	68	63.5	57.5

Notes:

(a) Source: US EPA "Noise from Construction Equipment", 1971

(b) Estimated from (a) and approximate distance from site (Greenberg, et al. 1979)

(c) Projected sound levels at the Site boundary will vary with the type and location of the construction activity on the Site. Because construction activities would be carried out at various locations and because these activities change as work progresses, the construction site would have both spatial and temporal noise dimensions. Noise levels at the various receptors will depend on the work activity, the proximity of the work activity (relative location on site/distance to receptor), and extraneous sources (i.e., sirens, buses, and other background sources).

Table 5-6 Difference in Sound Levels Due to Outdoor Construction Noise Levels (dBA) at River Park Center									
Construction Phase	Difference in Sound Level Due to Outdoor Noise Levels at Construction Site Boundaries	Difference in Sound Level Due to Outdoor Construction Noise Levels at Distances from Site Boundary							
		100 ft	200 ft	300 ft	400 ft	500 ft	600 ft	1000 ft	2000 ft
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
Ground Clearing	14	8	7	4	1	-	-	-	-
Excavation	19	13	12	9	6	4.5	3	-	-
Foundation	7	1	-	-	-	-	-	-	-
Erection	14	8	7	4	1	-	-	-	-
Finishing	19	13	12	9	6	4.5	3	-	-

Notes:

(a) Existing Noise Level within 100 feet of the Site boundary is 70 dBA and beyond 100 feet is 65 dBA based on field measurements

(b) Refer to Table 5-2 for "Estimated Outdoor Construction Noise Levels at Distances from Site Boundary"

(c) Potential max values referenced in Table 5-2 are based on US EPA "Noise from Construction Equipment", 1971

(d) Shaded area indicates no difference in sound level due to outdoor construction noise

(e) Projected sound levels at the Site boundary will vary with the type and location of the construction activity on the Site. Because construction activities would be carried out at various locations and because these activities change as work progresses, the construction site would have both spatial and temporal noise dimensions. Noise levels at the various receptors will depend on the work activity, the proximity of the work activity (relative location on site/distance to receptor), and extraneous sources (i.e., sirens, buses, and other background sources).

Table 5-7 Difference in Sound Levels Due to Outdoor Construction Noise Levels (dBA) at Palisades Point									
Construction Phase	Difference in Sound Level Due to Outdoor Noise Levels at Construction Site Boundaries	Difference in Sound Level Due to Outdoor Construction Noise Levels at Distances from Site Boundary							
		100 ft	200 ft	300 ft	400 ft	500 ft	600 ft	1000 ft	2000 ft
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
Ground Clearing	19	13	7	4	1	-	-	-	-
Excavation	24	18	12	9	6	4.5	3	-	-
Pile Driving	36	30	24	21	18	16.5	15	10.5	4.5
Foundation	12	6	-	-	-	-	-	-	-
Erection	19	13	7	4	1	-	-	-	-
Finishing	24	18	12	9	6	4.5	3	-	-

Notes:

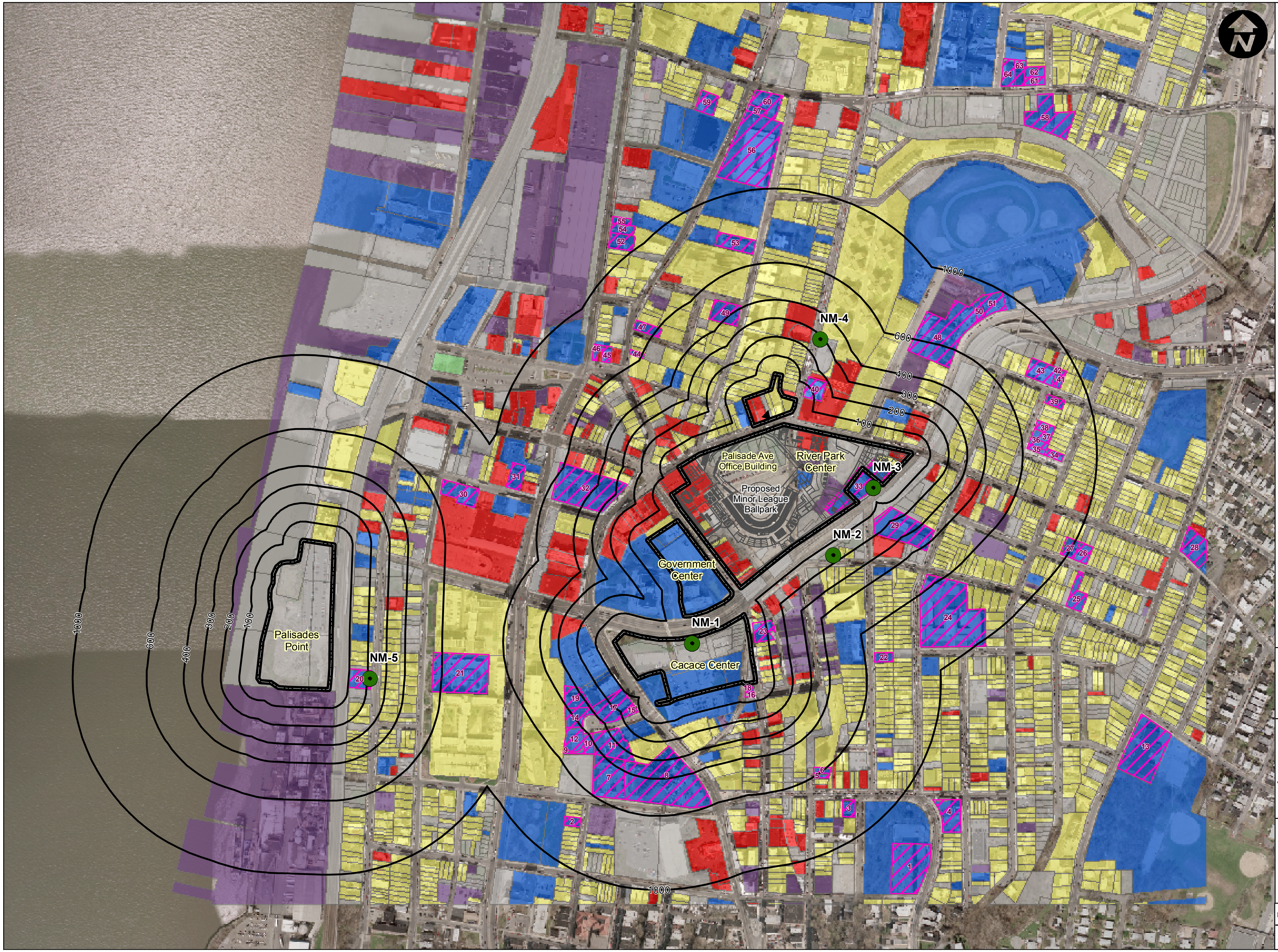
(a) Existing Noise Level is 65 dBA

(b) Refer to Table 5-2 for "Estimated Outdoor Construction Noise Levels at Distances from Site Boundary"

(c) Potential max values referenced in Table 5-2 are based on US EPA "Noise from Construction Equipment", 1971

(d) Shaded area indicates no difference in sound level due to outdoor construction noise

(e) Projected sound levels at the Site boundary will vary with the type and location of the construction activity on the Site. Because construction activities would be carried out at various locations and because these activities change as work progresses, the construction site would have both spatial and temporal noise dimensions. Noise levels at the various receptors will depend on the work activity, the proximity of the work activity (relative location on site/distance to receptor), and extraneous sources (i.e., sirens, buses, and other background sources).



Legend

Redevelopment Project Site

Distance from Site (ft.)

Noise Monitoring Location

Land Use

Residential

Commercial

Industrial

Park

Social or Community Service

Travel or Vacant

Noise Sensitive Receptors (see table 5-3 for details)

Source:
Redevelopment Project Sites taken from SFC plan entitled "SFC Infrastructure Budget Water Main Improvements", dated 4/30/07.

Parcels and Land Use from plan entitled "H&I - Gateway - Larkin Square TIF Boundary, Yonkers, NY", from Saccardi & Schiff, Inc., dated 08/29/06.

Proposed Junior League Ballpark taken from SFC plan entitiled, Field Level Plan, dated 04/03/07.

Noise Monitoring Locations are approximate.

Noise Sensitive Receptors are from Saccardi & Schiff, Inc., June 2007.

NYSDOP Aerial Imagery, 2004.

0 250 500 Feet

PS&S
integrating design & engineering

SFC REDEVELOPMENT PROJECT
CITY OF YONKERS
WESTCHESTER COUNTY, NEW YORK

CONSTRUCTION NOISE DISTANCE CONTOURS

Drn By: JA	Scale: 1" = 500'	Project: 03113.003.024
Ch'kd By: MH	Date: 01/04/08	Figure No. 5-1

Map Document: (P:\03113\003\Y\N\Maps\Fig5-1_ConstructionNoiseDistCont_010408_05.mxd)
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SECTION 6.0

SUMMARY AND CONCLUSIONS

6.0 SUMMARY AND CONCLUSIONS

This Noise Assessment was prepared to assess the potential impacts of the Project on the ambient noise environment including review of traffic related noise and the potential for noise related to the proposed stadium and residential towers. The procedures used to perform this noise impact assessment followed the methodologies approved and/or recommended by NYSDEC, HUD, FHWA, EPA, City of Yonkers and New York City (CEQR).

A number of potential noise sources associated with the proposed Project have been reviewed to assess the potential for Project related impacts on the ambient noise environment. These possible noise sources associated with the River Park Center and Palisades Point developments include:

- Various traffic scenarios, without and with the ballpark traffic and with various improvements to the roadway/traffic network near the Project
- Train noise and potential impact upon the Project
- Stadium Noise (Ballgames, concert events, fireworks)
- Proposed residential towers
- 'Project' related mechanical systems (i.e., air handlers, chillers, cooling towers and emergency generator systems)
- Construction Activities

A number of conclusions can be made based on the results of this noise assessment that include the following:

- Sound levels surrounding the Project areas are typical of an urban environment and are influenced by local traffic conditions.
- The ambient sound environment in the area surrounding the proposed River Park Center ranges from 65 dBA to 72 dBA during the daytime, with the higher ambient noise levels being just above the City of Yonkers noise standard of 70 dBA, and ranges from 60 dBA to 72 dBA during the nighttime, above the City of Yonkers noise standard of 50 dBA.
- The ambient sound environment in the area adjacent to the proposed Palisades Point Development is approximately 65 dBA during the daytime, below the City of Yonkers

noise ordinance of 70 dBA, and 60 dBA during the nighttime, above the City of Yonkers residential noise ordinance of 50 dBA.

- Existing noise levels are not anticipated to change significantly in the future without Project development. Under the No-Build condition, existing vehicular noise tends to dominate the noise exposure at nearby receptors almost everywhere surrounding the Project area.

- Noise associated with Project related traffic is not expected to be significant.

- Noise from ballgame events at the River Park Center relative to existing noise levels is not expected to be significant.

- Residential units with outdoor balconies facing the ballpark may experience unabated noise from ballpark events.

- There is potential for noise from concert events at the stadium to significantly increase the ambient sound levels in the area, especially to the north and at the nearest residences with a direct line-of-sight (proposed east and west towers), particularly during the hours of 7:00 PM to midnight which are considered noise sensitive hours.

- Isolated explosive noise associated with fireworks displays could occur and could constitute potential for significant noise impact.

- The contribution of sound levels from train pass-bys to background sound levels at the Palisades Point residential towers is not expected to be significant.

    - Residential units with outdoor balconies facing the train line may experience momentary unabated noise during train pass bys.

    - Indoor noise levels from train pass-bys at Palisades Point residential tower units are not anticipated to be significant.

- Potential noise levels from ‘Project’ related mechanical systems (i.e., air handlers, cooling towers and emergency generator systems) will be minimized by a combination of design considerations, sound attenuation due to distance from the residences, and mitigation measures as may be needed.

- Construction activities associated with the River Park Center, Government Center and Cacace Center Sites would be expected to result in an increase of existing noise levels during various construction phases.

- The closest sensitive receptor at the River Park Center Site is ‘Our lady of Mt Carmel’ Church, located along the Project Site boundary adjacent to Nepperhan Avenue, which is anticipated to experience significant construction noise levels. Noise mitigation such as temporary sound barrier panels should be considered for this and other sensitive receptors along the Site boundary.

- Sensitive receptors located within 300 feet of the River Park Center and Cacace Center Sites are anticipated to experience significant noise levels greater than 3 dBA at times during construction. Sensitive receptors within 300 feet include churches ('Our lady of Mt Carmel' Church, Latin American Pentecostal Church, Philippi Pentecostal Church, Corp of St. Johns Church, St. Marys-Church of the Immaculate Conception), schools (Our Lady of Mt. Carmel-St. Anthony School, St. Marys-Church of the Immaculate Conception School) and residential dwellings.

- Sensitive receptors located within 600 feet of the River Park Center and Cacace Sites are anticipated to experience significant noise impacts greater than 3 dBA at times during the finishing phase of construction and excavation activities. Sensitive receptors within 600 feet include churches and religious centers (Cavalry Center, Soul Saving Station, Church of the Immaculate Conception, Convent of Mary the Queen), schools (St. Marys-Church of the Immaculate Conception School, Church of St. Casimir School), a hospital (St. Josephs Hospital) and residential dwellings.

- No significant noise impacts during construction are anticipated beyond 600 feet from the River Park Center Site boundary.

- Blasting during the excavation phase is anticipated to result in potentially significant noise levels at sensitive receptors within 2,500 feet of the activity at the Cacace Site. Blasting operations may be considered intrusive at the closest receptors (such as St. Josephs Hospital, St. Mary's School, Latin American Pentecostal Church, Immaculate Conception Church and local residences).

- Once blasting is complete, no significant noise impacts during construction are anticipated beyond 600 feet from the Cacace Center Site boundary.

- Construction activities associated with Palisades Point would be expected to result in an increase of existing noise levels.

- Sensitive receptors located within 300 feet of the Palisades Point Site are anticipated to experience significant noise levels greater than 3 dBA at times during construction. Sensitive receptors within 300 feet include a church (St. Marys/Holy Apostolic Catholic Church) and residential dwellings.

- Sensitive receptors located within 600 feet of the Palisades Point Site are anticipated to experience significant noise levels greater than 3 dBA at times during the finishing phase of construction and excavation activities. Sensitive receptors within 600 feet include a school (City Harvest Pre-School: School 10) and residential dwellings.

- Pile driving during the foundation phase is anticipated to result in potentially significant noise impacts at sensitive receptors within 2,000 feet of the activity. Once pile driving is completed, no significant noise levels during construction are anticipated beyond 600 feet from the Palisades Point Site boundary.

- Noise associated with construction of the parking facilities will be confined to the local area at the Project Sites.

- Construction Travel associated with worker and material deliveries etc. at both sites is not anticipated to be significant relative to existing traffic related noise in the area, and noise projected from Project Build out with ballpark traffic.

SECTION 7.0

REFERENCES

7.0 REFERENCES

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APPENDIX A

Sound Monitoring Data

APPENDIX B

Yonkers Noise Code