FTA REGION IV
CATEGORICAL EXCLUSION CHECKLIST

Date: April 14, 2022

Grant Applicant/ Project Sponsor: Miami-Dade County Department of Transportation and Public Works (DTPW)

Project Name: Beach Corridor Rapid Transit Project – Miami Midtown/Design District Extension

City, County, State: Miami, Miami-Dade County, Florida

INFORMATION REQUIRED FOR PROBABLE CATEGORICAL EXCLUSION SECTION 771.118(d)

A. DETAILED PROJECT DESCRIPTION AND PURPOSE AND NEED: Describe type of project and transit nexus (include applicable FTA Transit Programs supported by this project). This description should include the proposed use, property size, parcel history, ownership information, acreage, and previous and current planning studies and/or environmental evaluations.

In 2002, Miami-Dade County voters approved a one-half percent local surtax with the purpose of improving, among other things, rapid transit corridors within the county through the People's Transportation Plan (PTP). While the PTP is a locally funded initiative administered by the Citizens Independent Transportation Trust (CITT), the Miami-Dade County Transportation Planning Organization (TPO) remains committed to assisting in the development of these rapid transit corridors today.

In 2016, the TPO adopted the Strategic Miami Area Rapid Transit (SMART) Plan as the blueprint for developing rapid transit services throughout Miami-Dade County. The overall plan is illustrated in **Figure 1.** Subsequently the Miami-Dade County Department of Transportation and Public Works (DTPW) initiated the Beach Corridor Rapid Transit Project (Beach Corridor) Project Development and Environment (PD&E) study in 2017, in collaboration with the Florida Department of Transportation (FDOT) and the cities of Miami and Miami Beach. The PD&E Study was developed with the intention of supporting entry into the FTA project development process and an application for a Capital Investment Grant, if DTPW elects to pursue the project as an FTA New Starts project.

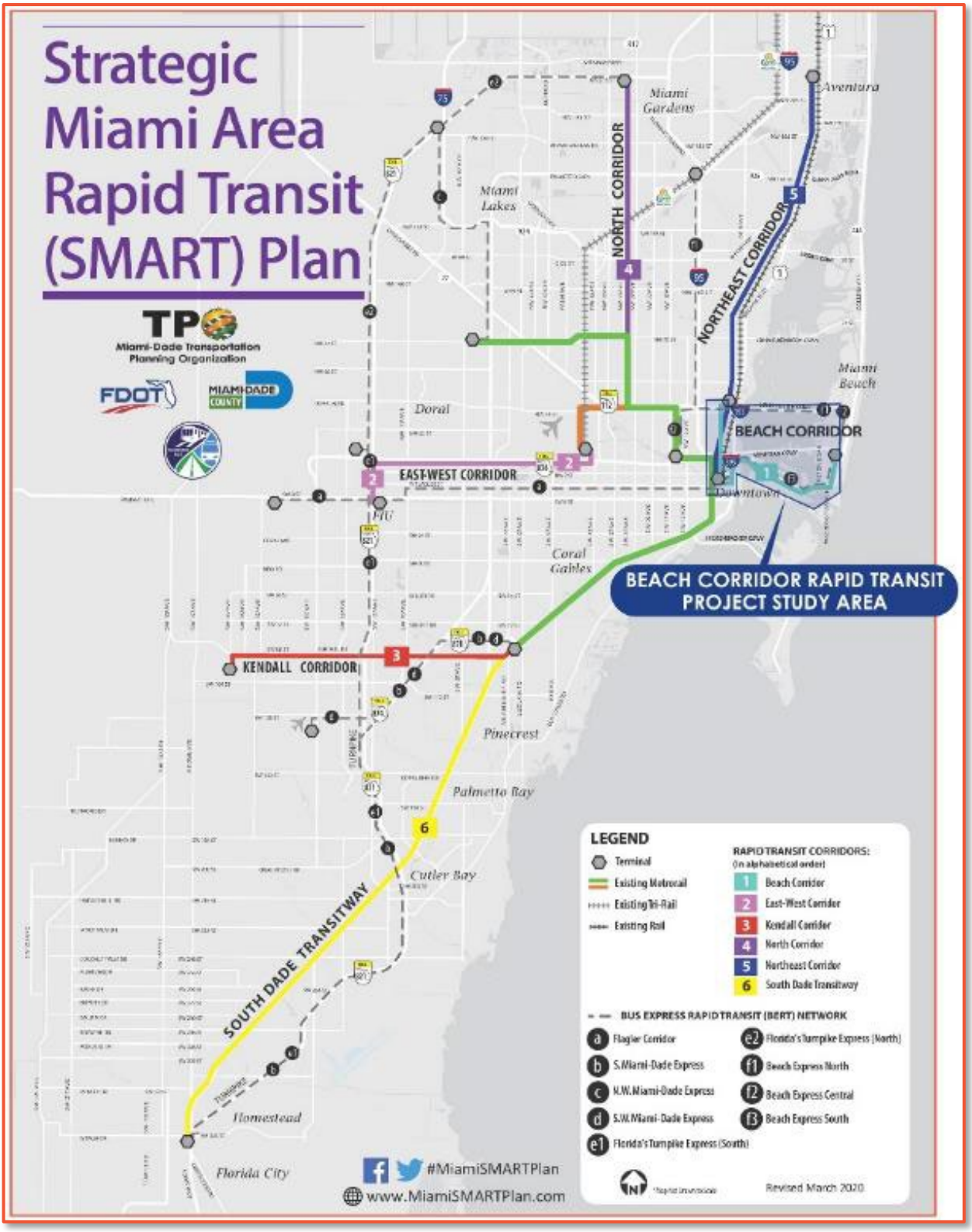

Figure 1: SMART Plan Project Location Map

The purpose of this project is to increase the person-throughput to the Beach Corridor's major origins and destinations via a rapid transit technology. The need for the project is the extensive population growth throughout the study area, resulting in ever-increasing traffic congestion and the demand for enhanced access to the area's employment centers, facilities and services.

The Beach Corridor traverses an area that is at the epicenter of population and economic growth within Miami-Dade County. The City of Miami Central Business District (CBD) area and Miami Beach have undergone rapid population and employment increases over the past decade, a trend that is projected to continue over the next 20 years. The population densities in the study area are among the highest in the nation, with the Miami CBD at 17,800 persons per square mile and Miami Beach at 11,500 persons per square mile, per the 2010 U.S. Census. The Miami CBD saw a dramatic 172% increase in population density over the last decade. The Miami Beach area includes major health facilities such as Mt. Sinai Medical Center, residential and retail uses, and major 24-hour hotels that provide service jobs for people residing throughout Miami-Dade County.

In addition to travel needs to accommodate future regional growth, tourism travel patterns exacerbate the existing roadway network conditions. Tourism travel patterns encompass visitors who are 'people not residing or working in the region'. These trips and patterns are outside of the typical commuter peak travel patterns. The region's appealing qualities, such as its temperate climate, attractive beaches, and convenient access to the Caribbean and Latin America, South Florida and Miami-Dade County has made the area an important tourist destination for both national and international visitors. The county hosts millions of annual visitors and seasonal residents. Visitors typically access the study area via tour bus, taxi, or rental car.

In 2018, Greater Miami and the Beaches attracted a record 16.5 million overnight visitors and an additional 6.8 million day trippers. Miami Beach and Downtown Miami are the two most popular locations for overnight stays, lodging nearly 50% of all 2018 Greater Miami area visitors with approximately 6.1 million and 1.6 million overnight guests, respectively. Additionally, the most visited attractions, according to the Greater Miami Chamber of Commerce, are in proximity to the Beach Corridor, including South Beach, the Beaches, Lincoln Road, Bayside Market Place, and Downtown Miami.

This high rate of tourism contributes significantly to the area's economy. Tourism generates additional demand for travel, produces additional trips within the area, and contributes to an overall increase in traffic congestion. Tourism related travel patterns are different from the regular weekday commute travel patterns. Hotels on Miami Beach are open 24 hours a day/7 days a week and service workers have shifts throughout the day. Weekend attractions are also more prevalent and less likely to follow commute patterns. As a result, the existing transportation infrastructure is unable to adequately accommodate the entirety of current and projected travel demand. The Greater Miami Convention and Visitor's Bureau website displays yearly visitor Industry Overview reports which include results of a yearly survey of 15,000 visitors. Data collected from questions administered on the Bureau's visitor survey highlight that traffic congestion is considered to be the top negative aspect of trips to Greater Miami and Miami Beach and it has been the top-ranked problem in each of their last eight annual visitor surveys.

To meet the project's purpose and need, goals that would accommodate the high travel demand throughout the study area and provide relief to the extreme traffic congestion along the surface streets were established. The project goals are:

- Connect to and provide direct, convenient, and comfortable rapid-transit service via a new transit connection to the existing regional system in Miami to serve existing and future planned land uses which include additional residential and commercial uses in Downtown Miami as well as Miami Beach.
- Provide enhanced interconnections with Metrorail, Tri-Rail, Brightline, Metromover, and Metrobus routes; Broward County Transit (BCT) bus routes; Miami and Miami Beach circulators; jitneys; shuttles; taxis; transportation network companies, such as Uber and Lyft; and/or other supporting transportation services; and
- Promote pedestrian and bicycle friendly solutions in the corridors of the study area by incorporating bike share facilities at major transfer facilities and pedestrian infrastructure access to all new stations.

The Beach Corridor is comprised of three sub-areas which feature distinct segments of travel demand and origin/destination pairs that vary in their land use and environmental characteristics. The three sub-areas are: the Beach Corridor Trunkline, also called the Bay Crossing, which extends from the existing Downtown Metromover Omni Extension in Miami along the MacArthur Causeway to 5th Street in Miami Beach near Washington Avenue; the Miami Design District Extension, which is an extension of the existing Metromover in the median of Miami Avenue from NW 15th Street to NW 41st Street in the Design District; and the Miami Beach Convention Center Extension along Washington Avenue from 5th Street to 17th Street and then to the Miami Beach Convention Center in the form of an express bus. The TPO approved the Locally Preferred Alternative (LPA) for the three sub-areas on January 30, 2020 (**Figure 2**). This Categorical Exclusion analyzes the Miami Midtown/ Design District Extension.

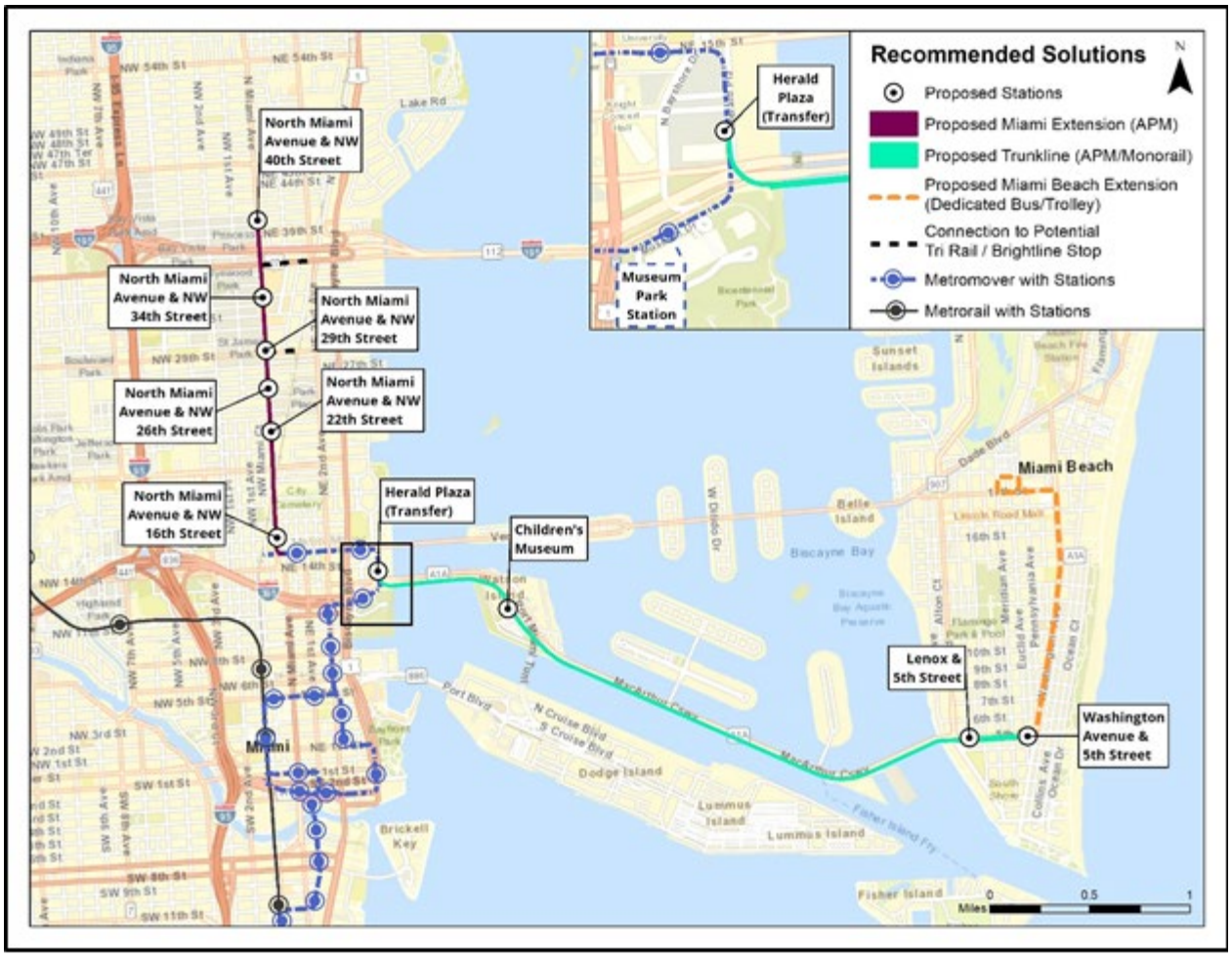

Figure 2: Beach Corridor RPT Locally Preferred Alternative

The Miami Midtown/Design District Extension is a 3.2-mile round trip route, approximately 1.6 miles northbound and 1.6 miles southbound, on North Miami Avenue from NW/NE 15th Street to NW/NE 41st Street. Miami Avenue is the axis that divides the east and west addresses in the City of Miami. The LPA for the Miami Midtown/Design District Extension is an Automated People Mover (APM) that will be constructed in a similar manner to the existing Metromover with tracks and stations located above the existing street. There are six proposed stations along the route, and the extension will connect to the existing Metromover School Board Station on NE 15th Street to the south. Currently the right-of-way is controlled by Miami-Dade County. A Location Map is provided in **Figure 3**. The project will include the construction of a maintenance yard at one of the two locations depicted in **Figure 3.**

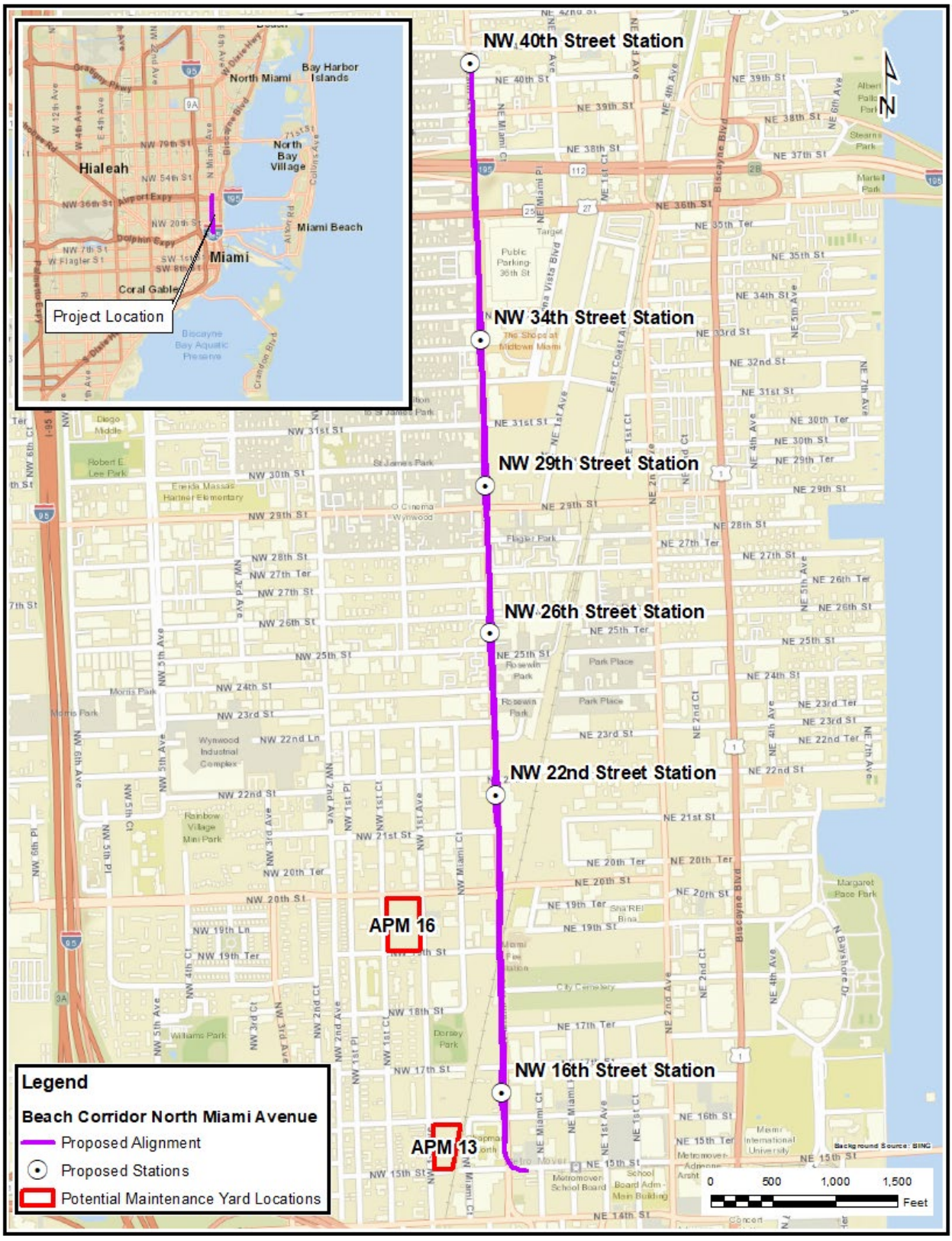

Figure 3: Project Location Map

B. LOCATION (INCLUDING ADDRESS): Attach a project location map or site map that identifies the land uses and resources on the site and adjacent or nearby land uses and resources. This is used to determine the probability of impact on sensitive receptors (such as schools, hospitals, residences) and on protected resources (rivers, streams, wetlands, historic properties, parks and recreation areas). This must include adjacent parcels.

The location description for the Miami Midtown/Design District Extension (herein also referred to as the corridor) is as follows: The route starts at the existing SE 15th Street School Board Metromover Station and will connect to that station. The route will then travel north on North Miami Ave on an elevated track at least 16.5 feet above the existing roadway along the west site of North Miami Avenue from NW 15th Street to NW 20th Street and then move to the median of North Miami Avenue from NW 20th Street to NW 41st Street. There will be new stations installed at NW 16th Street, NW 22nd Street, NW 26th Street, NW 29th Street, NW 34th Street and NW 40th Street. A new maintenance yard is proposed. The new maintenance yard will be located either south of NW 20th Street between NW 1st Court and NW 1st Avenue or south of NW 16th Street between NW 1st Avenue and NW Miami Court. These are both vacant properties and will be the only additional right-of-way need for the project. The corridor is planned to be an extension of the existing Metromover (see **Figure 4.**)

Figure 4: Rendering of APM on North Miami Avenue

The land use along the corridor is primarily commercial and industrial. There is multi-family residential in the northern portion of the corridor and there is a cemetery, the Miami City Cemetery, and Biscayne Park which is located east of the current fire station and north of the Miami City Cemetery. There are no planned right-of-way

needs along the corridor portion of the project. Construction will be within the existing Miami-Dade County right-of-way. A map showing the land use within a 500-foot buffer of the corridor is included as **Figure 5**.

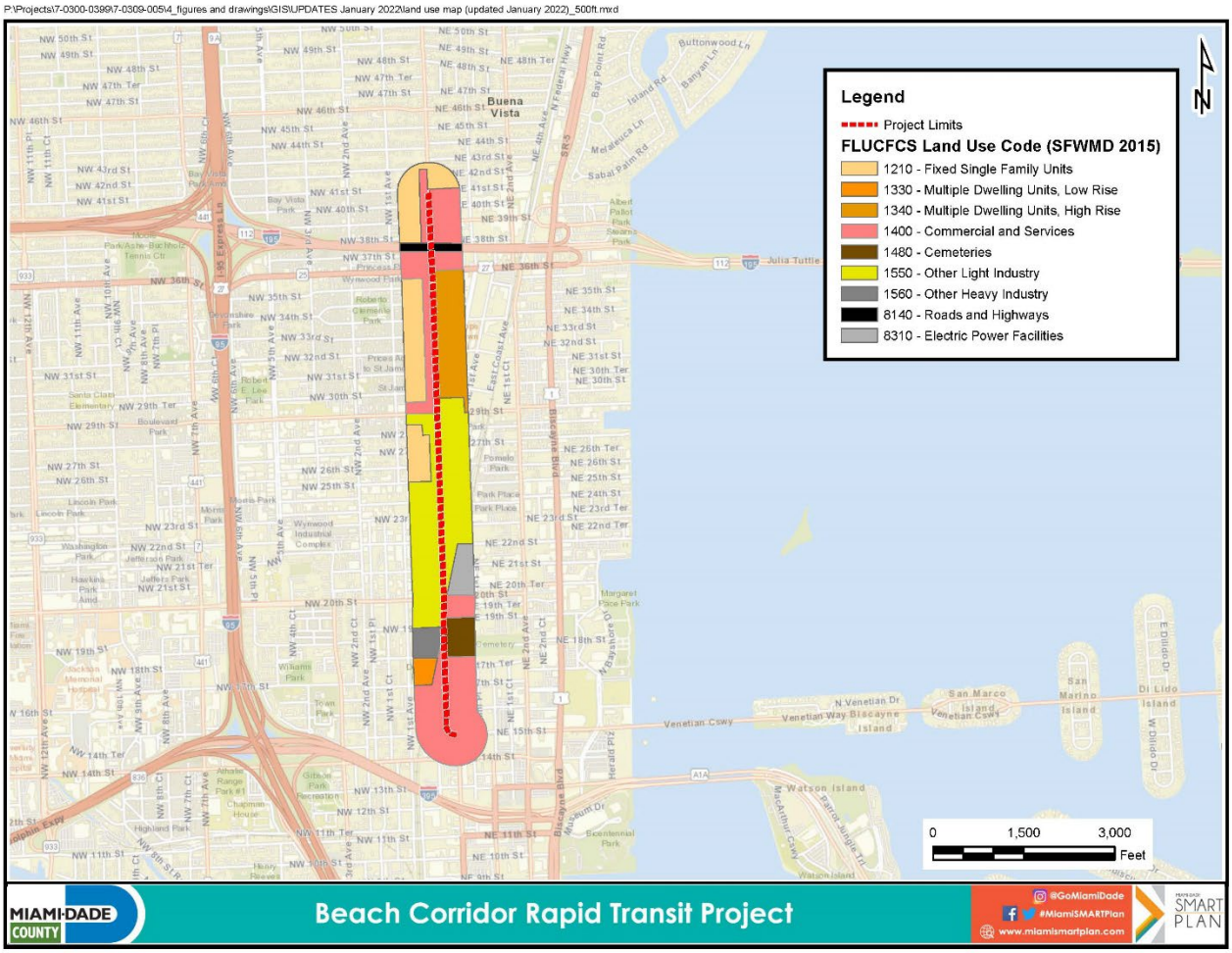

Figure 5: Design District Land Use within a 500-Foot Buffer around the Corridor

C. <u>METROPOLITAN PLANNING AND AIR QUALITY CONFORMITY:</u> Is the proposed project in a nonattainment area or maintenance area for National Ambient Air Quality Standards (NAAQS)? Is the proposed project included in the currently conforming LRTP/TIP either explicitly or in a grouping of projects or activities? If the proposed project is in a nonattainment or maintenance area, then project-level conformity must be demonstrated by including specific reference to project in the currently conforming LRTP/TIP (40 CFR 93.115-117).

This project is included in the Miami-Dade TPO's approved Long Range Transportation Plan (LRTP). The project is located in the Southeast Florida Airshed which, based on the US Environmental Protection Agency (USEPA) Green Book, is designated as attainment for all of the National Ambient Air Quality Standards (NAAQS) under the criteria provided in the Clean Air Act. Potential air quality impacts would be temporary and would primarily occur in the

form of emissions from diesel-powered construction equipment and dust from construction activities. This project is not expected to create permanent adverse impacts on air quality because the project will reduce congestion and the number of emissions-generating vehicles on North Miami Avenue. The APM that is proposed is powered by electricity from Florida Power and Light's (FPL) nuclear power plant which produces no greenhouse gas emissions.

D. **CO HOT SPOTS: If there are serious traffic impacts at any affected intersection, and if the area is a nonattainment or maintenance area for carbon monoxide (CO), then demonstrate that CO "hot spots" will not result from project implementation. In nonattainment areas, interagency concurrence (IAC) and documentation must be attached. If the proposed project is not in a nonattainment or maintenance area for CO, state in narrative response.**

Based on the USEPA Green Book, the project is located in the Southeast Florida Airshed which is designated as attainment for carbon monoxide (CO). There are no serious traffic impacts at the proposed stations because these areas are already highly urbanized activity centers. Potential air quality impacts would be temporary and would primarily occur in the form of emissions from diesel-powered construction equipment and dust from construction activities. This project is not expected to create permanent adverse impacts on air quality because the project will reduce congestion and the number of emissions-generating vehicles on North Miami Avenue.

E. **PM2.5 AND PM10 HOT SPOTS: If there are serious traffic impacts at any affected intersection, and if the area is a nonattainment or maintenance area for any particulate matter (PM2.5 or PM10), then demonstrate that PM2.5 or PM10 "hot spots" will not result. In nonattainment areas, interagency concurrence (IAC) and documentation must be attached. If the proposed project is not in a nonattainment or maintenance area for PM2.5 and PM10, state in narrative response.**

Based on the USEPA Green Book, the project is located in the Southeast Florida Airshed which is designated as attainment for particulate matter (PM)-2.5 and PM-10. There are no serious traffic impacts at the proposed stations because these areas are already highly urbanized activity centers. Potential air quality impacts would be temporary and would primarily occur in the form of emissions from diesel-powered construction equipment and dust from construction activities. This project is not expected to create permanent adverse impacts on air quality because the project will reduce congestion and the number of emissions-generating vehicles on the surrounding roads specifically North Miami Avenue.

F. **ZONING: Description of zoning and land use and consistency with proposed project. Describe in narrative response why project is compatible with current land use and/or zoning. In cases where additional ordinances (such as overlay districts or design constraints) exist describe ordinance and explain project compatibility.**

This project is included in the Miami-Dade TPO's approved 2045 LRTP. The travel route for this project will occur on existing rights-of-way. The proposed maintenance yards are currently vacant and zoned industrial and commercial so no zoning changes would be required for the construction of the new maintenance yard. The areas to be purchased are privately owned (see **Section K** in this document for ownership information). Accommodations would be required to add them to the land inventory for Miami-Dade County. Therefore, the Miami Midtown/Design District Extension is compatible with current zoning and land uses at all locations.

G. TRAFFIC IMPACTS: Describe potential traffic impacts, including whether the existing roadways have adequate capacity to handle increased bus and other vehicular traffic. Also include description of ingress, egress, and safety.

There will be permanent traffic impacts after construction of this transit corridor. The goal is to make this segment of North Miami Avenue more transit-oriented and pedestrian-friendly.

- The station proposed on the west side of North Miami Avenue (16th Street Station) will require creating pedestrian access to the station ground level, which is offset from the existing ground. Sidewalks and roads in this area will be modified with curbs and barrier walls to provide safe access for pedestrians and separation from vehicular traffic. This will require clearing and grubbing, saw cutting of the existing asphalt and sidewalk to properly construct the offset ground level of the station and modifying roadway where required.
- For the stations proposed in the median, a curb separated median with barrier walls would be created for pedestrian access to the station ground level. This will require clearing and grubbing, if necessary, and saw cutting the existing asphalt to properly form the ground level of the station and roadway.
- North Miami Avenue south of 17th Street is currently a one-way street with three southbound travel lanes and parking on both sides of the street. The typical section from 15th Street to 17th Street will remain the same with two travel lanes and one shared use lane, plus parking on the east side of the street. This includes the 16th Street Station.
- From 17th Street to 19th Street, North Miami Avenue is a two-way street with two travel lanes and bike lanes, both northbound and southbound. On-street parking is currently available on the west side of the street and will be taken by the new transit guideway. The travel lanes and bike lanes will remain.
- From 20th Street to 41st Street, the existing four-lane roadway will be reduced to two travel lanes with two bike lanes, one in each direction. This is to avoid transitioning at the station locations. At the 22nd and 26th Street Stations, the bike lanes will be shared with the travel lanes. Separate bike lanes will be present at the 29th, 34th and 40th Street stations. Parking is currently limited along this section of North Miami Avenue.
- The following left turns from North Miami Avenue will be permanently obstructed: northbound left turns onto 20th, 32nd and 34th Streets; southbound left turns onto 29th, 38th and 40th Streets. Left turns onto North Miami Avenue from these side streets may also be obstructed.

In addition to the permanent traffic impacts, temporary impacts from construction may include minor disruptions to traffic flow. All work on the proposed APM track installation and stations is expected to take place within the existing rights-of-way. During construction, the contractor will be required to provide the following:

- Adequate accommodations for intersecting traffic at crossings and intersections;
- Continuous vehicular and pedestrian access to all residences and places of business during construction;
- Safe alternate accessible routes through or around the work zone that meet the requirements of the ADA Standards for Transportation Facilities when pedestrian facilities are detoured, closed, or blocked during the work.

H. **CULTURAL RESOURCES: Show resources on a project location map. Describe any cultural, historic, or archaeological resource that is located in the immediate vicinity of the proposed project and the impact of the project on the resource. FTA initiates all consultation per Section 106 of the National Historic Preservation Act (NHPA), following the applicant's submittal of the Section 106 Worksheet to FTA. FTA then makes a "No Effect/ No Historic Properties" or "No Historic Properties Affected" determination, if no historic resources or potential to affect resources exists. FTA then requests concurrence for this determination from the appropriate State Historic Preservation Office (SHPO) or Tribal Historic Preservation Office (THPO). The FTA Section 106 Worksheet and SHPO/THPO concurrence must be included as an attachment before NEPA approval.**

Note: If an "Adverse Effect" determination is made as a result of the proposed project, rather than a "No Effect/ No Historic Properties" or "No Historic Properties Affected" determination, then FTA may request a higher NEPA class of action to evaluate alternatives or mitigation measures to deter these adverse effects.

A *Technical Memorandum Effects Evaluation for the Beach Corridor Rapid Transit Project* was submitted to SHPO in September 2020. A *Determination of Effects Technical Memorandum* was submitted to SHPO in December of 2020. According to a review of the Florida Division of Historical Resources GIS files, 42 potentially historic resources are within the Area of Potential Effect (APE) for the corridor and potential maintenance yard locations (**Figure 7)**. These include five previously recorded resources: two already on the *National Register of Historic Places* (NRHP), Miami City Cemetery (8DA01090), and Fire Station No. 2 (8DA01176), and three resources that were determined to be eligible for listing by the State Historic Preservation Officer (SHPO), Florida East Coast (FEC) Railway (8DA10107), Big Time Equipment, Inc. (8DA10520), and 71 NW 14th Street (8DA10858).

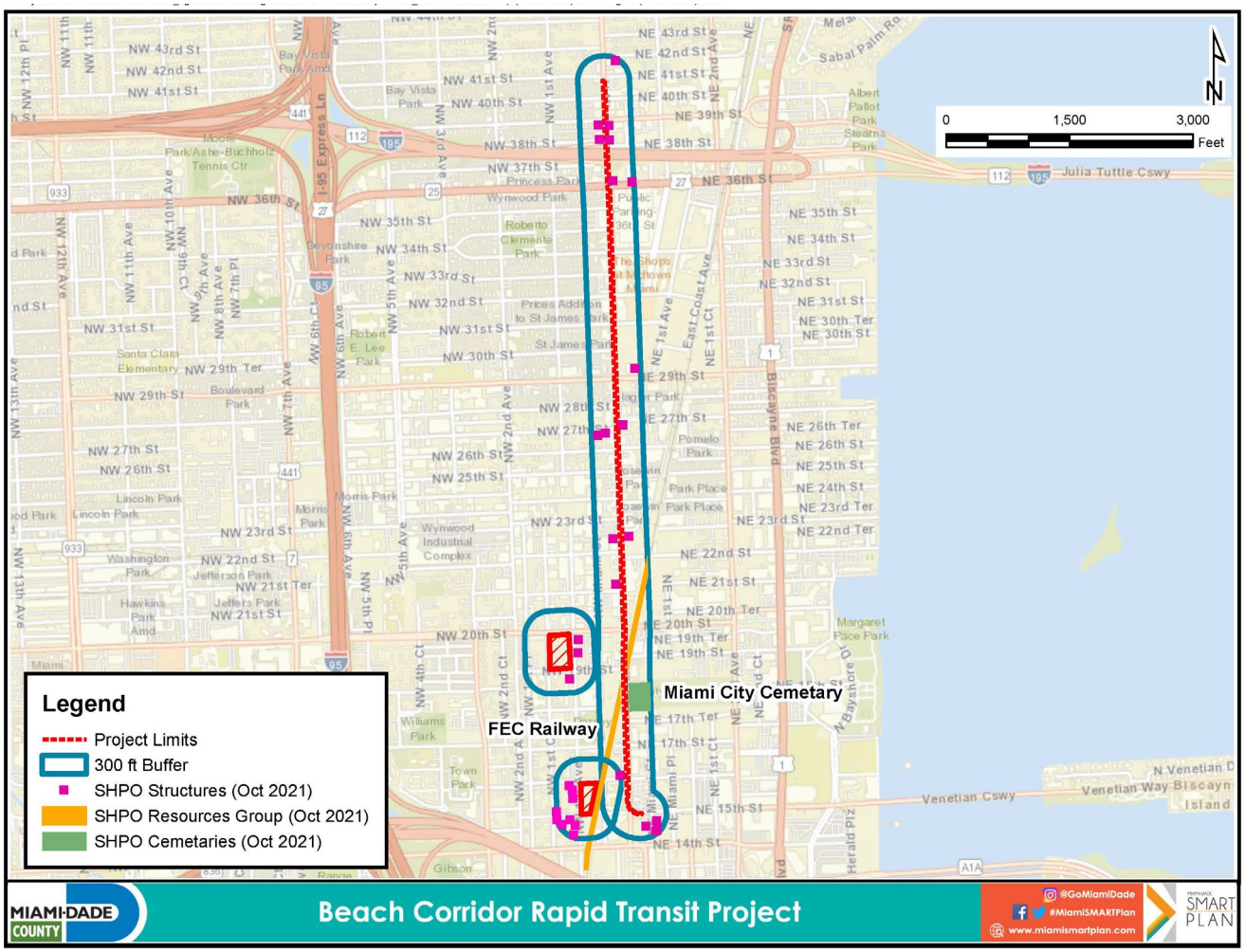

Figure 6: Potentially Historic Resources in the APE along the Corridor and at the Proposed Maintenance Yard Locations

The archaeological survey consisted of a desktop analysis as testing within the APE was not possible due to urban development. There are no recorded archaeological sites within the APE. Similarly, the project APE does not overlap with archaeological conservation zones or areas of concern related to archaeological resources. Due to the lack of testing and documented land use, archaeological monitoring is recommended in areas with a high potential for archaeological resources. On January 21, 2021, SHPO concurred that the project will have no adverse effect on the five documented sites along the corridor.

In April of 2021, a *Cultural Resource Desktop Analysis in Support of the Beach Corridor Rapid Transit Project Proposed Maintenance Yard Locations* was submitted to SHPO. The two potential locations for the Miami Midtown/Design District Extension are APM 13 and APM 16. The desktop analysis found that no previously recorded archaeological resources are documented within the Maintenance Yards Study Area. However, none of the proposed maintenance yard locations have been subject to Phase I archaeological testing, and the two locations along the North Miami Avenue corridor have been developed and occupied since the first quarter of the twentieth century, thus indicating a high probability for historic archaeological resources. The recommendation

was made that once the preferred maintenance yard location along the North Miami Avenue corridor is determined, a Cultural Resources Assessment Survey (CRAS) should be performed. The APE for this CRAS should encompass the subject property and be large enough to consider project-related effects to adjacent resources related to the planned elevated train technology. All historic resources within the APE should be recorded and evaluated. The CRAS should include archaeological pedestrian survey and Phase I testing of areas of open ground to determine the presence or absence of cultural resources that may be eligible for listing in the NRHP.

After consultation, SHPO concurred that there will be no effect on historic resources for the listed resources in the Midtown/Design District Sub-Area. Once the final location is chosen for the maintenance yard, additional work will be completed to determine if there are any historic or archaeological resources located within the APE for the chosen maintenance yard. As the remainder of the project will use existing facilities, this project is not anticipated to affect cultural resources. The *Technical Memorandum Effects Evaluation for the Beach Corridor Rapid Transit Project*, *Determination of Effects Technical Memorandums* (December 2020, January 2021, and June 2021), *Effects Assessment for the Beach Corridor Rapid Transit Project Memo*, and the *Cultural Resource Desktop Analysis in Support of the Beach Corridor Rapid Transit Project (SMART Plan) Proposed Maintenance Yard Locations* as well as the SHPO concurrence letters are included in **Attachment A**.

I. **<u>NOISE:</u> Assess the noise impacts using the FTA Nosie and Vibration Manual. The first level for noise assessment is "Screening." Identify areas of potential impact for noise source types in Table 4-1. Compare the distance between the center of the proposed project and the nearest noise receptor to the screening distance for the type of project per the manual. If it is determined that none of the land uses are within the distances noted in Table 4-1, then no further noise analysis is needed. If one of more of the noise-sensitive land uses are within the screening distances noted in Table 4-1, as adjusted, then the potential for impacts exists and further analysis is needed. Identify locations for second level, "General Assessment." Attach General Assessment with conclusions and any identified mitigation locations and summarize in the narrative response.**

As per the findings of the *Beach Corridor Rapid Transit Project Noise and Vibration Report*, dated November 2019 and revised April 2020, and the *Noise and Vibration Assessment*, dated August 2021, both included in **Attachment B**, the Miami Midtown/Design District Extension operations will use existing transportation roads, which already exhibit high noise levels. Characteristics of this area are mixed use, residential, and commercial land uses. Commercial properties dominate the first row of land use along the corridor except near NW 24th Street which has a mixed-use front row land use. There are two institutional land uses near NE 28th Street and another near NW 20th Street (Aspira Art School). Therefore, the expected effects of noise from the proposed APM operations are minimal. The increase in noise levels from the proposed APM operations are anticipated to be less than the criteria for "Moderate Impact" per the FTA guidelines. Therefore, consideration of mitigation would not be required.

A noise screening assessment was completed following the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) procedures for the Beach Corridor. The level of impact along the corridor was determined based on whether the estimated project noise levels exceed criteria provided in the FTA guidance, which are based on existing noise levels. The APM (preferred alternative) has rubber wheels and is on an elevated guideway. This technology will cause no severe noise impacts for schools, public parks, or residential areas and is one of the lesser intrusive rail technologies. The elevation and the rubber tires are design features which would reduce noise compared to other mass transit systems. As a result, there are only two moderate impacts to residential locations for APM, thus, noise from the project would be below existing noise levels. The FTA guidelines do not consider this to be a strong justification for mitigation and, therefore, no mitigation measures are proposed.

J. **<u>VIBRATION:</u> Assess the vibration impacts using the FTA Noise and Vibration Manual. The first level for vibration assessment is "Screening". Identify potential for vibration impact associated with project types in Table 9-1. If the proposed project involves new or relocated steel tracks, compare the distance between the center of the proposed project and the nearest vibration receptor to the screening distance for this type of project in FTA's guidelines. If potential impacts exist, Table 9-2 identified locations for second level, "General Assessment." Attach General Assessment with conclusions and any identified mitigation locations and summarize in the narrative response. Most projects that do not include steel-wheel trains do not cause significant vibration impacts. Any project that does not include some type of vehicle is not likely to cause vibration impacts. If the project does not involve rail transit or some type of vehicle, please state in narrative response.**

As per the findings of the *Beach Corridor Rapid Trasit Project Noise and Vibration Report,* dated November 2019 and revised April 2020, and *Noise and Vibration Assessment,* dated August 2021, both included in **Attachment B**, the operations for the corridor are not expected to generate any vibration impacts. Since the APM in the Miami Midtown/Design District sub-area will operate within an existing transportation corridor on an elevated track, vibration for this project would be due to rubber tires rolling on rails, which would produce less vibration than other mass transit systems. The rubber tires and suspension systems of an APM provide vibration isolation; it is unusual for them to cause ground-borne noise or vibration problems.

The Midtown/Design District Extension is a north–south corridor between the Design District/Midtown and downtown Miami. Characteristics of this neighborhood are mix use, residential, and commercial land uses with commercial properties dominating the first-row land use along the corridor except near NW 24th Street which has a mix use front row land use and two institutional land uses near NE 28th Street and another near NW 20th Street (Aspira Art School).

Potential vibration impacts could result from the use of heavy equipment during construction. Noise control measures used during construction will include those contained in the FDOT Standard Specifications for Road and Bridge Construction. The construction contractor will also be required to adhere to local construction noise and/or vibration ordinances.

The FDOT Standard Specifications also outline guidelines for the protection of existing structures that include inspection, monitoring for vibration, settlement, and changes in groundwater level. Existing structures to be protected include buildings, bridges, overhead signs and retaining walls as well as vibration-sensitive sites, such as eye surgery clinics, medical centers, hospitals, geriatric centers, sound recording studios, TV/radio stations, residences, technical laboratories, antiques shops, museums, historic buildings and facilities with special equipment. Thre were no senistive vibration areas along the Design District sub-area so no vibration monitoring was completed. Since rubber-tire traffic typically does not produce perceptible vibration, Design District Sub-Area are not expected to generate vibration levels that would trigger the need for consideration of mitigation measures.

K. **<u>ACQUISITIONS & RELOCATIONS REQUIRED:</u> Describe land acquisitions and displacements of residences and businesses. Include current use, ownership information and date of property acquisition (if applicable). If a structure is located on the property include the date of construction for that structure.**

Note: If FTA funds are used to acquire property or the property is used as local match, then the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 must be followed and documented. No offers or appraisals may occur prior to FTA's approval of a NEPA evaluation.

The proposed project will not displace any residences or businesses. Acquisition of a property is only required for the maintenance facility that will be part of this project. Property for the maintenance facility has not yet been appraised or selected, but the two properties under consideration are undeveloped land. The property information for the potential property to be acquired is provided in **Table 1** along with a current aerial photograph from Google Earth, imagery date January 2021, showing the potential sites and their surroundings (**Figure 7**).

Table 1-Property Information for Proposed Maintenance Yards

Proposed Maintenance Yard Location	Property Address	Property Owner	Primary Land Use
APM 13	1551 NW 1 Avenue, Miami FL	CP 1551 Inc.	Vacant Land-Industrial
	NA	CP 1551 Inc	Vacant Land-Industrial
APM 16	1905 NW 1 Court, Miami FL	1950 NW 1 Avenue LLC	Vacant Land-Commercial
	1950 NW 1 Avenue, Miami FL	1950 NW 1 Avenue LLC	Vacant Land-Commercial

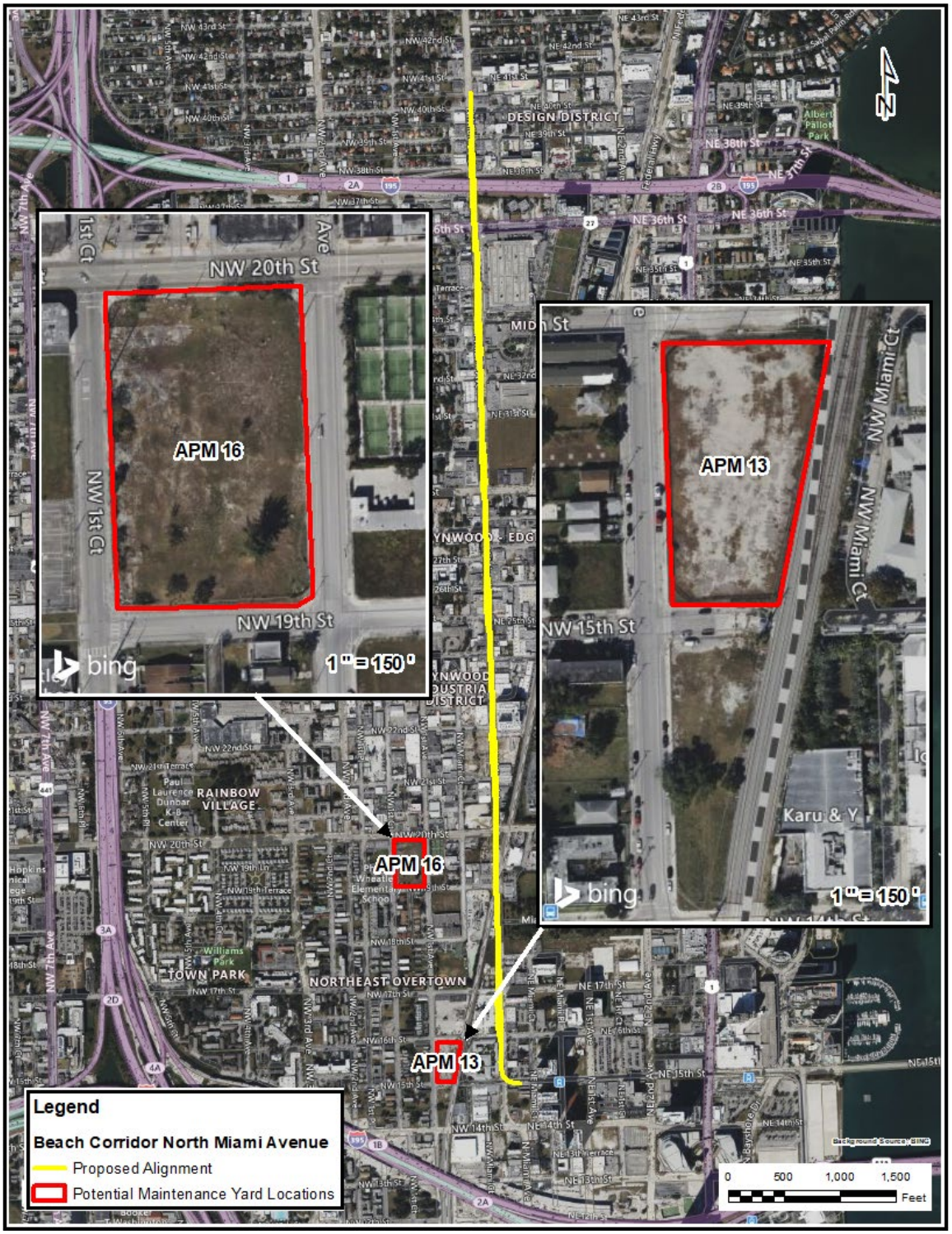

Figure 7: Aerial view of APM 13 and 16 Potential Maintenance Yard Locations

L. **<u>HAZARDOUS MATERIALS:</u> If real property is to be acquired, has a Phase I site assessment to investigate the potential for contaminated soils and groundwater been performed? If a Phase II site assessment is recommended, has it been performed? What steps will be takes to ensure that the community in which the project is located is protected from contamination during construction and operation of the project? State the results of consultation with the appropriate State agency regarding the proposed remediation?**

Note: It may be necessary to demonstrate that real property previously acquired and currently owned by the applicant is not contaminated prior to construction and use of FTA funds at the site. Certain liability concerns and cleanup considerations that may not be eligible for FTA funds may result.

A *Contamination Screening Evaluation Report* (CSER) was completed for the Beach Corridor. There are a total of 24 potentially contaminated sites along the Corridor: three high risk, five medium risk, ten low risk, and six no risk sites, as shown in **Figure 8**. **Table 2** outlines the results of preliminary contamination screening for each of the sites within the corridor buffer area.

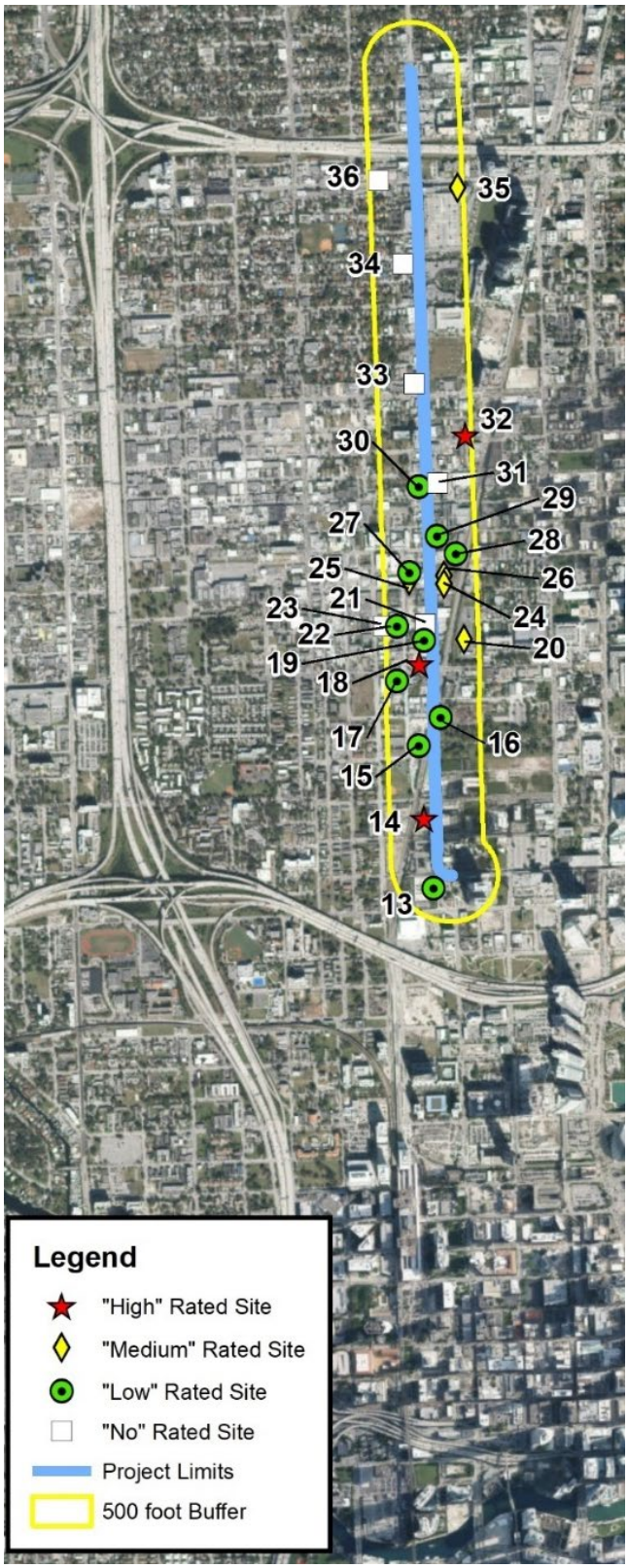

Figure 8: CSER Results for Potentially Contaminated Sites Along the Corridor

Table 2-Summary of Preliminary Contamination Screening Evaluation Design District Sub-Area								
Site Number	Name	Facility ID	Regulatory Database	Distance To and Direction from Corridor (Feet)	Storage Tanks Present	Contamination of Concern	Site Information	Risk Rating
14	Cemex – Downtown Miami Ready-Mix /Rinker Materials/Peoples Gas 1600 N. Miami Avenue, Miami	FAC ID 138505868; IW5-3225; UT-1160/File 2984; UT-3223/File 9168	FDEP Storage Tank Contamination Monitoring (STCM), Registered Tanks from STCM, Petroleum Contamination Monitoring (PCTS) Discharges, DEP Cleanup Sites	West adjacent to APM North Miami Avenue. alignment. Contamination extends into the ROW.	Four ASTs: three 275-gallon lube oil and one 12,000-gallon diesel, installed in 2015	Petroleum and coal tar in soil and groundwater	This site is the location of a former Peoples Gas facility and the Miami Manufactured Gas Plant. The site currently operates as a concrete batching ready mix facility. The facility currently houses four ASTs. The March 2019 FDEP STIR noted the facility was in compliance. Contamination associated with the historic use of the property as a manufactured gas plant has been documented at this site. Assessment activities associated with the manufactured gas plant have been ongoing since 1987. Historic remediation activities have included removal of 1,300 gallons of free petroleum product between 1993 and 2012; excavation and disposal of 2,250 tons of soil and buried solid waste in 1993; excavation and disposal of 863 tons of petroleum-impacted soil in 1994; and excavation and disposal of 47 tons of impacted soil between 2013 and 2014. Three USTs were removed from the site between 1986 and 1996. As of January 2019, the facility is working with DERM to implement a pilot test using in-situ groundwater air sparging and vapor extraction, and an air monitoring plan to address coal tar and petroleum contamination remaining at the site. It is important to note that the contamination at this site has been documented to migrate off site into the ROW, and adjacent properties to the south and east. Based on the presence of contamination beyond the site boundaries documented to extend into the ROW, this site is assigned a High risk rating.	High
18	Waste Management, Inc. of Florida (WM Recycling – Sun 6) 2000 N. Miami Avenue., Miami	SW-1190/File-14385	Solid Waste Facilities, Solid Waste Disaster Debris Management Sites	West adjacent to APM North Miami Avenue. alignment	None	Iron, sulfate, and total dissolved solids in groundwater	This facility is owned by Southern Waste Systems, LTD and was previously used as a solid waste and recycling site until August 2016. The site is currently operating as a storage facility for an underground utility contractor. A CCEA dated November 2017, documents exceedances of regulatory standards for iron, sulfate, and total dissolved solids in the groundwater samples collected from MW-2, which is located on the eastern site boundary near N. Miami Avenue., and MW-4, located on the western site boundary near NW Miami Court. No analytical data was identified in the records reviewed following the 2017 report. Based on the past presence of documented contamination near the eastern and western site boundaries that has not been fully delineated and potential for contaminant migration to the ROW, this site is assigned a High risk rating.	High
32	Grayline Bus Tours/Five Star Tours, Inc. 65 NE 27 St., Miami	FAC ID 138942947	FDEP Storage Tank Contamination Monitoring, Registered Tanks from STCM, Petroleum Contamination Monitoring Discharges, DEP Cleanup Sites, Compliance and Enforcement	Approximately 250 feet east of APM North Miami Avenue. alignment	None	Petroleum and solvents in soil and groundwater	This former bus maintenance facility is currently occupied by an equipment rental facility. The site formerly housed 12 USTs installed between 1972 and 1974: one 4,000-gallon and two 8,000-gallon diesel USTs; one 2,000-gallon unleaded gasoline UST; two 1,000-gallon used oil and new oil USTs; one 500-gallon used oil UST; and five 275-gallon hydraulic and transmission fluid USTs. A DRF was submitted for this site in 1988 in response to gasoline and solvent constituents detected in the groundwater. A TCAR documenting the removal of the 12 USTs was submitted to DERM in 1990. A CAR was prepared and submitted in 1994 and an addendum was submitted in 1996. A 2016 IAR for the site documented that petroleum constituents were still present in the soil and groundwater at levels in exceedance of the SCTL and GCTLs, respectively but the contaminant plumes had not been horizontally or vertically defined. Based on the presence of contamination that has not been fully delineated within the site boundary and potential for contaminant migration to the ROW, this site is assigned a High risk rating.	High

Table 2-Summary of Preliminary Contamination Screening Evaluation Design District Sub-Area

Site Number	Name	Facility ID	Regulatory Database	Distance To and Direction from Corridor (Feet)	Storage Tanks Present	Contamination of Concern	Site Information	Risk Rating
			Tracking for Hazardous Facilities					
20	FPL - Overtown Substation 77 NE 20 St., Miami	HWR-0056/File 8778	DERM Contamination Sites	Approximately 230 feet east of APM North Miami Avenue. alignment	None	Lead and arsenic in soil	This facility has a restrictive covenant in place since 2013 due to the presence of contamination in the soil. The soil contamination was first documented in assessment conducted in 1998 and 1999 after soil contamination was identified during a Phase II ESA. Additional soil sampling was conducted in 2003 and a site assessment was conducted in 2007 which confirmed the presence of soil contamination at the site. No groundwater impacts were identified. Based on the data reviewed, soil contamination is present within the site. Based on the presence of a contamination source on-site and distance to the project, this site is assigned a Medium risk rating.	Medium
24	Former Brahman Motors 2201 N. Miami Avenue., Miami	FAC ID 139815240, UT-7310	Registered Tanks from STCM, Storage Tank Contamination Monitoring	East adjacent to APM North Miami Avenue. alignment	None	Arsenic in soil	A 500-gallon tank was removed from this site in 2016 and the TCAR was approved. The site is planned for development along with the property to the north (Kurzban Marvin Trustee (Vacant Lot) /Proposed Wynwood Square Development, located at 2245 N. Miami Avenue., Miami). Arsenic above residential SCTLs (but below background and commercial/industrial SCTL) has been detected in soil during assessments conducted in February 2019. The current developer has submitted a soil management plan but additional information is needed prior to DERM approval. Based on the presence of a contamination source documented on-site and distance to the project, this site is assigned a Medium risk rating.	Medium
25	Wynwood Hotel Brownfield Site 2215, 2217, 2233, 2235 NW Miami Ct., Miami	IW5-3013/File-2783, Brownfield Site ID # 139801017	Registered Tanks from STCM, Storage Tank Contamination Monitoring, Brownfield Sites	Documented contamination located approximately 130 feet west of APM North Miami Avenue. alignment	None	Petroleum and arsenic in soil and petroleum in groundwater	This Brownfield site is composed of three developed parcels of land previously occupied by a fuel truck repair facility and garage. The facility previously housed an oil water separator, a soakage pit, a waste oil reservoir, and a 3,000-gallon UST. A petroleum discharge was discovered during UST removal in March 1989. Further investigation determined the presence of petroleum impacts in the areas of the former soakage pit and on-site storm drains. A Phase II ESA documented petroleum soil and groundwater contamination at the parcel located at 2217 NW Miami Ct. Assessment and source removal are ongoing, and the contamination has not yet been delineated. Based on the presence of a contamination source documented on-site and distance to the project, this site is assigned a Medium risk rating.	Medium
26	Kurzban Marvin Trustee (Vacant Lot) /Proposed Wynwood Square Development 2245 N. Miami Avenue., Miami	FAC ID 138841042, UT-2351/File-8488	Registered Tanks from STCM, Storage Tank Contamination Monitoring	East adjacent to APM North Miami Avenue. alignment	None	Petroleum (Benzo(a)pyrene and TRPH) and arsenic in soil and Benzene and Isopropyl benzene in groundwater.	This site was occupied by a Texaco fueling facility. A petroleum discharge was documented in 1987. Institutional controls, consisting of restrictions on groundwater use, were established due to the presence of petroleum contaminated groundwater in the northwestern portion of the site at the time. NFAC was granted in 2016. Arsenic above the residential SCTLs (but below background and commercial/industrial SCTL) was detected in the soil during assessments conducted in February and April 2019. Isopropyl benzene and benzene were detected in the groundwater above GCTLs in April 2019 and in August 2019. DERM approved the implementation of a monitoring program. Based on the most recent data reviewed, the groundwater impacts are localized in the central and northeastern portions of the site. There are currently plans to develop this site and the adjacent property to the south (former Brahman Motors located at 2201 N. Miami Avenue.) into a mixed-use development. Source removal was conducted in 2015 and June 2019 on the eastern portion of the site and NFAC was requested by the site owner.	Medium

Table 2-Summary of Preliminary Contamination Screening Evaluation Design District Sub-Area

Site Number	Name	Facility ID	Regulatory Database	Distance To and Direction from Corridor (Feet)	Storage Tanks Present	Contamination of Concern	Site Information	Risk Rating
							However, the source removal report and additional site assessment were deemed incomplete by DERM as of September 2019. Additional assessment is required to achieve NFAC status for the site. Based on the presence of a contamination source documented on-site, regulatory status, and distance to the project, this site is assigned a Medium risk rating.	
35	FL East Coast (FEC) Railway Seaboard Marine Ltd/Buena Vista Railroad Facility 100 NE 36th St., Miami	FAC ID 139805136, UT-5419/File-10621, BF Site ID # BF139801002	DEP Cleanup Sites Storage Tank Contamination Monitoring, Registered Tanks from STCM, Petroleum Contamination Monitoring Discharges, DEP Cleanup Sites, Compliance and Enforcement Tracking for Hazardous Facilities, Brownfield Sites	East adjacent to APM North Miami Avenue. alignment	None	Petroleum and arsenic in soil and groundwater	This former rail yard facility is within the footprint of an existing retail center and parking garage located within the northwest portion of the FEC Buena Vista Brownfield Site. Two historical petroleum discharges for the former rail yard were reported in 1997 and 2002. The facility is currently undergoing groundwater monitoring for petroleum constituents and arsenic and is subject to engineering controls to prevent human exposure to soil contaminants and plume exacerbation caused by rainwater infiltration. The contaminant plume is delineated within the site boundaries. Based on the data reviewed and the presence of documented contamination source on-site and proximity to the project, this site is assigned a Medium risk rating.	Medium
13	Dade County School Board – Filer Jr. High School / Miami Silk Screen Industries 1450 N. Miami Avenue., Miami	FAC ID 139047438, FLD984227645	Small Quantity Generators	West adjacent to APM North Miami Avenue. alignment	None	N/A	Dade County School Board – Filer Jr. High School - No cleanup was required as of January 1991 due to an address error. There had been a discharge reported at a School Board property located at 1840 NW 157 St., and the address of the School Board building was mistakenly entered as the discharge address. Former Miami Silk Screen Industries - This facility held a DERM IW5 permit and had been registered as a small quantity generator of hazardous waste since 1991. This business was noted as being closed as of March 2013, and the current facility operates as a rental event space. No records of discharges or contamination were identified in the records reviewed. Based on the absence of environmental testing for this former small quantity generator, this site is assigned a Low risk rating.	Low
15	Titan/Buena Vista II Ready Mix 1801 NW Miami Ct., Miami	FAC ID 139601756, UT-5486	Registered Tanks from STCM, Petroleum Contamination Monitoring Discharges	Approximately 80 feet west of APM North Miami Avenue. alignment	One 10,000-gallon diesel AST	N/A	This facility houses one registered AST on-site. No records of discharges or contamination were identified in the records reviewed. Based on the current operation of an AST at the site, this site is assigned a Low risk rating.	Low
16	Biscayne Park NE 19th St. and North Miami Avenue., Miami	FAC ID 99980	Solid Waste Facilities Solid Waste Disaster Debris Management Sites	East adjacent to APM North Miami Avenue. alignment	None	N/A	This facility is a DDMS site for storm-related debris. In correspondence dated March 2018, FDEP stated that based on inspection, all debris has been removed and there was no evidence of pollutant release. Based on the ongoing use of this site for hurricane related vegetative debris, this site is assigned a Low risk rating.	Low

Table 2-Summary of Preliminary Contamination Screening Evaluation Design District Sub-Area

Site Number	Name	Facility ID	Regulatory Database	Distance To and Direction from Corridor (Feet)	Storage Tanks Present	Contamination of Concern	Site Information	Risk Rating
17	Miami Clutch and Transmission 60 NW 20th St., Miami	SQG - 143990	Small Quantity Generators	Approximately 115 feet west of APM North Miami Avenue. alignment	None	N/A	Miami Clutch and Transmission auto transmission repair shop is a conditionally exempt small quantity hazardous waste generator for use of oils and antifreeze. No records of discharges or contamination were identified in the records reviewed. Based on the current regulatory status as a small quantity generator, this site is assigned a Low risk rating.	Low
19	Mega Shoes 2090 N. Miami Avenue., Miami	FAC ID 139804411	Petroleum Contamination Monitoring Discharges	West adjacent to APM North Miami Avenue. alignment	None	N/A	The site was formerly occupied by an auto dealership in the 1950s. In 1994 and 1995, petroleum soil and groundwater impacts were discovered. A former soakage pit was excavated in 1995 and a groundwater monitoring program was implemented until 2014 at which time contaminants met CTLs. No cleanup is required by FDEP as of April 2014. Based on the previously documented presence of contamination onsite and absence of a formal regulatory closure, this site is assigned a Low risk rating.	Low
22	Former Gaffin Store Equipment 45 NW 21 St., Miami	FLR000082321, SQG - 113771	Small Quantity Generators	Approximately 300 feet west of APM North Miami Avenue. alignment	None	N/A	Former Gaffin Store Equipment formerly operated as a conditionally exempt small quantity hazardous waste generator for handling of solvents, spent rags, and waste paint from 2001 to 2014. No records of discharges or contamination were identified in the records reviewed. Based on the absence of environmental testing for this former small quantity generator facility, this site is assigned a Low risk rating.	Low
27	Former Engine and Accessory, Inc. 2215 NW Miami Ct., Miami	FAC ID 138628821	Registered Tanks from STCM	Approximately 130 feet west of APM North Miami Avenue. alignment	None	N/A	A 3,000-gallon jet fuel UST was removed from this site in 1986. An additional two USTs were removed from the site in July 2019. No violations were noted by DERM during an inspection conducted during tank closure activities. No records of discharges or contamination were identified in the records reviewed. Based on the pending nature of tank closure assessment documents in the records reviewed, but no evidence of contamination identified during tank closure activities, this site is assigned a Low risk rating.	Low
28	Golten Service Co. 2323 NE Miami Ct., Miami	FLR000086926	Small Quantity Generators	Approximately 185 feet east of APM North Miami Avenue. alignment	None	N/A	This facility is a conditionally exempt small quantity hazardous waste generator which uses oil. No records of discharges or contamination were identified in the records reviewed. Based on the operation of the site as a small quantity generator, this site is assigned a Low risk rating.	Low
29	Atkins Body Works, Inc. 2341 N. Miami Avenue., Miami	FLD984185421	Small Quantity Generators	East adjacent to APM North Miami Avenue. alignment	None	N/A	This site was formerly occupied by a small quantity generator of hazardous waste. The tenant was no longer operating at the site in 2012. No records of discharges or contamination were identified in the records reviewed. Based on the absence of environmental testing for this former hazardous waste handling facility, this site is assigned a Low risk rating.	Low
30	New Designs Inc. 2534 N. Miami Avenue., Miami	FAC ID 139201971	FDEP Storage Tank Contamination Monitoring	West adjacent to APM North Miami Avenue. alignment	None	N/A	This former petroleum storage tank facility has been closed since 2005. The facility previously had three unregulated USTs located on the west side of the site, which were discovered and removed in 1992. No contamination was documented in the groundwater samples collected, although it was noted that some groundwater samples submitted did not have sufficient groundwater for analysis. Laboratory analysis of soil samples was not required at that time as organic vapor readings recorded for the soil were below applicable regulatory threshold levels. In 2001, the owner applied for a state-funded petroleum cleanup program and the application was denied due to no documented contamination at the site. Based on the presence of storage tanks previously	Low

Table 2-Summary of Preliminary Contamination Screening Evaluation Design District Sub-Area

Site Number	Name	Facility ID	Regulatory Database	Distance To and Direction from Corridor (Feet)	Storage Tanks Present	Contamination of Concern	Site Information	Risk Rating
							documented and the absence of formal regulatory closure, this site is assigned a Low risk rating.	
21	Wynwood North Miami 2110, 2118 and 2134 N. Miami Avenue. and 2101, 2129, and 2135 N. Miami Ct., Miami	HWR-788, BF Site ID # BF139801009	Brownfield Sites	West adjacent to APM North Miami Avenue. alignment	None	N/A	This designated Brownfield site is the location of a former soakage pit. Solvents and petroleum contaminants were detected at the site and source removal was historically conducted. A SRCO was issued in 2015 after it was demonstrated that soil and groundwater met CTLs. Based on the data reviewed, this site is assigned a No risk rating.	No
23	Warehouse facility 2127 NW 1 Avenue., Miami	FAC ID 139800274, UT-5605/File-11445	Petroleum Contamination Monitoring Discharges	Approximately 450 feet west of APM North Miami Avenue. alignment	None	N/A	This warehouse facility had four 2,000-gallon unregistered USTs discovered in 1998 and removed. The contents and installation dates of these tanks were unknown, but the tanks were suspected to have been used for acetone or other printing related products since the site had previously been occupied by a printer. A TCAR was prepared including groundwater analytical results and soil organic vapor screening results indicating no contamination impacts. The TCAR was approved by DERM in June 1998. Based on the data reviewed showing no documented contamination at the site, this site is rated as No risk to the project.	No
31	Miami-Dade County Public Works ROW Vicinity of 2545 N. Miami Avenue., Miami	FAC ID 139813857	FDEP Storage Tank Contamination Monitoring	East adjacent to APM North Miami Avenue. alignment	None	N/A	An abandoned tank was removed from this site in 2013. A TCAR was prepared and approved by FDEP in January 2014. No records of discharges or contamination were identified in the records reviewed. Based on the data reviewed and no documented contamination, this site is assigned a No risk rating.	No
33	Murphy's Truck Rebuilding 2916 N. Miami Avenue., Miami	FAC ID 139816091, UT-3920/File-226	Registered Tanks from STCM, Small Quantity Generators	West adjacent to APM North Miami Avenue. alignment	None	N/A	This site operated as an automotive repair shop handling lead-acid batteries, used oil and lubricants, rags, and filters. The facility has been registered as a non-generator of hazardous waste based on the limited quantities of products handled on-site. This site previously had one 1,000-gallon and two 2,000-gallon USTs with unknown contents, both of which were removed in 2018. The TCAR did not document the presence of contamination. Based on the removal of contamination sources and the assessment data indicating that contamination is not present, this site is assigned a No risk rating.	No
34	Miami Equipment Services 20 NW 34th St., Miami	SQG - 117171	Small Quantity Generators	Approximately 150 feet west of APM North Miami Avenue. alignment	None	N/A	This facility operated as a manufacturer of motor vehicle parts and accessories, handling mineral spirits, used oil and lubricants, and rags on-site. The facility has been registered as a non-generator of hazardous waste based on the limited quantities handled on-site. No records of discharges or contamination were identified in the records reviewed. Based on the current non-generator status for this facility, this site is assigned a No risk rating.	No
36	Mercedes Auto Center, Inc. 57 NW 36th St., Miami	SQG - 137725	Small Quantity Generators	Approximately 300 feet west of APM North Miami Avenue. alignment	None	N/A	The facility has been registered as a non-generator of hazardous waste based on the limited quantities of products handled on-site. No records of discharges or contamination were identified in the records reviewed. Based on the current non-generator status for this facility, this site is assigned a No risk rating.	No

At this time, a Level II contamination assessment has not been completed on the medium and high sites along the corridor. If a Level II contamination assessment is required for construction purposes, it will be completed prior to construction commencement.

The areas for the maintenance yards were not included in the CSER, therefore, a screening was conducted using the Florida Department of Environmental Protection's (FDEP) Map Direct geographic information system (GIS) tool and Miami-Dade County's Environmental Considerations GIS tool to evaluate the potential for properties with known contaminated soil and groundwater within 1,000 feet of the site of the two proposed maintenance yard locations. **Tables 3 and 4** outline the sites found within the search radius for each of the proposed maintenance yard locations.

Table 3-Contaminated Sites Within 1,000 feet of Location APM 13 Proposed Maintenance Yard

Facility Name/Facility ID	Facility Address	Distance from Site	Site Information
A&B Container Repairs Inc (9804881/UT 6109)	1551 NW 1st Avenue, Miami	Site	A Discharge reporting form was filed February 15, 2001 for gasoline discharge after the removal of a 2,000-gallon tank. Both soil and groundwater contamination were discovered during the tank excavation. The tank was located in the southwest corner of the site off NW 15th Street and the FEC railroad. The site has undergone numerous assessments and remediation efforts since the discharge. The most recent assessment was completed in December of 2017. The assessment was completed after DERM rescinded the Monitoring Only Plan Order because of persistent contamination at the site. The report showed that there was still contaminated groundwater on the site in the southeast corner where the tanks were formerly located. There is also a separate off-site plume of groundwater contamination. That data shows that some of the constituents of concern have naturally attenuated since 2001 and some are still present but generally at levels less than what they were five years prior. The most recent inspection report from August of 2021 shows that the facility is closed. This site has a high risk rating.

Table 3-Contaminated Sites Within 1,000 feet of Location APM 13 Proposed Maintenance Yard			
Facility Name/Facility ID	**Facility Address**	**Distance from Site**	**Site Information**
Abboud Station (8944027/UT 01301)	1401 NW 1st Avenue, Miami	300 feet south	This site had petroleum underground storage tanks installed in 1973. The tanks were removed from the site in 1992 and a discharge reporting form was filed at that time for unleaded gasoline found while removing the tanks. In 2004, the site was placed into the state-funded petroleum cleanup program. In 2015, the Low-Score Site Initiative (LSSI) program funded a site assessment for the site. Soil and groundwater contamination above state clean up levels was discovered during the assessment. Contamination is contained within the site boundaries. This site has a medium risk rating.
Peoples Gas System Inc-Miami Division/ CEMEX-Downtown Miami Ready Mix/ Miami Parcel West Green Reuse Site (8505687/8505868/ERIC_14271/ BF139801020/ BF139801021/8505868/ BF139801020/IW5-3225/UT-3223)	60 NW 17th Street, Miami/1600 N Miami Avenue, Miami	400 feet northeast	The site at 60 NW 17th Street is both the former Miami Manufactures Gas Plant (MGP) and petroleum discharges documented for the site area. There are two parcels of land one that is now the CEMEX parcel and one that is the TECO parcel. The CEMEX parcel had two USTs (a 10,000-gallon diesel ad a 2,000-gallon gasoline) and the TECO parcel has one UST of unknown size and contents. The three tanks were removed in 1990. This tank removal at the site was when the petroleum issues were documented.. The MGP Site with coal tar issues was used starting in the early 1900s until the 1960s when the MGP was closed and dismantled. The site was used for natural gas distribution and auto and truck fueling until 1989. The site is now used only for the distribution of natural gas and storage of materials for natural gas distribution. A contamination assessment report was completed in March of 1995 and petroleum and coal tar impacts were found to be in the

Table 3-Contaminated Sites Within 1,000 feet of Location APM 13 Proposed Maintenance Yard			
Facility Name/Facility ID	**Facility Address**	**Distance from Site**	**Site Information**
			groundwater at the site. Soil samples were not collected at that time. The plumes from both the coal tar and the petroleum impacts were considered to be comingled at that time, however DERM wanted to try to separate the plumes for documentation purposes. In 2008 another site assessment was conducted at the site to attempt to distinguish the plumes between the MPG coal tar and the petroleum impacts. It was determined the plumes were comingled and there was no way to separate them based on the source material responsible. There were two free product plumes on the site that based on viscosity were either diesel fuel, jet fuel, or crude oil. Offsite notifications were sent to neighboring properties in 2009 and 2010. There was also soil contamination found at the site during the 2008 assessment. The Site encompasses the area from NW 1st Street to North Miami Avenue and from NW 16th Street to NW 17th Street. The FEC railroad crosses the site. There are also off-site impacts to the south. Source removal has occurred at the site. Remediation is in the planning stages. This site has a high risk rating.

Table 4-Contaminated Sites Within 1,000 feet of Location APM 16 Proposed Maintenance Yard			
Facility Name/Facility ID	**Facility Address**	**Distance from Site**	**Site Information**
Dade County School Board-Phillis Wheatley (8943500/UT 02929)	1801 NW 1st Place, Miami	380 feet southwest	In 1990 and 1991, one 550-gallon and one 1,000-gallon underground storage tanks were removed from the site. Soil and groundwater contamination were discovered during the tank removal. The site was placed in the state funded clean-up program. The most recent site assessment was completed in 2013. Petroleum soil contamination (Benzo(a)pyrene

Table 4-Contaminated Sites Within 1,000 feet of Location APM 16 Proposed Maintenance Yard			
Facility Name/Facility ID	**Facility Address**	**Distance from Site**	**Site Information**
			equivalents) was detected in the soils above residential clean-up target levels. Groundwater sampling was not conducted as part of the 2013 assessment. However, in 2009, Total Recoverable Petroleum Hydrocarbons (TRPH) was detected above state clean up target levels in groundwater samples. The site is awaiting funding for additional assessment and remediation efforts. This site has a medium risk rating.
K and K Trading Company Inc (9810555/UT-06813/DW-20220003)	199 NW 20th St, Miami	400 feet northwest	The site was a gas station from circa 1940 to the mid-1970s when the station was demolished, and a supermarket was built in its place. Two 550-gallon underground storage tanks were removed from the site in 2008. Petroleum groundwater contamination was discovered at the site during tank removal activities (isopropylbenzene). A monitoring only plan was approved for the site and has been ongoing since 2017. A 2019 monitoring report indicated that the levels of isopropylbenzene had overall decreased at the site. Construction plans were submitted to DERM in 2020 for redevelopment of the site. In 2021 the site was inspected as part of the annual inspection and the site is listed as closed. No additional information is available regarding the redevelopment. This site has a medium risk rating.

Table 4-Contaminated Sites Within 1,000 feet of Location APM 16 Proposed Maintenance Yard			
Facility Name/Facility ID	**Facility Address**	**Distance from Site**	**Site Information**
Downtown Marathon (8503931/UT-00226)	127 NW 20th St, Miami	Adjacent north	Soil and groundwater contamination documented at the site is from three-8,000-gallon gasoline USTs located in the northern portion of the site. The date of installation for those tanks is unknown. The groundwater contamination at one point in the site's history extended off site in all directions. Based on the most recent sampling event in 2021, there are off site impacts affecting the southern and western adjacent properties of this site. Assessment at the site is ongoing. This site has a medium risk rating.
American Service Corp (8629083/UT-01954)	172 NW 21st St, Miami	450 feet northwest	In 1990, samples were collected from a leaky UST which has since been removed. A site assessment was completed as part of the LSSI in January of 2022. No soil or groundwater contamination was detected. It was recommended to complete a second round of groundwater sampling to confirm the results. identified. This site has a medium risk rating.
American Service Corp-Mechanics Unit/City Dry Cleaners(8505344/ERIC_4512/UT-01955)	2100 NW 1st Avenue, Miami	450 feet north	The site previously operated underground petroleum storage tanks and a dry cleaning facility. It was placed in the state-funded petroleum clean-up program in 1993; however, a discharge reporting form was not found in the site documentation. There is a historic document that notes that groundwater contamination has been documented at the site since 1987. The impacted area is in the southwest portion of the site. The most recent site assessment from 2019 found a limited area of petroleum soil contamination. Two of the monitoring wells were found to have separate-phase hydrocarbons and petroleum groundwater contamination was found in groundwater samples collected from two other monitoring wells located on the site. Site assessment is ongoing. This site has a medium risk rating.

Table 4-Contaminated Sites Within 1,000 feet of Location APM 16 Proposed Maintenance Yard			
Facility Name/Facility ID	**Facility Address**	**Distance from Site**	**Site Information**
WM Recycling-Sun 6 (59749/9802194/SW-01190)	2000 North Miami Avenue, Miami	500 feet east	This is the site of a former solid waste facility. Contaminants at the site include iron, total dissolved solids (TDS) and sulfate which are characteristic of impacts from solid waste facilities. The most recent groundwater data is from 2017. There are two letters from FDEP: one is consenting to the termination of insurance bonds on the site and the other is for the issuance of a standby trust fund agreement that must remain in place for the site. A 2021 Post Contamination Groundwater Monitoring Report was submitted indicating that no groundwater contamination exists at the site. No additional information has been submitted and a completion order has not been granted. This site has a medium risk rating.

Both maintenance yard locations have potential contamination associated with them and, therefore, prior to taking ownership of either site, if appropriate, soil and/or groundwater samples will be collected to evaluate contaminant levels at the site. If remediation is required, it will be conducted as needed and with approval from the appropriate regulatory agency.

During construction, the Contractor will be required to follow Section 8-4.9 (Contaminated Materials) of the FDOT's Standard Specifications for Road and Bridge Construction, which states the following:

- When the construction operations encounter or expose any abnormal condition that may indicate the presence of a contaminated material, discontinue such operations in the vicinity of the abnormal condition and notify the Engineer immediately. Be alert for the presence of tanks or barrels; discolored or stained earth, metal, wood, ground water; visible fumes; abnormal odors; excessively hot earth; smoke; or other conditions that appear abnormal as possible indicators of the presence of contaminated materials. Treat these conditions with extraordinary caution.
- Make every effort to minimize the spread of any contaminated materials into uncontaminated areas.
- Do not resume the construction operations in the vicinity of the abnormal conditions until so directed by the Engineer.
- Dispose of the contaminated material in accordance with the requirements and regulations of any Local, State, or Federal agency having jurisdiction.

M. <u>COMMUNITY DISRUPTION AND ENVIRONMENTAL JUSTICE ANALYSIS:</u> Provide a socioeconomic profile (and socioeconomic census map) of the affected community. Describe the impacts of the proposed project on the community. Identify any community resources that would be affected and the nature of the effect. Identify any minority and/or low income communities on a project location map. Describe any disproportionate and adverse effects to minority and/or low-income communities as a result of the proposed project (Executive Order 12898).

Note: Environmental Justice populations are minority and/or low income populations. Minority means a person who is Black, Hispanic, Asian American, American Indian, or Alaska Native. Low-income means a person whose household income is at or below the Department of Health and Human Services poverty guidelines. Environmental Justice is not a measurable impact. Rather, Environmental Justice analysis focuses on the presence of Environmental Justice populations and evaluates disproportionately high and adverse impacts to these populations as compared to a reference population, considers alternatives, conducts public involvement, and develops mitigation efforts. A disproportionately high and adverse effect pertains to significant individual or cumulative effects. Common impacts to Environmental Justice populations include, but are not limited to, potential changes in ambient air quality and water quality, noise, vibration, and construction. These may occur during construction or during operation of the facility and may be temporary or permanent. When these impacts are disproportionate relative to the other populations within the proposed project area, then further evaluations and possible mitigation measures are necessary.

A *Sociocultural Effects Evaluation Report* was completed for the project in August 2020. This report outlined the community service facilities that provide gathering places for adjacent neighborhoods and community members, as well as serving the needs of the surrounding areas, including Overtown, Miami Design District, Wynwood, and a small portion of Edgewater. For the purposes of this study, a 500-foot buffer around the project area was used for the community services study area. Community facilities include churches and other religious institutions, public and private schools; public buildings and facilities such as fire stations, libraries, medical centers, and cemeteries; and parks and recreation areas. Community service facilities along the corridor are discussed by type in **Table 5**.

Table 5–Community Facilities

Facility Type	Name	Address
Community/Cultural Centers	Aspira of Florida, Inc	1 NE 19th Street, Miami 33132
	Pridelines Youth Service	180 NE 19th Street, Miami 33132
	Aspira of Florida Inc	3650 N Miami Avenue, Miami 33127
	Diaspora Vibe Gallery	3938 N Miami Avenue, Miami 33136
	Bernice Steinbaum Gallery	3550 N Miami Avenue, Miami 33137

Table 5–Community Facilities		
Facility Type	**Name**	**Address**
	Gallery Diet	174 NW 23rd Street, Miami 33127
	O Cinema	96 NW 29th Street, Miami 33127
	Extra Fine Art	50 NE 40th Street, Miami 33137
	Gary Nader Fine Art	62 NW 27th Street, Miami 33127
	Locust Projects	155 NE 38th Street, Miami 33137
	Kabe Contemporary	123 NW 23rd Street, Miami 33127
	Art Fusion Gallery	1 NE 40th Street, Miami 33137
	Diana Lownstein Fine Arts	2043 N Miami Avenue, Miami 33127
	101/Exhibit-Gallery	101 NE 40th Street, Miami 33137
	Markowicz Fine Art	114 NE 40th Street, Miami 33137
	World Class Boxing-Scholl Collection	170 NW 23rd Street, Miami 33127
	Galerie Bertin-Toublanc	2534 N Miami Avenue, Miami 33127
	Myra Galleries	177 NW 23rd Street, Miami 33127
	Avant Gallery	3850 N Miami Avenue, Miami 33127
	Kelly Roy Gallery	50 NE 29th Street, Miami 33137
	Artformz Alternative	171 NW 23rd Street, Miami 33127
	Galerie Helene Lemarque	125 NW 23rd Street, Miami 33127
	Dot Fiftyone Gallery	51 NW 36th Street, Miami 33127
	Ricart Gallery Miami	444 NW 28th Street, Miami 33137
	Sammer Gallery	82 NE 29th Street, Miami 33137
	Calix Gustav Gallery	98 NW 29th Street, Miami 33127
	Rubell Family Collection	95 NW 29th Street, Miami 33127
	Kavachnina Contemporary	46 NW 36th Street, Miami 33127
	Hardcore Art Contemporary Space	33216 N Miami Avenue, Miami 33127
Government Buildings	US Post Office-Buena Vista	66 NE 39th Street, Miami 33137
Law Enforcement Facilities /Fire Stations	Miami Fire Department and Rescue Station 2	1901 N Miami Avenue, Miami, 33132
	Miami Police Department-Downtown/Brickell Net	1401 N Miami Avenue (2nd Floor), Miami 33136
	Miami Police Department-Omni Substation	391 NE 15th Street, Miami 33128
	Miami Police Department Wynwood/Edgewater Net	101 NW 34th Street, Miami 33127
Florida Parks and Recreational Facilities	Biscayne Park	150 NE 19th Street, Miami 33132
	Omni Park	1234 N Miami Avenue, Miami 33136
	Roberto Clemente Park	101 NW 34th Street, Miami 33127

Table 5–Community Facilities		
Facility Type	**Name**	**Address**
Religious Centers	Diocese of Southeast Florida Episcopal	525 NE 15th Street, Miami 33132
	Greater Israel Bethel Baptist	160 NW 18th Street, Miami 33136
	Temple Israel of Greater Miami	137 NE 19th Street, Miami 33132
	Full Gospel Academy	173 NW 39th Street, Miami 33127
	Holy Cross Episcopal Church	121 NE 36th Street, Miami 33137
	Iglesia De Dios Pentecostal	36 NW 29th Street, Miami 33127
	Trinity Episcopal Cathedral	464 NE 16th Street, Miami 33132
	Iglesia Bautista De Wynwood	137 NW 29th Street, Miami 33127
Public and Private Schools	Aspira Ares Deco Charter	1 NE 19th Street, Miami 33132
	Bridgeprep Academy of Greater Miami	137 NW 19th Street, Miami 33132
Healthcare Facilities	St. John Clinic Medical Center	156 NW 29th Street, Miami 33127
	Mid Town Diagnostic Center, LLC	2751 N Miami Avenue, Suite 4, Miami 33127
	D District Surgery Center	2 NE 40th Street, Suite 203, Miami 33137
	St Johns Clinic Medical Center	161 NW 29th Street, Miami 33127
	Miami Hope Center	1550 N Miami Avenue, Miami 33136

The following tables from the *Sociocultural Effects Evaluation Report* (**Tables 6a, 6b, 7 and 8**) show the characteristics of the area as well as a comparison of the area to Miami-Dade County.

Table 6a–Race and Ethnicity Characteristics for SMART Beach Corridor (2017 Data)		
Race	**SMART Beach Corridor Study Area**	**Miami-Dade County**
White Alone	71.08	75.60
Black or African American Alone	11.44	17.97
Native Hawaiian or Pacific Islander Alone	0	0.03
Asian Alone	1.58	1.58
American Indian or Alaska Native Alone	0.12	0.15
Some Other Race Alone	13.44	3.14
Claimed 2 or More Races	2.34	1.53
Hispanic or Latino of any Race	55.94	67.45

Table 6b Race and Ethnicity Characteristics for SMART Beach Corridor (2017 Data)		
Race	**SMART Beach Corridor Study Area**	**Miami-Dade County**
Non-Hispanic or Latino	44.06	32.55
Minority	70.38	86.26

Table 7-Language Characteristics for SMART Beach Corridor (2017 Data)		
Description	**SMART Beach Corridor Study Area**	**Miami-Dade County**
Speaks English Well	12.17%	13.10%
Speaks English Not Well or Not at all Total	19.77%	21.96%
Speaks English Not Well	11.71%	12.46%
Speaks English Not at All	8.05%	9.49%

Table 8-Income Characteristics for SMART Beach Corridor (2017 Data)		
Description	**SMART Beach Corridor Study Area**	**Miami-Dade County**
Median Household Income	$37,820	$46,338
Population Below Poverty Level	22.00%	18.98%
Households Below Poverty Level	22.10%	19.95%
Household with Public Assistance Income	1.44%	2.24%

The conclusion of the analysis of effects at the Census Tract level indicates that the Corridor is in a protected population area, the project implementation will not result in the isolation of that area, or the area will benefit from the enhanced traffic flow by improving connectivity, mobility and economic opportunity in the area.

The project is not anticipated to result in the displacement of any residents. Overall, the project is expected to enhance the economic opportunities for minority and Limited English Proficiency Persons in the project area by promoting and supporting a multimodal and multiuser transportation corridor linking activity and business centers withing Miami and Miami Beach. The project is also expected to enhance mobility in Miami and improve access to commercial, retail and office land uses within the Miami-Dade County Enterprise Zone. **Figure 9** shows a summary for the degree of effect for each sociocultural issue.

Social		Economic		Land Use Changes		Mobility		Aesthetics		Relocation	
Demographics	Minimal	Business/ Employment	Enhanced	Land Use – Urban Form	Minimal	Mobility Choices	Enhanced	Noise/ Vibration	Minimal	Residential	None
Community Cohesion	None	Tax Base	None	Plan Consistency	None	Accessibility	Enhanced	Viewshed	Moderate	Non-Residential	Minimal
Safety/ Emergency Response	Enhanced	Traffic Patterns	None	Growth Trends and Issues	None	Connectivity	Enhanced	Compatibility	None	Public Facilities	None
Compatibility with Community Goals/Quality of Life	Enhanced	Business Access	Enhanced	Focal Points	Enhanced	Traffic Circulation	None				
Special Community Designations	Enhanced	Special Needs Patrons	Enhanced			Public Parking	None				
Enhanced		Enhanced		Minimal		Enhanced		Moderate		Minimal	

Figure 9: Summary of Degree of Effect for Each SCE Issue

Disproportionate adverse effects to Environmental Justice population (Title VI of the Civil Rights Act of 1964, Executive Order 12898 and Executive Order 13166) are not anticipated, and the project is expected to enhance access to social, cultural, and institutional facilities.

In November 2021, a *Title IV Analysis for the Proposed Maintenance and Operations Facility Locations* was completed. The two potential locations for the maintenance yards are currently listed as commercial and industrial. There are several community facilities that are partly or fully within the 500-foot buffer around the sites (**Table 9**).

Table 9-Midtown/Miami Design District Maintenance Facilities Community Facilities within 500-feet

Miami Extension 1 Maintenance Facility Location	
Type	Name and Address
School	Care Elementary School | 2025 NW 1st Ave. Miami, FL 33127
Sports Complex	Wynwood Padel Club | 1932 NW Miami Ct. Miami, FL 33136
Gym	Hybrid Performance Method | 1995 NW 1st Pl. Miami, FL 33136
Miami Extension 2 Maintenance Facility Location	
Type	Name and Address
Park	Dorsey Park | 1701 NW 1st Ave Miami, FL 33136
School	Cphi North Head Start| 1550 N Miami Ave Miami, FL 33136

The population in this area is outlined in **Table 10**. Demographic characteristics fall below County-wide averages for minority and limited English proficiency however, there is a large share of low-income households within this limited area.

Table 10-Demographic Characteristics for the Maintenance Facilities Area

Area	Block Group	Population	Households	Low-Income (<150% Poverty)		Minority (All but Non-Hispanic White)		Limited English Proficiency	
				Population	Share	Population	Share	Households	Share
County	N/A	2,715,500	870,100	821,600	31%	2,350,400	87%	218,300	25%
Overtown Block Group	31	908	377	445	49%	717*	79%*	29	4%

*Block Group Level does not differentiate between Hispanic White and Non-Hispanic White, so the ethnic category is not calculated in the population total or share.

Construction of the maintenance facility on APM 16 will have to be designed to respond to the adjacent residential and education uses. Construction on APM 13 will affect the TECO Gas Farm which lies on the northern parcel. The gas facility on this parcel is connected to both TECO and Florida Gas Transmission natural gas pipelines and will result in significant utility relocation. The site is also within the viewshed of the adjacent residences and Dorsey Park.

N. Use of Section 4(f) Resources: Show parks, recreational areas, and/or wildlife/ waterfowl refuges on a project location map. If the activities and current and intended uses of these resources will be affected by the proposed project, state how and determine the amount of property to be used. If the proposed project is not located in or in the vicinity of these resources, then state in the narrative response.

Note: FTA will determine if the proposed project will result in direct, temporary, or constructive use of the resources. Section 4(f) impacts require further evaluations, including an alternatives analysis to measure adverse effects. FTA may request an Environmental Assessment (EA) as the appropriate NEPA class of action to evaluate alternatives and consider mitigation or avoidance measures to deter these adverse effects.

There is one park, Biscayne Park, that is located adjacent to project corridor. There are other parks; however, they are located greater than 300 feet from the project corridor. To avoid impacts in the area of the Miami City Cemetery, the alignment extends along the west side of North Miami Avenue from the existing School Board Metromover station at NE 15th Street to north of the Miami City Cemetery, then proceeds onto the median of North Miami Avenue north of the FEC Railway at 20th Street. No impacts to Section 4(f) resources are anticipated as part of this project. These parks and recreational facilities are shown in **Figure 10**.

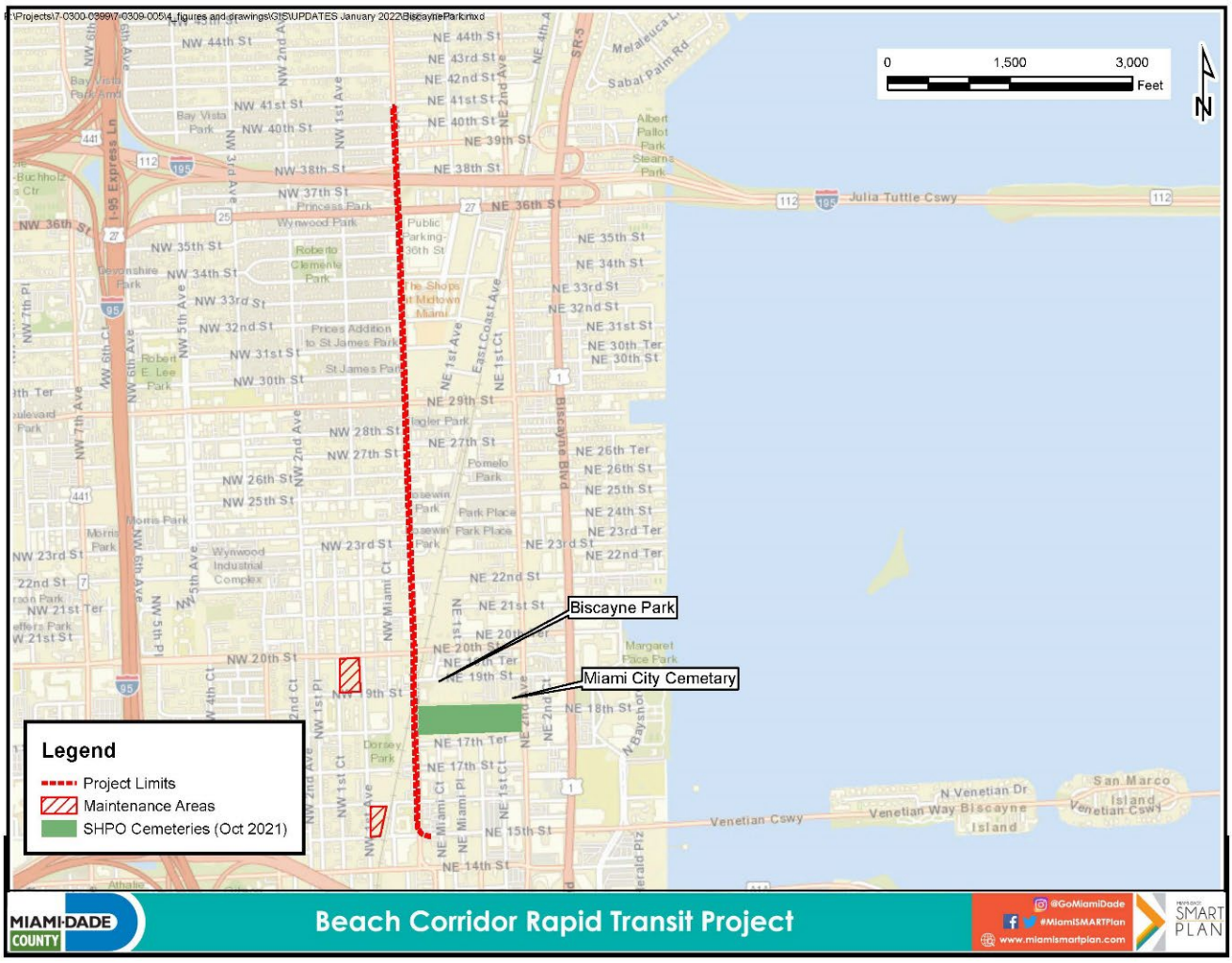

Figure 10: Section 4(f) Properties adjacent to the Corridor

O. Impacts on Wetlands: Show wetlands on a project location map. Describe the proposed project's impact to on-site and adjacent wetlands. If the project impacts wetlands, please provide documentation of coordination efforts/ applications for permits from the appropriate U.S. Army Corps of Engineers (USACE) office, as well as minimization and mitigation efforts. If no wetlands are present or if the proposed project will not impact any wetland areas, please state and provide documentation.

Based upon a review of the ETDM EST, the project corridor does not have canals, drainage ditches or lakes. Based on review of the U.S. Fish and Wildlife Service's National Wetlands Inventory Mapper, the closest surface water body to the corridor is approximately 0.76 miles northwest and it is a freshwater pond that appears to be used as a stormwater pond. Biscayne Bay is 2, 500 feet to the east. There are no wetlands or surface waters on the project corridor (see **Figure 11**) and no impacts to wetlands are anticipated.

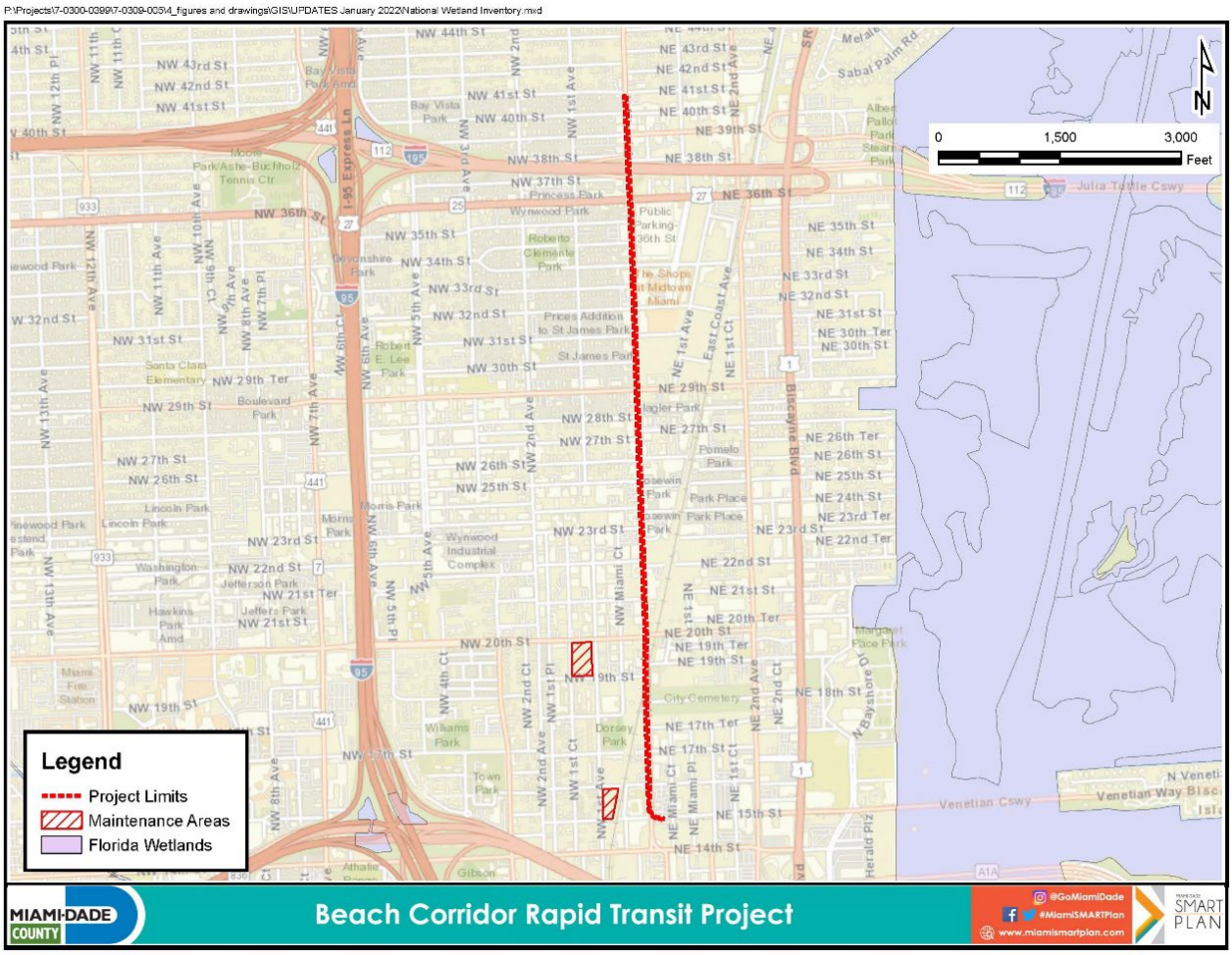

Figure 11: National Wetlands Inventory Map

P. Floodplain Impacts: Show floodplain areas on a project location map. Is the proposed project located within the 100-year or 500-year floodplain? If so, address possible flooding of the proposed project site and flooding capacity. In addition, please provide documentation on how project will be designed to restore floodplain capacity. If project is not located in the 100-year or 500-year floodplain, please state and provide documentation.

The Midtown/Design District Extension is located in FEMA Flood Zone X (FIRM Panel 12086C0304L and 12086C0312L, effective September 11, 2009). FEMA flood Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood. The risk for flood is less that 0.2 percent. The Base Flood Elevation is derived from detailed hydraulic analyses of the area. No base flood elevation was provided for Zone X in this area by FEMA. The proximity of the proposed project location to the 100-year floodplain is shown in **Figure 12**.

Surface water will be collected at the station and be conveyed and/or treated through an engineered drainage system. It is anticipated that the existing drainage system will be used along the corridor.

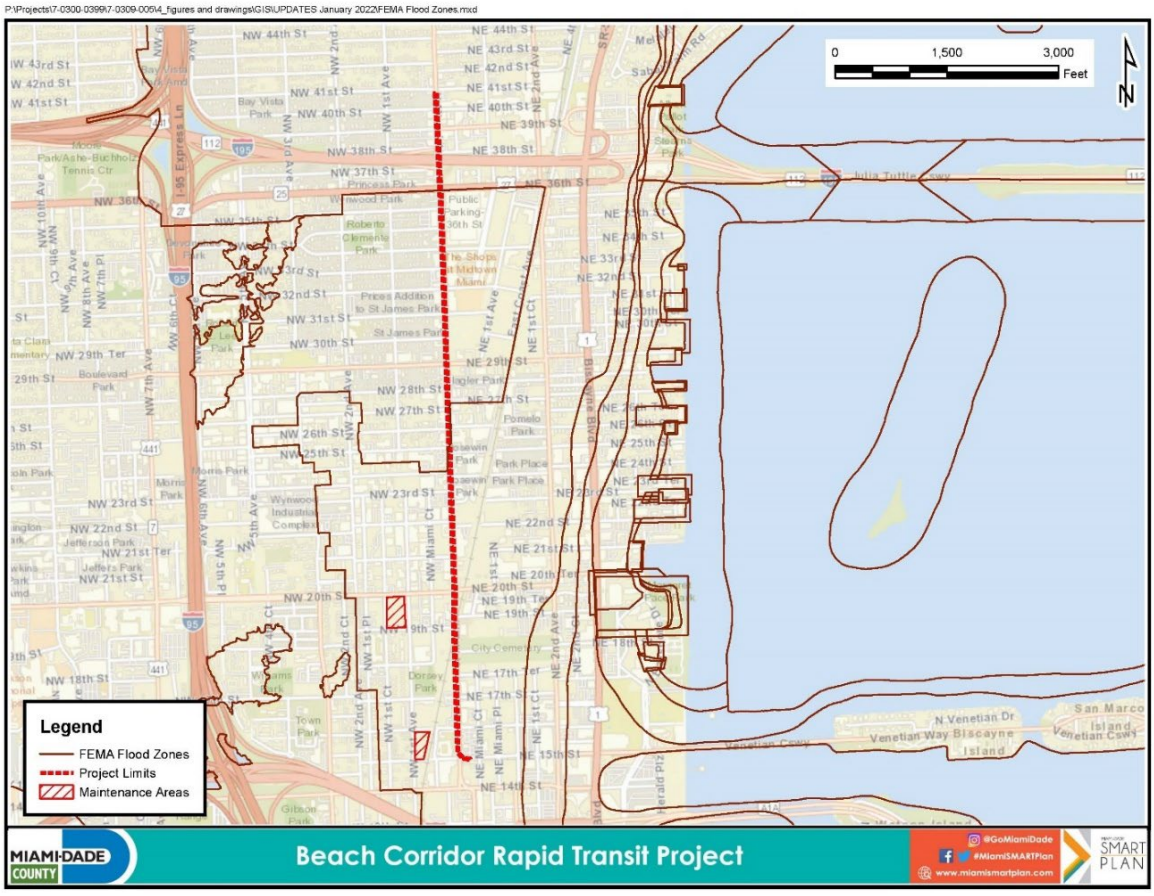

Figure 12: FEMA Floodplain Map

Q. Impacts on Local Water Quality, Wild and Scenic Rivers, Navigable Waterways, and Coastal Zones: If any of these are implicated, provide detailed analysis of potential impacts, and provide documentation of coordination tasks with appropriate agencies.

Based upon a review of the ETDM EST, there are no surface water bodies in the project corridor. Biscayne Bay, a verified impaired Florida waterbody lies approximately 2,500 feet to the east of the project corridor. The project is within a sole source aquifer area, the Biscayne Aquifer. A Sole Source Aquifer Review/Concurrence for the corridor was submitted to the EPA on February 7, 2020, and additional information as provided on April 9, 2020. The EPA determined that the corridor was inside the designated boundaries of the Biscayne Sole Source Aquifer and based on the project details provided, may cause a significant impact to the aquifer system when bridge foundations are installed and/or during dewatering activities. However, with proper implementation of best management practices (BMPs), these potential impacts can be adequately reduced or properly mitigated. Dewatering operations must adhere to the U.S. Bureau of Reclamation Engineering Geology Field Manual-Chapter 20 Water Control https://www.usbr.gov/tsc/techreferences/mands/geologyfieldmanual-vol2/chapter20.pdf. The EPA expects that the project will strictly adhere to all Federal, State and local government permits, ordinances, planning design, construction codes, operation and maintenance, and engineering requirements, and any contamination mitigation recommendations outlined by federal and state agency reviews. BMPs for erosion and sedimentation control must be followed and State and local environmental offices must be contacted to address proper drainage and storm water designs. Wellhead protection plans must be followed. The EPA finds that if the conditions outlined are adhered to, the project should have no significant impact to the aquifer system. This "no significant impact" finding has been determined based on compliance with all requirements. If there are significant changes to the project, the EPA Region 4 office should be notified for further review. A copy of the EPA Sole Source Aquifer Review/Concurrence letter dated 6/5/2020 is included in **Attachment C.**

There are no Wild and Scenic Rivers, navigable waterways or rivers listed in the Nationwide Rivers Inventory within the project area. A Coastal Zone Management Plan Consistency Review for the Beach Corridor was sent to the FDEP on February 7, 2020. On April 27, 2020, an email was received from Florida State Clearinghouse staff regarding the project review. The State Clearinghouse indicated that it had no objections to the allocation of federal funds for the subject project and, therefore, the funding award is consistent with the Florida Coastal Management Program (FCMP) as long as the following requirements are met: (1) If the proposed action requires an Environmental Resource Permit (ERP) pursuant to Chapter 373, Florida Statues and Chapter 62-330 F. A. C., then one must be obtained from the South Florida Water Management District (SFWMD) or FDEP; (2) Construction activities that will result in the disturbance of one or more acres of land are required to obtain coverage under the FDEP Construction General permit, if stormwater from the activity has the potential to enter a surface water of the State or a municipal separate storm sewer system; (3) Soil or groundwater contamination may be present or in close proximity of the project area. Construction will need to be closely coordinated with Miami-Dade County DERM to identify potential contamination area(s) and all activity within or in close proximity of the contamination areas shall obtain approval from DERM; (4) Construction dewatering in close proximity of groundwater contamination zones may require SFWMD and/or FDEP approval to demonstrate no impact or movement of any

groundwater contamination plume. Also, if any prehistoric or historical artifacts that could be associated with native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery and contact the Florida Department of State, Division of Historical Resources, Compliance Review Section. A copy of the email communication from the State Clearinghouse in provided in **Attachment D**.

The contractor will be required to use BMPs and comply with any relevant permit conditions and the most recent edition of the FDOT Standard Specifications for Road and Bridge Construction (Section 104) or local DTPW standards to ensure that adverse impacts to water quality and wetlands do not occur from construction activities. Activities associated with construction will comply with the current National Pollutant Discharge Elimination System (NPDES) requirements, as applicable. With proper implementation of BMPs, impacts to wetlands and water quality are not anticipated from the proposed project activities.

R. Impacts on Ecologically-Sensitive Areas and Endangered Species: Describe any natural areas (large wooded/ forested parcels, prairies, wetlands, rivers, lakes, streams, designated wildlife or waterfowl refuges, and geological formations) on or near the proposed project area. If present, state the results of consultation with the appropriate state-level department of natural resources and U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) for the potential impacts to these natural areas and on any threatened and endangered plant, animal and invertebrate species that may be affected.

Note: FTA will initiate all Section 7 interagency consultation with USFWS and/or NMFS. The applicant must notify FTA immediately, if after state-level coordination, protected natural areas or species will experience potential adverse effects as a result of the proposed project.

Construction of the APM on North Miami Avenue between NW 15th St and NW 41st St will not directly impact ecologically sensitive areas or endangered species. The corridor is within urbanized areas. There are no natural areas within 500 feet of the corridor. The closest natural area to the corridor is Biscayne Bay Aquatic Preserve which is approximately 2,500 feet to the east. The ETDM EST identified that the project corridor is located within the USFWS Consultation Areas for the American crocodile (*Crocodylus acutus*), Florida bonneted bat (*Eumops floridanus)*, West Indian manatee (*Trichechus manatus*), and Atlantic Coast Plants.

<u>Reptiles: American crocodile (*Crocodylus acutus*)</u>

The project area is located within the USFWS consultation area for the American crocodile. This project site is not immediately adjacent to or contiguous with waters accessible to the crocodile. Thus, the potential for an American crocodile to be present within the project area is low. Therefore, this project will have “No Effect” on the American crocodile.

Mammals: Florida bonneted bat (*Eumops floridanus*), West Indian manatee (*Trichechus manatus*)

The Florida bonneted bat (FBB) is listed as endangered, and the project area is located within the South Florida Urban Bat Area. A limited roost survey for the FBB was conducted on the corridor on April 11, 2019. The results of the survey indicate that no FBB or bat roosts were present in the survey area. No roosting indicators were observed. Most of the trees in the survey area did not provide suitable habitat for roosting, either because they were too small (less than eight inches in trunk diameter at breast height), did not have broken branches with snags or crevices, or did not have cavities. An Endangered Species Act (ESA) Section 7 Informal Consultation/Concurrence Report was submitted to the USFWS on September 1, 2020. On October 23, 2020, USFWS concurred that the proposed action is not likely to adversely affect any federally listed species including the FBB and no further action was required. A copy of this letter is included in **Attachment E**.

The West Indian manatee is a listed endangered species that inhabits aquatic areas in South Florida. This project site is not immediately adjacent to or contiguous with waters accessible to the West Indian manatee. Thus, the potential for West Indian Manatee to be present within the project area is low. Therefore, this project will have "No Effect" on the West Indian Manatee.

Plants

Atlantic Coastal plants can inhabit many areas of the coast that are undisturbed. Based on the urbanized environment of the project corridor, it was determined that threatened or endangered plant species would not likely be found within these areas and that the project will have "No Effect" on protected plants.

S. Impacts on Safety and Security: Describe the measures that would need to be taken to provide for the safe and secure operation of the project after its construction.

Miami-Dade County DTPW maintains and implements a formal rules and compliance review program for County transit systems whereby supervisors will be required to document observance of divisional Rules & Safety Compliance observations monthly. The program includes items such as proper Personal Protective Equipment (PPE) assignment to personnel; maintenance of facilities, equipment, exits, and entrances; application of electrical safeguards; provision and maintenance of eye wash stations; and proper materials and equipment usage and storage, including reporting and handling of defective equipment.

There are several design features that additionally provide increased safety and security including adequate illumination, installation of perimeter fencing, optimizing the number and location of access points, providing visibility from adjacent roadways, and proper signage.

T. Impacts Caused by Construction: Describe the construction plan and identify impacts due to construction noise, utility disruption, debris and soil disposal, invasive plant species, air and water quality, safety and security, and disruptions of traffic and access to property. If applicable, please include any National Pollutant Discharge Elimination System best practice measures

(https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater-documents**).**

Construction activities for the proposed improvements may have minor and temporary air, noise, and traffic flow impacts for residents, businesses, and travelers in the immediate vicinity of the project. Potential air quality impacts would be temporary and would primarily occur in the form of emissions from diesel-powered construction equipment and dust from construction activities. Air pollution associated with the creation of airborne particles will be effectively controlled using watering or the application of other controlled materials in accordance with the FDOT Standard Specifications for Road and Bridge Construction, as directed by DTPW. Noise control measures used during construction should include those contained in the FDOT Standard Specifications for Road and Bridge Construction. The construction contractor will also be required to adhere to local construction noise and/or vibration ordinances including the City of Miami Section 36-6 for Construction Equipment which prohibits the use of any tools or equipment used in construction, drilling or demolition work (such as pile drivers, steam shovels, pneumatic hammers, pumps or other like equipment) between the hours of 6:00 pm and 8:00 am on weekdays and at any time on Sundays or holidays (except for emergency work or special permission). The FTA noise level thresholds for daytime eight hour average noise levels and 30-day average noise levels at the neareast property line will be applied.

The FTA has noise impact criteria for daytime and nighttime noise level thresholds that apply to the project are outlined in **Table 11**.

Table 11-FTA Construction Noice impact Criteria

Land Use	8-hour L_{eq}, dBA		L_{dn}, dBA
	Day	Night	30-day Average
Residential	80	70	75[1]
Commercial	85	85	80[2]
Industrial	90	90	85[2]

Notes:
1. In urban areas with very high ambient noise levels (L_{dn}>65), L_{dn} from construction operations should not exceed existing ambient +10 dB.
2. 24-hour L_{eq}, not L_{dn}.
3. Daytime hours are 7:00 a.m. to 10:00 p.m.; nighttime hours are 10:00 p.m. to 7:00 a.m.

Source: FTA, 2006.

The City of Miami does not have specific vibration level ordinances. The project will follow vibration guidelines as determined by the FTA and outlined in **Tables 12 and 13**.

Table 12-Ground-Born Vibration Impact Criteria for Human Annoyance

Land Use Category	Ground-Borne Vibration Impact Levels, VdB*		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Table 13-Ground-Born Vibration Impact Criteria for Building Damage

Building Category	PPV (in/sec)	Approximate L_{v} †
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

† RMS velocity in decibels (VdB) re 1 micro-inch/second
Source: FTA, 2006.

Construction activities may cause short-term air quality impacts related to dust. These impacts will be minimized by adherence to applicable state regulations and to applicable FDOT Standard Specifications for Road and Bridge Construction. BMPs for sediment and erosion control will also be implemented during construction.

Temporary impacts of construction may include minor disruptions to traffic flow. During construction, the contractor will be required to provide the following:

- Adequate accommodations for intersecting traffic at crossings and intersections
- Continuous vehicular and pedestrian access to all residences and places of business during construction
- Safe alternate accessible routes through or around the work zone meeting the requirements of the ADA Standards for Transportation Facilities when pedestrian facilities are detoured, closed, or blocked during the work.

The contractor will be required to use BMPs and comply with any relevant permit conditions and the most recent edition of the FDOT Standard Specifications for Road and Bridge Construction (Section 104) to ensure that adverse impacts to water quality and wetlands do not occur from construction activities. FDOT shall require the contractor(s) to avoid sensitive areas (i.e., all wetland and riverine areas, and stream crossings) that cannot be used as staging areas. This condition will be included in the drawing plans and construction specifications. A NPDES permit will be required if this project will result in soil disturbance of greater than one acre.

U. Permits/ Variances/ Commitments Required: Please indicate and describe if any of the following will be required for project implementation: U.S. Coast Guard Permit; Forest Service/ USACE Land; Clean Water Act Section 404 Permit; Tennessee Valley Authority Permit; Stream Buffer Variance; Coastal Zone Management Coordination; NPDES; Cemetery Permit; and other permits and commitments as required by local and/or state government. If required, describe the appropriate stage (before, during or after construction).

If the project will disturb more than one acre of land, an NPDES Permit will be required. Noise permits from the City of Miami may be required depending on proposed working hours for construction of the project.

This action described above meets the criteria for a NEPA categorical exclusion (CE) in accordance with 23 CFR Part 771.118(d)(11).

_____ _____

Primary Applicant's Environmental Reviewer **Date**

Agency: _____

_____ _____

Secondary Applicant's Environmental Reviewer **Date**

Agency: _____

_____ _____

Federal Transit Administration **Date**

ATTACHMENT A

- **Technical Memorandum-Effects Evaluation for the Beach Corridor Rapid Transit Project**
- **Determination of Effect Memo (December 2020 and June 2021**
- **Effects Assessment for the Beach Corridor Rapid Transit Project Memo**
- **Cultural Resource Desktop Analysis in Support of the Beach Corridor Rapid Transit Project (SMART) Plan Proposed Maintenance Yard Locations**

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Seventh District

909 SE First Avenue
Miami, Florida 33131
Staff Symbol: (dpb)
Phone: (305) 415-6736
Fax: (305) 415-6763
Email: randall.d.overton@uscg.mil

16591
14 December 2020

Mr. Timothy A. Parsons
Director, Florida Division of Historical Resources
State Historic Preservation Officer
R. A. Gray Building
500 South Bronough Street
Tallahassee, Florida 32399-0250
Sent via email: Jason.Aldridge@dos.myflorida.com and Adrianne.Daggett@dos.myflorida.com

Dear Mr. Parsons:

A Determination of Effects (DOE) technical memorandum for the Beach Corridor Rapid Transit Project, Miami-Dade County, Florida has been uploaded to DOD SAFE file transfer site, https://safe.apps.mil/. The determination of effects details a review of the Beach Corridor Rapid Transit Project, which is one of six corridors included as part of the Strategic Miami Area Rapid Transit (SMART) Plan. The Miami-Dade Department of Transportation and Public Works (DTPW), in collaboration with the US Coast Guard as the lead agency and the Federal Transit Administration (FTA) as a cooperating agency, have evaluated alternatives for the development of multi-modal transportation corridors to connect the Design District/Midtown Miami, Downtown Miami, and Miami Beach. The Locally Preferred Alternative (LPA) has been approved by the Miami-Dade Transportation Planning Organization (TPO) Governing Board and calls for a rubber tire, elevated, Automated People Mover (APM) or Monorail on the trunk line connecting Miami and Miami Beach. An APM also is proposed for the segment of the project along Miami Avenue on the mainland. Along Washington Avenue in Miami Beach, the project is limited to the designation of bus lanes within the existing roadway footprint with no reconstruction proposed.

The study complies with Public Law 113-287 (Title 54 U.S.C.), which incorporates the provisions of the National Historic Preservation Act (NHPA) of 1966, as amended, and the Archeological and Historic Preservation Act of 1979, as amended. The study complies with the regulations for implementing NHPA Section 106 found in 36 CFR Part 800 (*Protection of Historic Properties*). The study also complies with Chapter 267 of the Florida Statutes and Rule Chapter 1A-46, Florida Administrative Code. All work was performed in accordance with Part 2, Chapter 8 of the FDOT's PD&E Manual (revised July 2020), as well as the Florida Division of Historical Resources' (FDHR) recommendations for such projects, as stipulated in the FDHR's Cultural Resource Management Standards & Operations Manual, Module Three: Guidelines for Use by Historic Preservation Professionals. The Principal Investigator for this project meets the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716-42).

A Phase I cultural resource assessment survey (CRAS) for the Beach Corridor Rapid Transit Project was completed by SEARCH in April 2020. On July 8, 2020, your office responded to

the Phase I CRAS with a letter, concurring with the eligibility recommendations. The CRAS and subsequent consultation with the State Historic Preservation Officer (SHPO) concluded that there are seven historic resources either listed in, or eligible for listing in, the National Register of Historic Places (NRHP) located within the project Area of Potential Effects (APE). These seven resources are: Miami Beach Architectural District (8DA01048), City of Miami Cemetery (8DA01090), Fire Station No. 2 at 1401 North Miami Avenue (8DA01176), FEC Railway (8DA10107), Big Time Equipment, Inc. at 59 Northwest 14th Street (8DA10520), 71 Northwest 14th Street (8DA10858), and Ocean Beach Historic District (8DA11415). The enclosed effects assessment, which is based on the 15% plan submittal, addresses project-related effects relative to each of these seven resources.

Miami Beach Architectural District (8DA01048)

Only a small portion of the Miami Beach Architectural District (8DA01048) along Washington Avenue between 6th Street and 7th Street falls within the project APE. While some adjustments to routing and service plans of existing bus/trolley service may be implemented to enhance connections to the high-capacity rail system, the only improvement taking place within the district along Washington Avenue is the addition of red pavement markings. These route/service plan adjustments and pavement markings will not adversely affect the district, and no additional improvements currently proposed as part of this project will take place within or adjacent to the boundaries of the Miami Beach Architectural District (8DA01048).

Additional project improvements are located a block to the south of the district and include the expansion of the hardscape and grass medians, the construction of the guideway, and two new stations (the 5th Street and Washington Avenue Station and the 5th Street and Lennox Avenue Station). Due to visual obstructions in the form of multi-story buildings, there will be no aesthetic or viewshed effects on the district, nor is there the potential to affect any features or buildings contributing to the district. Based upon a review of the 15% plans, there will be no other effects to the district such as noise, construction vibration, or accessibility as a result of the project. The project will not result in any loss of integrity to the district or affect the integrity of any resources contributing to the district's significance. Based on the current project plans, the Beach Corridor project will have no adverse effects on the NRHP-listed Miami Beach Architectural District (8DA01048).

City of Miami Cemetery (8DA01090)

Proposed work in the vicinity of the City of Miami Cemetery (8DA01090) consists of the construction of an elevated APM system along North Miami Avenue. The portion nearest to the cemetery will be shifted to the western side of the roadway, opposite the cemetery. The cemetery is located in a highly urban area, and the northwest corner is less than 100 feet (30.5 meters) away from the FEC Railway tracks. The cemetery's current surroundings have previously been altered by modern construction. The proposed APM will not create visual clutter that is inconsistent with what is already present in this highly developed area. Numerous multi-story residential, commercial, institutional, and light industrial buildings are located in the neighborhood surrounding the cemetery, additionally skyscrapers are visible within the viewshed of the cemetery. There are 12 mature trees located along the eastern side of North Miami Avenue between the roadway and the sidewalk abutting the cemetery. These trees create a

prominent buffer between the cemetery and any elevated structures on this western side of the cemetery property. There are no plans to alter or remove these trees or any other historic fabric or landscaping features within or adjacent to the cemetery as part of this project. The cemetery property is quite heavily treed in general, which also helps to minimize the viewshed from within the boundaries of the resource. No right-of-way will be taken from the cemetery property.

The APM system, a low noise transport system will not increase the ambient noise level in the cemetery juxtaposed to the traffic on the adjacent streets or the nearby FEC Railway. The cemetery derives its significance from its history, landscaping features, and association with the important people from Miami's early history interred there. Based on information contained within the 15% plans, the Beach Corridor project will have no adverse effect on the NRHP-listed City of Miami Cemetery (8DA01090) or the characteristics that define its significance.

Fire Station No. 2 (8DA01176)

Based on current project information provided in the 15% plans, the nearest improvements to Fire Station No. 2 (8DA01176) are located approximately 265 feet (80.7 meters) north of the resource along NW/NE 15th Street near the intersection with North Miami Avenue. There is already an elevated APM system (the Metromover) present in this location. The APM system proposed as part of this project will meet the existing Metromover near the intersection between NW/NE 15th Street and North Miami Avenue and continue north up North Miami Avenue, away from Fire Station No. 2 (8DA01176). As there is already an APM system in place in the nearest location where project improvements will take place, and as Fire Station No. 2 (8DA01176) is already located on a large intersection, no additional effects due to noise or vibration will occur. The existing access to this building also will not be affected, so there will be no negative effects to the building related to traffic volume. The improvements do not require the removal of any contributing elements related to the building, and they will not affect the character or function of this historic resource or affect its historic and architectural significance. The current viewshed also will be unaffected by the proposed improvements, as the existing Metromover will block the view of the proposed line to the north. There are presently two concrete block buildings, one residential and one commercial, located between Fire Station No. 2 (8DA01176) and the current/proposed APM system, further buffering the building from the improvements. Because it is located a considerable distance from the improvements and due to the presence of an existing elevated APM system in the area of the proposed improvements, the Beach Corridor project will have no adverse effects on NRHP-listed Fire Station No. 2 (8DA01176).

FEC Railway (8DA10107)

The APM guideway that will cross over the FEC Railway (8DA10107) will not result in an adverse effect to the linear historic resource. Based on the review of the current project plans, the project will meet the required 23-foot (7.0-meter) vertical clearance over the FEC Railway (8DA10107) and also will meet the 25-foot (7.6-meter) lateral clearance envelope for the support columns. This railroad is already bridged by numerous modern structures throughout its considerable length. Despite these crossings, this resource still maintains its significance, which is related to the history of transportation. The project will not alter the railway itself or the original alignment. The improvements that will take place as part of the Beach Corridor project

will still allow the NRHP-eligible FEC Railway (8DA10107) to convey its significance, and no adverse effects are anticipated.

Big Time Equipment, Inc. (8DA10520)

Based on the current project information, the nearest improvements to Big Time Equipment, Inc. (8DA10520) are located at the intersection of North Miami Avenue and NW/NE 15th Street, near the northeast corner of the building. There is already an elevated APM system (the Metromover) present in this location. It currently runs along the south side of NW/NE 15th Street and is immediately adjacent to the north side of Big Time Equipment, Inc. (8DA10520) with the support columns and the guideway only a few feet from the building. As there is already an elevated APM system in place directly adjacent to Big Time Equipment, Inc. (8DA10520), no notable additional audible effects will occur from the addition of a branch line extending out across the other side of the intersection and heading north, away from the building. The existing access to this building will not be affected, nor will there be any negative effects to the building related to noise or construction vibration. Although the proposed APM will be visible from the building's exterior, there are no remaining windows on the north side with a view of the proposed APM. Furthermore, the presence of an APM system already located on the same side of the building as that facing the proposed line means that the new line would create no visual clutter that is inconsistent with what is already present in the area. The improvements do not require the removal of any contributing elements related to the building, and they will not affect the character or function of this historic resource or affect its historic and architectural significance. Therefore, the Beach Corridor project will have no adverse effects on the NRHP-eligible Big Time Equipment, Inc. (8DA10520) building.

Building at 71 Northwest 14th Street (8DA10858)

71 Northwest 14th Street (8DA10858) is located between NW Miami Court and the FEC Railway, just across NW Miami Court from Big Time Equipment, Inc. (8DA10520). Based on the current project information, the nearest improvements to 71 Northwest 14th Street (8DA10858) are located at the intersection of North Miami Avenue and NW/NE 15th Street. The large Big Time Equipment, Inc. (8DA10520) building separates 71 Northwest 14th Street (8DA10858) from the proposed improvements. There is already an elevated APM system (the Metromover) present in this location. The Metromover currently runs along the south side of NW 15th Street, and its current western terminus appears to be slightly visible to the north from 8DA10858, although there is substantial planted tropical vegetation obscuring much of the view north of the building. As there is already an elevated APM system directly north approximately 150 feet (45.7 meters) from 71 Northwest 14th Street (8DA10858), no additional audible effects will occur from the addition of a branch line extending out north from the North Miami Avenue and NW/NE 15th Street intersection, which is more than 400 feet (122 meters) from the building. The existing access to this building will not be affected, nor will there be any effects to the building related to noise or construction vibration based upon a review of the 15% plans. The proposed APM will not be visible from 71 Northwest 14th Street (8DA10858), as the large Big Time Equipment, Inc. (8DA10520) building is located between it and the proposed improvements, obscuring the view. The project will not require the removal of any contributing elements related to the building, the character or function of this historic resource will not be affected, and its historic and architectural significance will remain intact. Therefore, the Beach

Corridor project will have no adverse effects on the NRHP-eligible building at 71 Northwest 14th Street (8DA10858).

Ocean Beach Historic District (8DA11415)

The proposed improvements within the Ocean Beach Historic District (8DA11415) will not require additional right-of-way from the district, and no historic fabric will be removed or altered by the project. The feeling, setting, and association of 8DA11415 has noticeably changed along 5th Street, which is a major east-west thoroughfare that has been altered substantially by non-historic modifications over the years. Many structures along 5th Street in the vicinity of the improvements have now been noticeably altered or demolished. The current elements present within the 5th Street right-of-way, such as the roadway itself, sidewalks, driveways, curbing, medians, lighting, landscaping, etc. are non-contributing to the district's significance or integrity.

The improvements associated with this project will not affect the individual historic resources that contribute to the district's overall significance. Due to considerable non-historic changes that have already affected the 5th Street corridor, the addition of an APM or Monorail and the two stations down the center of the six-lane thoroughfare will not cause an adverse effect to the district. The smaller streets within the district retain more of their historic setting, whereby a person can still experience the feeling and common period of development within the district. Along 5th Street, however, the integrity of the historic location, design, setting, materials, workmanship, feeling, and association that speak to the district's significance has already been lost. Although a dozen historic buildings still remain along this portion of 5th Street within the district, most have a diminished design and feeling as they no longer retain many of their original features. Demolitions, modern infill, and the modernization of virtually all features within the 5th Street corridor right-of-way also have led to the destruction of the historical setting and feeling in this location. The project alignment along 5th Street already has the feeling of a modern roadway corridor, and so the construction of the APM/Monorail in this location will not further diminish the integrity of the district or any of the remaining contributing resources along 5th Street. Although these are new elements within the district, the historic feeling and setting in this portion of the district have already been lost. As such, the present visual character of the district will not be changed by the project. Due to its limited elevation compared to surrounding buildings and its location in the middle of a large, six-lane roadway, the proposed APM/Monorail will not cause any adverse visual effects to any areas of the district. Additionally, the district will retain its accessibility via car traffic on 5th Street as before, but also receive the benefit of increased accessibility via the new APM or Monorail. The district's current use also will continue as-is.

Due to being a high traffic area with elevated noise levels, as compared to the relatively low levels of noise generated by the APM or Monorail modes, the project is not expected to result in any significant ground-borne vibration or noise issues within the historic district.

The addition of the APM/Monorail and associated stations along the central portion of 5th Street will in no way diminish those qualities that render the historic district significant, namely the district's historical connection to the development of Miami Beach, its importance in Jewish ethnic history, or the architecture of its contributing buildings. The project will not interfere with the integrity of the character-defining features that comprise many of the commercial and

residential historic resources within the district. The proposed undertaking's effects do not meet the criteria of adverse effect as described above and would not alter those characteristics that qualify 8DA11415 for inclusion in the NRHP in a manner that would diminish the district's aspects of integrity. Based on the current project plans, the Beach Corridor project will have no adverse effects on the NRHP-eligible Ocean Beach Historic District (8DA11415).

In summary, as discussed in the enclosed effects evaluation, the Beach Corridor Rapid Transit Project will not require the acquisition of right-of-way from the properties, and the project will not compromise the historical significance or architectural integrity of the resources to the extent that they can no longer convey their importance. Based on a review of the proposed plans, no adverse effects to the NRHP-eligible or -listed resources are anticipated as a result of the project.

I respectfully request your concurrence with the findings and recommendations presented in this letter and the effects assessment technical memorandum.

If you have any questions, feel free to call Mr. Randall Overton at (305) 415-6736.

Sincerely,

RANDALL D. OVERTON
Director, District Bridge Program
U. S. Coast Guard Seventh District

Encl: Effects Assessment Technical Memorandum at DOD SAFE site https://safe.apps.mil/

eCopy: Jie Bian, Miami-Dade County Department of Transportation and Public Works

The Florida State Historic Preservation Officer finds the attached report titled Technical Memorandum: Effects Assessment for the Beach Corridor Rapid Transit Project (SMART Plan), Miami-Dade County, Florida (2020) complete and sufficient and ☐ concurs / ☐ does not concur with the recommendations and findings provided in this cover letter for SHPO/FDHR Project File Number _____. Or, the SHPO finds the attached document contains_____ insufficient information.
SHPO Comments:
_____ _____ Timothy A. Parsons, PhD, Director Date Florida Division of Historical Resources

TECHNICAL MEMORANDUM
EFFECTS EVALUATION FOR THE BEACH CORRIDOR RAPID TRANSIT PROJECT (SMART PLAN), MIAMI-DADE COUNTY, FLORIDA

CONSULTANT:	SEARCH 315 NW 138th Terrace, Newberry, Florida 32669
PRINCIPAL INVESTIGATOR:	Mikel Travisano, MS
ARCHITECTURAL HISTORIAN:	Jason Newton, MA, MLIS
CLIENT:	Parsons Transportation Group Inc.
DATE:	September 2020
PROJECT NUMBER:	CIP153-1-TPW16-PEI

This effects evaluation details a review of the Beach Corridor Rapid Transit Project, which is one of six corridors included as part of the Strategic Miami Area Rapid Transit (SMART) Plan. The Miami-Dade Department of Transportation and Public Works (DTPW), in collaboration with the Federal Transit Administration (FTA) and Florida Department of Transportation (FDOT), have evaluated alternatives for the development of multi-modal transportation corridors to connect the Design District/Midtown Miami, Downtown Miami, and Miami Beach. The Locally Preferred Alternative (LPA) has been approved by the Miami-Dade Transportation Planning Organization (TPO) Governing Board and calls for a rubber tire, elevated, Automated People Mover (APM) or Monorail on the trunk line connecting Miami and Miami Beach. An APM also is proposed for the segment of the project along Miami Avenue on the mainland. Along Washington Avenue in Miami Beach, the project is limited to the designation of bus lanes within the existing roadway footprint with no reconstruction proposed.

SEARCH completed a Phase I cultural resource assessment survey (CRAS) for the Beach Corridor Rapid Transit Project in April 2020 (**Figures 1** and **2**). The CRAS and subsequent consultation with the State Historic Preservation Officer (SHPO) concluded that there are seven historic resources (i.e., cultural resources listed or eligible for listing in the National Register of Historic Places [NRHP]) located within the project Area of Potential Effects (APE). This technical memorandum will address project-related effects relative to each of these seven resources. It also should be noted that this effects assessment is based on the 15% plan submittal. Any future revisions to the project plans will need to be reviewed in order to assess whether any of the changes might have the potential to affect historic resources. If future revisions are found to have such potential, then an addendum to this effects document will be necessary.

It also should be noted that a separate CRAS was completed for the segment of the project along Washington Avenue in Miami Beach. The *Miami Beach Light Rail Modern Streetcar Cultural Resource Assessment Survey* was conducted by Janus Research, and a draft report was completed in 2017 and was submitted to the SHPO by the US Coast Guard (USCG) concurrently with the SEARCH CRAS in June 2020. However, the 2017 CRAS report was not submitted for

Figure 1. Beach Corridor Rapid Transit Project location, Miami-Dade County, Florida.

Figure 2. Beach Corridor APE, Miami-Dade County, Florida.

review and concurrence, but was only provided to document the work performed in support of the earlier, more extensive version of the Washington Avenue improvements and as background information relative to the current project and survey report. The concurrence received from the SHPO in the letter dated July 8, 2020, only applies to the 2020 CRAS report submitted by SEARCH; that concurrence does not apply to the earlier 2017 draft CRAS report by Janus Research. As the portion of the project along Washington Avenue will only involve adjustments to routing and service plans for the existing bus/trolley service, there will be no project-related effects to the Washington Avenue segment of the project, and it is not further addressed in this effects evaluation.

This study was conducted to comply with Chapter 267 of the Florida Statutes and Rule Chapter 1A-46, Florida Administrative Code. All work was performed in accordance with Part 2, Chapter 8 of the FDOT's Project Development and Environment (PD&E) Manual (revised July 2020), as well as the Florida Division of Historical Resources' (FDHR) recommendations for such projects, as stipulated in the FDHR's *Cultural Resource Management Standards & Operations Manual, Module Three: Guidelines for Use by Historic Preservation Professionals*. The Principal Investigator for this project meets the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716-42).

Due to the anticipation of future federal funding, this study complies with Public Law 113-287 (Title 54 U.S.C.), which incorporates the provisions of the National Historic Preservation Act (NHPA) of 1966, as amended, and the Archeological and Historic Preservation Act of 1979, as amended. The study also complies with the regulations for implementing NHPA Section 106 found in 36 CFR Part 800 (*Protection of Historic Properties*).

PROPOSED UNDERTAKING

The APE for the CRAS report (see **Figure 2**) includes the existing right-of-way for the subject roads within the project corridor for the LPA and is defined as extending to the back or side property lines of parcels adjacent to the right-of-way, or a distance of no more than 328 feet (100 meters) from the right-of-way for sections at-grade or 984 feet (300 meters) from the right-of-way for elevated sections. This APE was applied for the Miami Avenue segment that runs from the existing station on NE 15th Street to 41st Street and for the segment that extends from the new station at Herald Plaza east along MacArthur Causeway and 5th Street to Washington Avenue in Miami Beach.

The purpose of this project is to increase the person-throughput to the Beach Corridor's major origins and destinations via a rapid transit technology. The need for the project is based upon the extensive population growth throughout the study area, resulting in ever-increasing traffic congestion and the demand for enhanced access to the area's many facilities and services.

In order to meet the project's purpose and need, goals were established that would accommodate the high travel demand throughout the study area and provide relief to

the extreme traffic congestion along the surface streets. The project goals include the following:

- Connect to and provide direct, convenient, and comfortable rapid-transit service to serve existing and future planned land uses;
- Provide enhanced interconnections with Metrorail, Tri-Rail, Brightline, Metromover, and Metrobus routes; Broward County Transit (BCT) bus routes; Miami and Miami Beach circulators; jitneys; shuttles; taxis; Transportation Network Companies (TNCs); and/or other supporting transportation services; and
- Promote pedestrian- and bicycle-friendly solutions in the corridors of the study area.

The natural and built environment differ significantly by sub-area. These differences influenced the development of alternatives and the performance of the alternatives with respect to the evaluation criteria. On January 30, 2020, the TPO selected the LPA for each of the sub-areas, as described below.

Bay Crossing (Trunk Line) Segment: Elevated Rubber Tire Transit (APM or Monorail)

The fixed-guideway modes offer similar transit performance for the Bay Crossing trunk line, with lower costs and impacts for the rubber-tire modes (APM and Monorail) than for the LRT/Streetcar mode. The BRT alternatives, while lower cost, lack sufficient capacity to meet the project purpose and need, and present significant environmental impacts associated with the widening of the causeway. Therefore, an elevated rubber tire vehicle rail transit system (APM or Monorail) is the LPA for the trunk line service in the Bay Crossing sub area.

In the Bay Crossing segment, the APM/Monorail would extend from a new station at the Downtown Metromover Omni Extension, offering a direct seamless transfer to a Metromover platform within the same station house and continue east on a new elevated guideway structure along the south side of the MacArthur Causeway. The station at the Downtown Metromover Omni Extension also has connectivity with the Omni Bus Terminal to facilitate transfers to and from existing and future bus routes. New stations would be provided at the Downtown Metromover Omni Extension, at the Children's Museum on Watson Island, and at 5th Street and Washington Avenue, with an additional station on 5th Street between Alton Road and Washington Avenue.

The APM/Monorail would terminate at 5th Street and Washington Avenue, where passengers could transfer to bus/trolley service extending along Washington Avenue to the Miami Beach Convention Center. A bus/trolley transfer facility would be provided at the termini location. The guideway structure would be elevated with a minimum clearance of 16.5 feet (5.0 meters) above the roadway and would be supported on oblong-shaped columns with a typical spacing of 130 feet (39.6 meters) and typical diameter of 4.0 to 6.0 feet (1.2 and 1.8 meters). The elevated stations would have approximate dimensions of 100 by 40 feet (30.5 by 12.2 meters),

typically supported by two columns. A new maintenance facility of approximately 2.3 acres would be required at a potential Watson Island location.

Midtown/Design District Segment: Automated People Mover (APM)

In the Midtown/Design District sub-area, the APM is the LPA because it provides better travel time and ridership than the other alternatives, and it is an extension of the existing Metromover.

In the Midtown/Design District segment, the APM Alternative would extend from the existing School Board Metromover Station on NE 15th Street to North Miami Avenue, with a two-track elevated alignment in the median of North Miami Avenue extending to a terminus at NW 41st Street and stations located at North Miami Avenue, NW 16th, 22nd, 26th, 29th, 34th, and 40th Streets. The guideway structure would be elevated with a minimum 16.5-foot (5.0-meter) clearance above the roadway and would be supported on oblong-shaped columns with a typical spacing of 90 to 120 feet (27.4 and 36.6 meters) and typical diameter of 4.0 to 6.0 feet (1.2 and 1.8 meters). The elevated stations would have approximate dimensions of 100 by 40 feet (30.5 by 12.2 meters), typically supported by two columns. A new maintenance facility of approximately 3.0 acres would be required in order to accommodate the additional vehicles for the trunk line and design district extension.

Miami Beach Segment: Bus/Trolley in Dedicated Lanes

The LPA in the Miami Beach segment is a connection to the existing (No Action Alternative) bus/trolley service in dedicated bus lanes in each direction. Some adjustments to routing and service plans of existing bus/trolley service may be implemented to enhance connections to the high-capacity rail system. The Streetcar Alternative was not recommended as a standalone project for the Miami Beach sub-area given its lack of resiliency to sea-level rise, high cost, and difficulty of siting an operations and maintenance facility in this segment. Moreover, a bus has the ability to divert from flooded conditions, whereas a fixed LRT rail would not. Please note that a separate CRAS for this segment of the project was prepared by Janus Research in 2017 and submitted to the SHPO in June 2020. This 2017 CRAS document was submitted only as a courtesy to document the work performed in support of the earlier, more extensive version of the Washington Avenue improvements. As the dedicated bus lanes pose no effect to historic resources, the current effects analysis does not further analyze this segment of the project.

NRHP CRITERIA

Cultural resources identified within the project APE during the CRAS were evaluated according to the criteria for listing in the NRHP. As defined by the National Park Service (NPS), the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. that are associated with events or activities that have made a significant contribution to the broad patterns of our history; or
B. that are associated with the lives of persons significant in our past; or
C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. that have yielded, or may be likely to yield, information important in prehistory or history.

NRHP-eligible districts must possess a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. NRHP-eligible districts and buildings must also possess historic significance, historic integrity, and historical context.

CRITERIA OF ADVERSE EFFECTS

In order to evaluate the project-related effects posed by the LPA on eligible and listed historic resources, SEARCH applied the criteria of adverse effects, as described by 36 CFR 800:

(1) *Criteria of adverse effect*. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.
(2) *Examples of adverse effects*. Adverse effects on historic properties include, but are not limited to:
    (i) Physical destruction of or damage to all or part of the property;
    (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;
    (iii) Removal of the property from its historic location;
    (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
    (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
    (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious

and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

NATIONAL REGISTER CONTEXT

To better understand the potential effects to the seven historic resources within the Beach Corridor APE, an analysis of their character-defining features was performed. The methodology used to perform this analysis is based upon *Preservation Brief 17, Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character* (National Park Service [NPS] 2016); the 2020 SEARCH CRAS; and a pedestrian survey of the NRHP-listed and -eligible resources within the Beach Corridor APE.

In addition to character-defining features, the significance of historic properties was reviewed to better understand how project-related effects may interact with the tangible physical qualities, which developed during the period of significance for NRHP-eligible and -listed resources. Within the Beach Corridor APE, those areas of significance include:

- Miami Beach Architectural District (8DA01048): Architecture, Recreation and Development
- City of Miami Cemetery (8DA01090): Exploration and Settlement, Landscape Architecture
- Fire Station No. 2 (8DA01176): Architecture, Community Planning and Development
- Florida East Coast (FEC) Railway (8DA10107): Transportation, Tourism, Agriculture, and Industry
- Big Time Equipment, Inc. (8DA10520): Architecture
- 71 Northwest 14th Street (8DA10858): Commerce and Significant Person
- Ocean Beach Historic District (8DA11415): Ethnic Heritage, Architecture, Community Planning and Development

A description of each of these seven resources and a summary of each of their evaluations for NRHP eligibility is included below. Photographs of all seven resources are also provided, as are all resources within the APE that are contributing to Miami Beach Architectural District (8DA01048) or Ocean Beach Historic District (8DA11415). An analysis of effects is then provided for each of the seven resources. **Table 1** lists all of the National Register-eligible or -listed resources within the APE for this study.

Table 1. NRHP-Eligible or -Listed Properties within the Beach Corridor APE.

FMSF No.	Name/Address	Style	Year Built/Period of Significance	SHPO Evaluation
8DA01048	Miami Beach Architectural District	No Style	1912-1965	NRHP Listed

Table 1. NRHP-Eligible or -Listed Properties within the Beach Corridor APE.

FMSF No.	Name/Address	Style	Year Built/Period of Significance	SHPO Evaluation
8DA01090	City of Miami Cemetery	No Style	ca. 1897	NRHP Listed
8DA01176	Fire Station No. 2 1401 North Miami Avenue	Mediterranean Revival	ca. 1926	NRHP Listed
8DA10107	FEC Railway	No Style	ca. 1896	Determined Eligible
8DA10520	Big Time Equipment, Inc. 59 Northwest 14th Street	Art Deco	ca. 1924	Determined Eligible
8DA10858	71 Northwest 14th Street	Art Deco	ca. 1921	Determined Eligible
8DA11415	Ocean Beach Historic District	No Style	1912–1965	Determined Eligible

8DA01048, Miami Beach Architectural District

Resource 8DA01048, the Miami Beach Architectural District, contains more than 800 contributing structures within an area of 1.19 square miles (3.08 square kilometers). The District was listed in the NRHP in 1979 under Criterion A for Community Planning and Development and Recreation, and Criterion C for Architecture. The period of significance was 1920–1945 when originally listed (Deibler 1979). Since that time, the period of significance was expanded to include structures from 1946 to 1965 (NPS 2013). Within the Beach Corridor APE, the Miami Beach Architectural District (**Figure 3**) contains four previously recorded contributing structures (8DA00980-8DA00982 and 8DA01022) and one newly recorded structure (8DA18110) (Janus Research 2008) (**Table 2**).

Table 2. Contributing Historic Structures within the Miami Beach Architectural District (8DA01048) within the Beach Corridor APE.

FMSF No.	Name/Address	Style	Year Built	Architect
8DA00980	Beach Department Store 601 Washington Avenue	Art Deco	ca. 1934	Edwin L. Robertson
8DA00981	660-662 Washington Avenue 660 Washington Avenue	Mediterranean Revival	ca. 1923	Henry J. Maloney
8DA00982	Charlie's Paddock Grill 685 Washington Avenue	Art Deco	ca. 1934	Edwin L. Robertson
8DA01022	Angler's Hotel 634 Washington Avenue	Mediterranean Revival	ca. 1930	Henry J. Maloney
8DA18110	650 Pennsylvania Avenue	Mid-Century Modern	ca. 1960	Gerard Pitt

The development of the Miami Beach Architectural District is linked to the companies of the Lummus brothers (Ocean Beach Realty Company), John Collins (Miami Beach Improvement Company), and Carl Fisher (Alton Beach Realty Company) between 1912–1915. With their combined efforts, the street pattern and scaling of lots was established for the city before any major construction boom occurred. The district saw major development during the early 1920s with almost exclusively Mediterranean Revival style structures (Zingman 1978).

Between 1920 and 1940, the population of Miami Beach grew tremendously from 644 to 28,000 permanent residents. Additionally, in 1940, the annual tourist population reached 75,000. This population growth is reflected in the second building boom of the 1930s with Art

Figure 3. Representative views of 8DA01048 within the Beach Corridor APE. Top left: 8DA01022, facing south; Top right: Intersection of Washington Avenue and 7th Street with 8DA00982 in the background, facing northeast; Middle left: Intersection of Washington Avenue and 6th Street with new construction behind 8DA00980; Middle right: View southeast along Washington Avenue; Bottom left: 8DA18110, facing southeast; Bottom right: 8DA18110, facing southwest.

Deco and Moderne styles taking the place of the Mediterranean Revival style. Modestly scaled hotels and apartment buildings flourished throughout the district during this time period. Twenty-five architects were responsible for approximately 75% of these post-Depression-era structures, giving the district a unique, uniform sense of size, scale, proportion, and style. By the postwar period, a majority of the district was built-up; however, a third wave of construction filled in the gaps with Mid-Century Modern and Miami Modern (MiMo) structures (Janus Research 2008).

The Miami Beach Architectural District (8DA01048) is a previously recorded historic district that was listed in the NRHP in 1979 under Criterion A for Community Planning and Development and Recreation, and Criterion C for Architecture (Janus Research 2008). Given the limited area of the APE, which overlays the larger historic district, a full re-evaluation of 8DA01048 was outside the scope of the CRAS. Only four previously recorded contributing resources (8DA00980-8DA00982 and 8DA01022) and one newly recorded structure (8DA18110) are included within the boundaries of 8DA01048 and the Beach Corridor APE. However, based on the results of the CRAS fieldwork, SEARCH has evaluated the individual structures for their eligibility for listing in the NRHP as contributing resources to the overall Miami Beach Architectural District.

Effects Assessment

Only a small portion of the Miami Beach Architectural District (8DA01048) along Washington Avenue between 6th Street and 7th Street falls within the project APE (**Attachment A,** Sheet No. 235). The portion of the project within the Miami Beach sub-area is a connection to the existing (No Action Alternative) bus/trolley service in dedicated bus lanes in each direction. While some adjustments to routing and service plans of existing bus/trolley service may be implemented to enhance connections to the high-capacity rail system, these adjustments will not adversely affect the district, and no improvements currently proposed as part of this project will take place within or adjacent to the boundaries of the Miami Beach Architectural District (8DA01048).

As the project improvements terminate a block to the south of the district, there will be no aesthetic or viewshed effects on the district, nor is there any potential to affect any features or buildings contributing to the district. There will be no other effects to the district such as noise, vibration, or accessibility as a result of the project. Based on the current project plans, the Beach Corridor project will have no adverse effects on the NRHP-listed Miami Beach Architectural District (8DA01048).

8DA01090, City of Miami Cemetery

Resource 8DA01090, the City of Miami Cemetery (**Figure 4**), was listed in the NRHP in January 1989 under NRHP Criteria A and B for the cemetery's connection to the early establishment of Miami and its association with persons significant in the city's past, and under NRHP Special Considerations Criteria C and D due to the important local figures interred in the cemetery as well as the cemetery's age. The City of Miami Cemetery was established ca. 1897 when William

Figure 4. Resource 8DA01090, with the west entry facing east (top left), east entry facing west (top right), primary pathway facing east (middle left), main road northwest (middle right), Tuttle family graves facing west (bottom left), and Confederate veterans graves facing west (bottom right).

and Mary Brickell sold 10 acres of land to the City of Miami to be used as a municipal cemetery. This became the first cemetery in the City of Miami and the first municipal cemetery in Dade County. Surrounding the 10-acre tract is an iron fence with the main gate on Northeast 2nd Avenue and a secondary gate on North Miami Avenue (see **Figure 4**). A drive bisects the cemetery in an east-west direction connecting the two entrances. Along the drive are two traffic circles on the eastern half of the cemetery.

Based upon the historic research and the results of the CRAS, SEARCH found that the City of Miami Cemetery (8DA01090) should remain listed in the NRHP under NRHP Criteria A and B and under NRHP Special Considerations Criteria C and D due to the age of the cemetery and the important local figures interred there. Additionally, many pioneers and incorporators of Miami are interred there, such as the "Mother of Miami" Julia Tuttle, early city and county officials, the first physician, Bahamian incorporators, and prominent families such as the Belchers, Burdines, Seybolds, Peacocks, and Sewells. Many of the city pioneers and incorporators do not have any known buildings or structures associated with their productive lives. This includes the "Mother of Miami" Julia Tuttle, who aided in securing the FEC Railroad line coming to the area by donating more than 350 acres of land. The City of Miami Cemetery (8DA01090) remains listed in the NRHP for its important role in Miami's history and the important local figures interred in the cemetery.

Effects Assessment

Proposed work in the vicinity of the City of Miami Cemetery (8DA01090) consists of the construction of an elevated APM system along North Miami Avenue. Although the proposed APM system will be elevated down the center of the roadway for much of the project along North Miami Avenue, the portion nearest to the cemetery will be shifted to the western side of the roadway (**Figure 5**). Based on the 15% plans, the proposed aerial easement will extend slightly less than halfway across North Miami Avenue from the west. The cemetery is located on the east side of North Miami Avenue between NE 17th Terrace and the FEC Railway. The cemetery is located in a highly urban area, and

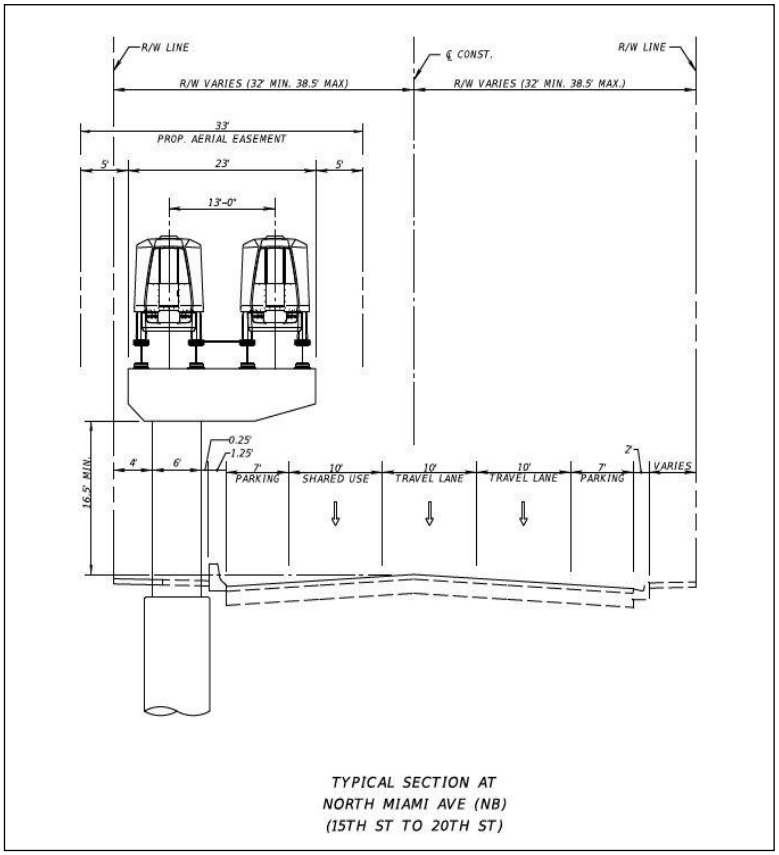

Figure 5. Typical section taken from the 15% plans showing the portion of the project in the area of Resource 8DA01090.

the northwest corner is less than 100 feet (30.5 meters) away from the FEC Railway tracks. Please refer to Sheet Nos. 302 and 303 of the select project plan pages located in **Attachment A** for the project improvements in the vicinity of the cemetery.

Although the proposed APM will be visible from the cemetery, it is unlikely that this would create visual clutter that is inconsistent with what is already present in this highly developed area. Numerous multi-story residential, commercial, institutional, and light industrial buildings are located in the neighborhood surrounding the cemetery, and skyscrapers also are visible.

Furthermore, there are 12 mature trees located along the eastern side of North Miami Avenue between the road and the sidewalk abutting the cemetery (**Figure 6**). These trees create a prominent buffer between the cemetery and any elevated structures on this western side of the cemetery property. There are no plans to alter or remove these trees or any other historic fabric or landscaping features within or adjacent to the cemetery as part of this project. No right-of-way will be taken from the cemetery property.

Figure 6. Mature trees located along the western side of Resource 8DA01090 (eastern side of North Miami Avenue), facing southeast.

The APM system is already present in other parts of the city and is known as the Metromover. The construction of the APM system will help to alleviate some of the traffic congestion on North Miami Avenue and NE 2nd Avenue, adjacent to the cemetery. The APM system also is considered to be a low noise mode of transport and will not increase the ambient noise level in the cemetery any more than the traffic on the adjacent streets or the nearby FEC Railway. Furthermore, cemeteries are not typically considered noise and vibration sensitive areas, unlike residences, schools, parks, hospitals, or research facilities. The cemetery derives its significance from its history, landscaping features, and association with the important people from Miami's early history interred there. Based on the current information, the Beach Corridor project will have no adverse effect on the NRHP-listed City of Miami Cemetery (8DA01090) or the characteristics that define its eligibility.

8DA01176, Fire Station No. 2

Resource 8DA01176, Fire Station No. 2, ca. 1926, was NRHP-listed in January 1989 under Criteria A and C for Community Planning and Development and Architecture (Eaton and Welcher 1988). Fire Station No. 2 is significant under Criterion A for its construction in

response to the growing demand for municipal services at the height of Miami's land boom. Resource 8DA01176 also is significant under Criterion C as a fine example of the Mediterranean Revival style with its use of stylistic features such as a stucco finish, arched entrance and windows, red tiled roof, wrought iron railings, and tower (**Figure 7**). Additionally, 8DA01176 is significant under Criterion C as a structure designed by August C. Geiger, a prominent architect in Miami-Dade County. Geiger was the architect for the Miami-Dade County School Board and designed several of the municipal and institutional buildings in Miami and Miami Beach. Geiger also was known for introducing the Mediterranean Revival style to Miami in 1915. Based upon the field survey and the historic research conducted for the CRAS, Fire Station No. 2 maintains the level of integrity necessary to convey its significance under Criteria A and C. SEARCH recommended that Fire Station No. 2 (8DA01176) remain listed in the NRHP.

Effects Assessment

Fire Station No. 2 (8DA01176) is located at the intersection of North Miami Avenue and NW 14th Street. Based on the current project information provided in the 15% plans, the nearest improvements are located approximately 265 feet (80.7 meters) north of the resource along NW/NE 15th Street near the intersection with North Miami Avenue. **Figure 8** shows the

Figure 7. Resource 8DA01176, facing southeast (top left), northeast (top right), northwest (bottom left), and west (bottom right) within the Beach Corridor APE.

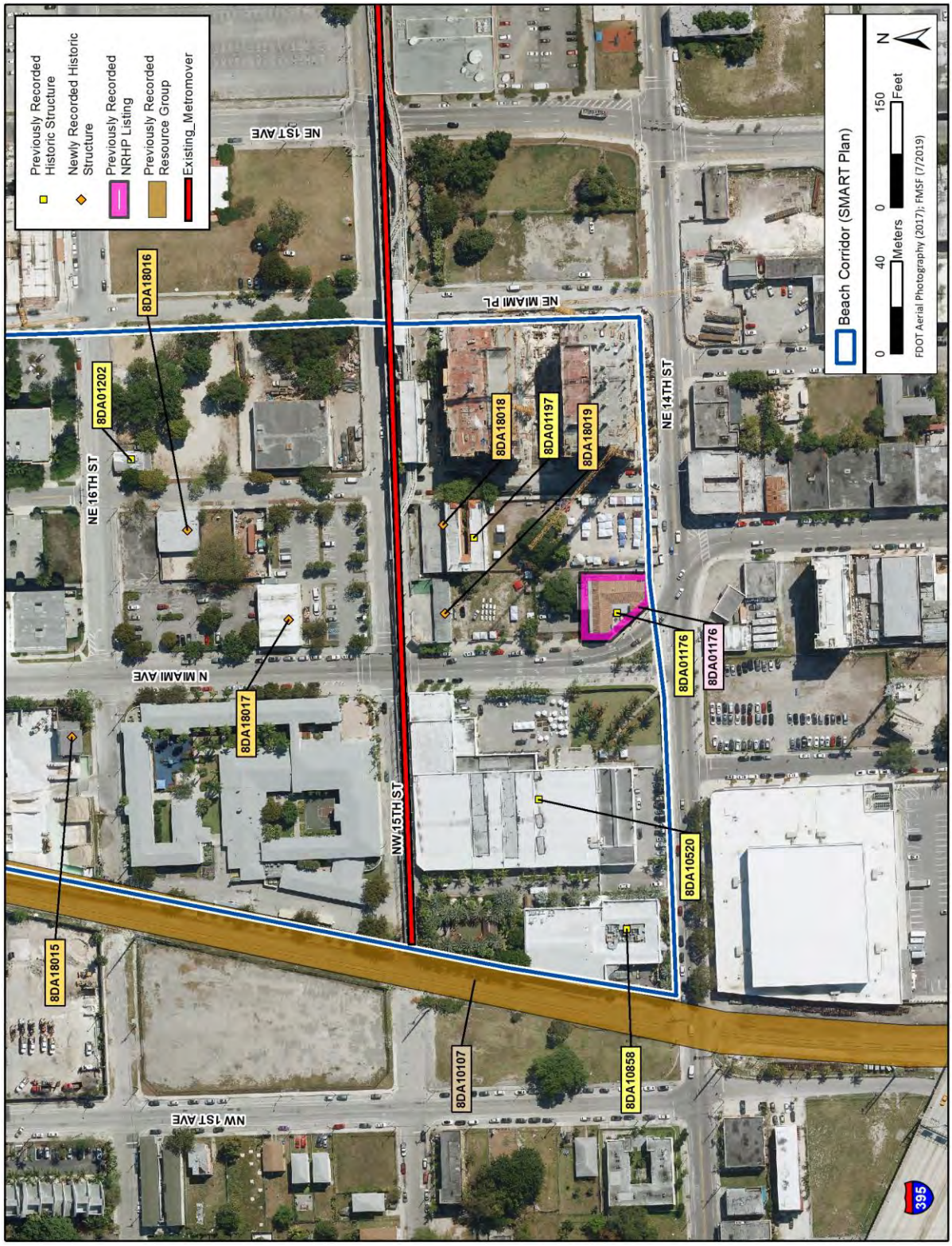

Figure 8. Aerial photograph showing the Beach Corridor APE in the vicinity of 8DA01176, 8DA10520, and 8DA10858.

location of Resource 8DA01176 in relation to the Beach Corridor APE, as well as to NW/NE 15th Street. Please also refer to Sheet No. 300 from the 15% project plans, located in **Attachment A**, for the location of the nearest improvements. There is already an elevated APM system (the Metromover) present in this location. The APM system proposed as part of this project will meet the existing Metromover near the intersection between NW/NE 15th Street and North Miami Avenue and continue north up North Miami Avenue, away from Resource 8DA01176.

As there is already an APM system in place in the nearest location where project improvements will take place, and as Resource 8DA01176 is already located on a substantial intersection, no additional effects due to noise will occur. The existing access to this building also will not be affected, nor will there be any negative effects to the building related to traffic volume. The improvements do not require the removal of any contributing elements related to the building, and they will not impact the character or function of this historic resource or affect its historic and architectural significance. The current viewshed also will be unaffected by the proposed improvements, as the existing Metromover will block the view of the proposed line to the north. There are presently two concrete block buildings, one residential and one commercial, located between Resource 8DA01176 and the current/proposed APM system, further buffering the building from the improvements. Because it is located such a substantial distance from the improvements and due to the presence of an existing elevated APM system in the area of the proposed improvements, the Beach Corridor project will have no adverse effects on NRHP-listed Fire Station No. 2 (8DA01176).

8DA10107, Florida East Coast Railway

Resource 8DA10107, the FEC Railway, is NRHP-eligible under Criterion A for its association with one of Florida's historic railroad periods (Disston Era Expansion and Consolidation, 1881–1903) during which it was built connecting Jacksonville with Miami (**Figure 9**). Resource 8DA10107 also is NRHP-eligible as a means to transport agricultural products to markets, to transport tourists to areas along the eastern coast of Florida, and to open up the area to settlement. During the late nineteenth and early twentieth centuries, the construction of the railroad in this part of Florida allowed for the export of lumber, citrus, vegetables, and passengers from Florida

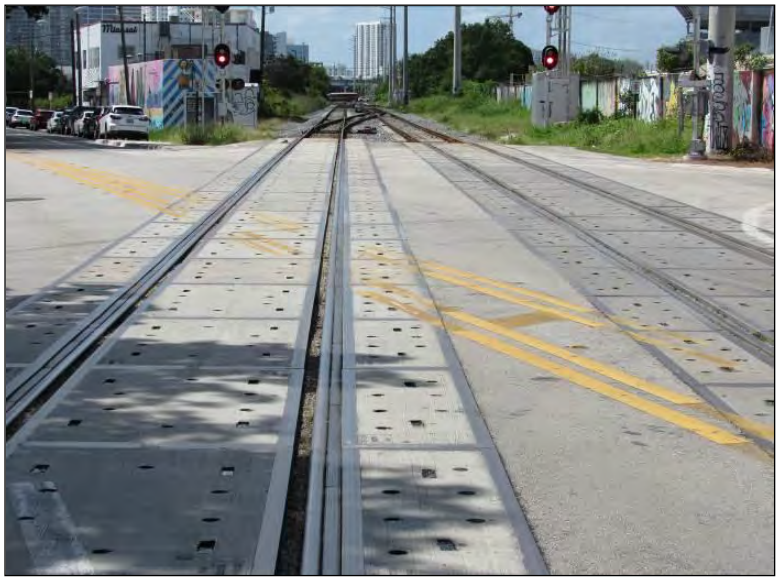

Figure 9. Resource 8DA10107 at the intersection of North Miami Avenue and NW 19th Street, facing south within the Beach Corridor APE.

hinterlands to markets across the country, thus integrating Florida into the national economy. The creation of the overall transportation network, not just the main lines, represented the expansion of the local economy and its integration into the larger national economy, an important historical theme.

Based on the results of the CRAS, SEARCH found that the segment of 8DA10107 within the Beach Corridor APE retains enough historic integrity to continue to express its significance under Criteria A and B and to contribute to the overall linear resource. Therefore, the section of 8DA10107 within the Beach Corridor APE remains eligible as a contributing segment to the overall NRHP-eligible linear resource.

Effects Assessment

Based on the review of the current 15% project plans, the project will meet the required 23-foot (7.0-meter) vertical clearance over the railroad and also will meet the 25-foot (7.6-meter) lateral clearance envelope for the support columns. Coordination with the railroad will be required during construction due to the overhead construction of the APM system. Please refer to Sheet No. 303 from the 15% project plans in **Attachment A**, showing the proposed APM system crossing over the FEC Railway.

The APM guideway that will cross over the railroad will not result in an adverse effect to the linear historic resource. This resource is bridged by numerous modern structures throughout its considerable length. Despite these crossings, this resource still maintains its significance, which is related to the history of transportation. The improvements that will take place as part of the Beach Corridor project will still allow the NRHP-eligible FEC Railway (8DA10107) to convey its significance, and no adverse effects are anticipated.

8DA10520, Big Time Equipment, Inc.

Resource 8DA10520, Big Time Equipment, Inc., was determined NRHP-eligible in 2014 under Criterion C for Architecture by the SHPO. The ca. 1924 factory building is a two-story, L-shaped Art Deco structure that features distinctive pilasters, pilaster capitals, and geometric stucco etchings (**Figure 10**). The structure originally housed a lumber company, the Page Lumber Company, but was sold

Figure 10. Resource 8DA10520, facing southwest within the Beach Corridor APE.

several times between 1927 and 1963 to rock, sheet metal, mill works, and fan manufacturing companies. In 1963, the building became a warehouse for Lamtrom Industries and was later purchased by Big Time Equipment, Inc. (Janus Research 2014). Based upon the field survey and the historic research undertaken for the CRAS, SEARCH found that 8DA10520 maintains the level of integrity necessary to convey its significance under Criterion C. Therefore, SEARCH recommended that Big Time Equipment, Inc. (8DA10520) remain individually eligible for the NRHP under Criterion C for Architecture.

Effects Assessment

Big Time Equipment, Inc. (8DA10520) is a large structure located on the west side of North Miami Avenue between NW 14th Street and NW 15th Street, just across North Miami Avenue from Fire Station No. 2 (8DA01176). Based on the current project information provided in the 15% plans, the nearest improvements are located at the intersection of North Miami Avenue and NW/NE 15th Street, near the northeast corner of the building. Please refer to Sheet No. 300 from the 15% project plans in **Attachment A**, showing the proposed APM in this location. As noted in the previous effects assessment for Resource 8DA01176, there is already an elevated APM system (the Metromover) present in this location. It currently runs along the south side of NW/NE 15th Street and is immediately adjacent to the north side of Resource 8DA10520 with the support columns and the guideway only a few feet from the building (**Figure 11**). The APM system proposed as part of this project will extend out from the current line, crossing on the opposite (northeast) corner of the North Miami Avenue and NW/NE 15th Street intersection, and continue north along North Miami Avenue.

Figure 11. Resource 8DA10520 with the existing Metromover adjacent, facing southwest within the Beach Corridor APE.

As there is already an elevated APM system in place directly adjacent to Resource 8DA10520, no notable additional audible effects will occur from the addition of a branch line extending out across the other side of the intersection and heading north, away from the building. The existing access to this building also will not be affected, nor will there be any negative effects to the building related to traffic volume. Although the proposed APM will be visible from the building, there are no remaining windows on the north side of the building. Furthermore, the presence of an APM system already located on the same side of the building as that facing the proposed line means that the new line would create no visual clutter that is inconsistent with what is already present in the area. The improvements do not require the removal of any

contributing elements related to the building, and they will not affect the character or function of this historic resource or affect its historic and architectural significance. Therefore, the Beach Corridor project will have no adverse effects on the NRHP-eligible Big Time Equipment, Inc. (8DA10520) building.

8DA10858, 71 Northwest 14th Street

Resource 8DA10858, 71 Northwest 14th Street, was determined eligible for listing in the NRHP in 2014 by the SHPO under Criterion A for Commerce and Criterion B for its association with Lewis Cass Oliver. Resource 8DA10858 is significant under Criterion A as it serves as an example of the expansion and evolution of commerce in the Miami area during the boom period of the 1920s (**Figure 12**). Furthermore, the resource is significant under Criterion B due to its association with Lewis Cass Oliver. Oliver was a pioneer of Miami who influenced the early development of the city. Resource 8DA10858, ca. 1921, was originally constructed as the Oliver Ice Company. The building's location along the FEC Railway line was ideal as the company served as Florida's largest ice manufacturer at the time. The president of Oliver Ice Company, Lewis Cass Oliver, was an early pioneer and incorporator of Miami and lived throughout the east coast of Florida (Cutler 1923; *Miami Daily Metropolis* 1920; *Miami Metropolis* 1921; Janus Research 2014). Based on the field survey and further research undertaken for the CRAS, SEARCH recommended that 71 Northwest 14th Street remain eligible for listing in the NRHP.

Figure 12. Resource 8DA10858, facing north within the Beach Corridor APE.

Oliver first moved to Florida in 1887 and settled in Titusville. There, Oliver started a lumber business. Nine years later, Oliver moved to Miami before the train service began to expand his lumber business and became the first lumber dealer in Miami. Additionally, Oliver opened a small ice plant, also the first in the city, and constructed a home. The home was located on the northwest corner of present-day Southeast 2nd Avenue and Southeast 1st Street and was replaced by the Hotel Urmey. In 1909, Oliver sold both businesses and moved to Jacksonville and eventually back to Titusville. In 1920, Oliver chartered the Oliver Ice Company and moved back to Miami the following year for the business. Oliver's second attempt at an ice plant resulted in the largest ice plant in Florida, which produced approximately 225 tons of ice per day (Cutler 1923; *Miami Metropolis* 1921; Piket 2016).

Effects Assessment

The building at 71 Northwest 14th Street (8DA10858) is located on the north side of NW 14th Avenue between NW Miami Court and the FEC Railway, just across NW Miami Court from Big Time Equipment, Inc. (8DA10520). Based on the current project information provided in the 15% plans, the nearest improvements are located at the intersection of North Miami Avenue and NW/NE 15th Street (see Sheet No. 300 in **Attachment A**), and the large Big Time Equipment, Inc. (8DA10520) building separates Resource 8DA10858 from the proposed improvements. As noted in the previous effects assessments for 8DA01176 and 8DA10520, there is already an elevated APM system (the Metromover) present in this location. The Metromover currently runs along the south side of NW 15th Street and its current western terminus appears to be slightly visible to the north from 8DA10858, although there is substantial planted tropical vegetation obscuring much of the view north of the building. The proposed APM system will extend out from the current line, crossing on the northeast portion of the North Miami Avenue and NW/NE 15th Street intersection, and continue north along North Miami Avenue.

As there is already an elevated APM system directly north approximately 150 feet (45.7 meters) from Resource 8DA1052, no additional audible effects will occur from the addition of a branch line extending out north from the North Miami Avenue and NW/NE 15th Street intersection, which is more than 400 feet (122 meters) from the building. The existing access to this building also will not be affected, nor will there be any effects to the building related to traffic volume. The proposed APM will not be visible from Resource 8DA10858, as the large Big Time Equipment, Inc. (8DA10520) building is located between it and the proposed improvements, obscuring the view (see **Figure 8**). The project will not require the removal of any contributing elements related to the building, the character or function of this historic resource will not be affected, and its historic and architectural significance will remain intact. Therefore, the Beach Corridor project will have no adverse effects on the NRHP-eligible building at 71 Northwest 14th Street (8DA10858).

8DA11415, Ocean Beach Historic District

Resource 8DA11415, the Ocean Beach Historic District contains 217 surveyed structures, of which 129 are contributing to the City of Miami Beach locally designated district (**Figure 13**). The District covers an area of 0.16 square miles (0.41 square kilometers). The SHPO has not evaluated the NRHP eligibility of 8DA11415; however, the District has been locally designated since 1996. Since 2005, 8DA11415 has been designated as a Certified Historic District allowing property owners to apply for Federal Rehabilitation Tax Credits per 36 CFR 67: Historic Preservation Certifications Pursuant to Sec. 48(g) and Sec 170(h) of the Internal Revenue Code of 1986. In a 2004 letter to the NPS attached to the Florida Master Site File (FMSF) form, Barbara Mattick, Deputy SHPO, recommended the use of Criterion A for Community Planning and Development, and Ethnic Heritage: Jewish, and Criterion C for Architecture as areas of significance for the Ocean Beach Historic District. Mattick also recommended the period of significance as 1915–1954. Due to the 40-year period of significance, several styles can be

Figure 13. Representative views of 8DA11415 within the Beach Corridor APE. Top left: Intersection of Washington Avenue and 5th Street, facing southwest; Top right: Intersection of Lenox Avenue and 5th Street with 8DA18064 in the background, facing northwest; Middle left: 8DA00545, an Art Deco structure that maintains its details, facing northeast; Middle right: 8DA18074, an Art Deco structure that lacks ornamentation; Bottom left: 8DA11638, a Mediterranean Revival structure, facing northeast; Bottom right: 8DA00887, an Art Moderne structure, facing southeast.

found within the district, including Bungalow, Mediterranean Revival, Art Deco, Moderne, and Mid-Century Modern (see **Figure 13**). In 2020, SEARCH recommended the Ocean Beach Historic District NRHP-eligible under Criteria A and C. Within the Beach Corridor APE, the Ocean Beach Historic District contains 46 NRHP-eligible resources as contributing structures (Gomez 2005).

Beginning in 1912, the development of the Ocean Beach Historic District is linked to the Lummus brothers and their Ocean Beach Realty Company. By 1915, the Ocean Beach area had graded streets, property plots, a hotel, and the infrastructure required for utilities in the area (Gomez 2005; Lummus 1941). While most of Miami Beach placed restrictive covenants in their land deeds prohibiting the sale of Miami Beach lots to anyone with Jewish heritage, the Lummus brothers did not have such stipulations. The lack of discrimination in the area south of 5th Street allowed for a flourishing Jewish population, including Jewish-owned hotels, restaurants, and apartments such as Joe's Stone Crab Restaurant (8DA00727), the Nemo Hotel (8DA00728), the Seabreeze Hotel, and the city's first synagogue the Temple Beth Jacob (8DA00950). Although the restrictions lessened after the Great Depression and World War II, several businesses continued to offer no service to anyone with Jewish heritage until the Civil Rights Act of 1964 (Bramson 2008; Jewish Virtual Library 2019). It is estimated that a quarter of the landowners in what would become the Ocean Beach Historic District were of Jewish heritage between 1922 and 1953 (Gomez 2005).

Following World War II, the growth in the neighborhood was slower compared to the northern portions of Miami Beach. Rather than building new resort hotels with private beaches, the buildings in Ocean Beach catered to a modest clientele and minimal improvements were made on the small structures (Gomez 2005). When the City of Miami Beach's Planning, Design, and Historic Preservation Division completed their survey in 1995, substantial rehabilitation and adaptive re-use was prevalent in the Ocean Beach District (City of Miami Beach Planning, Design, and Historic Preservation Division 1995).

Table 3 below lists all contributing historic structures within the Ocean Beach Historic District (8DA11415) that are located within the Beach Corridor APE. **Figures 14** and **15** show the locations of these resources, as well as the boundaries of 8DA11415 in relation to the APE. It should also be noted that the Lennox Village (8DA00552) resource group, which is comprised of three structures (8DA18055, 8DA18056, and 8DA18057), is located within the boundaries of 8DA11415 and the project APE. Although not individually eligible for the NRHP, Lennox Village (8DA00552) is considered contributing to 8DA11415. **Figures 16** through **61** present photographs of each of the contributing structures located within the district and the APE.

Table 3. Contributing Historic Structures within the Ocean Beach Historic District (8DA11415) within the Beach Corridor APE.

FMSF No.	Address/Name	Style	Year Built	Architect
8DA00545	Lindberg Hotel 711 5th Street	Art Deco	1930	T. Hunter Henderson
8DA00887	Lurita Apartments 551-559 Michigan Avenue	Moderne	1940	Edward A. Nolan
8DA00959	636 6th Street	Art Deco	1940	Joseph J. DeBrita

Table 3. Contributing Historic Structures within the Ocean Beach Historic District (8DA11415) within the Beach Corridor APE.

FMSF No.	Address/Name	Style	Year Built	Architect
8DA00979	421 Washington Avenue	Mediterranean Revival/ Art Deco Transitional	1923	Unknown
8DA11637	Martha Apartments 747 4th Street	Mediterranean Revival	1930	Victor H. Nellenbogen
8DA11638	Euclid Lofts 739 4th Street	Mediterranean Revival	1930	Victor H. Nellenbogen
8DA11652	Sunsouth Place 530 Meridian Avenue	Art Deco	1940	David T. Ellis
8DA18049	421 Meridian Avenue	Moderne	1940	Edward A. Nolan
8DA18055	1050 6th Street	Art Deco	1938	Henry Hohauser
8DA18056	1040 6th Street	Art Deco	1938	Henry Hohauser
8DA18057	1030 6th Street	Art Deco	1938	Henry Hohauser
8DA18058	1020 6th Street	Art Deco	1936	Henry Hohauser
8DA18059	560 Michigan Avenue	Art Deco	1936	Henry Hohauser
8DA18060	550 Michigan Avenue	Art Deco	1936	Henry Hohauser
8DA18061	544 Michigan Avenue	Post War Modern	1959	A. J. Simberg
8DA18062	532 Michigan Avenue	Mediterranean Revival	1925	J. C. Gault
8DA18064*	1103 5th Street	Unknown	Unknown	Unknown
8DA18066	455 Lenox Avenue	Post War Modern	1949	Milton Abrams
8DA18067	411 Michigan Avenue Building #1	Mediterranean Revival	1933	Owner
8DA18068	411 Michigan Avenue Building #2	Mediterranean Revival	1934	Owner
8DA18069	941 4th Street	Mediterranean Revival	1930	Victor H. Nellenbogen
8DA18070	935 4th Street	Unknown	1940	Unknown
8DA18071	927 4th Street	Mediterranean Revival	1930	Joseph H. Smith
8DA18072	919 4th Street	Unknown	1938	B. Kingston Hall
8DA18074	521 Michigan Avenue	Art Deco	1940	Albert Anis
8DA18075	531 Michigan Avenue	Art Deco	1940	Robert E. Collins
8DA18076	900 6th Street	Post War Modern	1965	Charles H. Markell
8DA18077	543 Jefferson Avenue	Mediterranean Revival	1924	Edward A. Nolan
8DA18081	837 4th Street	Post War Modern	1946	A. Herbert Mathes
8DA18082	829 4th Street	Post War Modern	1952	Harry C. Schwebke
8DA18083	815 4th Street Building #1	Post War Modern	1952	Gerard Pitt
8DA18084	815 4th Street Building #2	Frame Vernacular	1921	Unknown
8DA18085	410 Meridian Avenue	Art Deco	1937	B. Kingston Hall
8DA18086	426 Meridian Avenue Building #1	Mediterranean Revival	1925	Unknown
8DA18087	426 Meridian Avenue Building #2	Post War Modern	1953	Gerard Pitt
8DA18088	819 5th Street	Masonry Vernacular	1921	Unknown
8DA18090	814 6th Street	Post War Modern	1949	Donald G. Smith
8DA18091	545 Michigan Avenue	Mediterranean Revival/Art Deco	1940	Henry Hohauser
8DA18093	549 Meridian Avenue	Post War Modern	1964	Gerard Pitt
8DA18094	543 Meridian Avenue	Post War Modern	1964	Gerard Pitt
8DA18097	411 Meridian Avenue	Art Deco	1936	T. Hunter Henderson
8DA18098	701 4th Street	Mediterranean Revival	1924	Unknown

Table 3. Contributing Historic Structures within the Ocean Beach Historic District (8DA11415) within the Beach Corridor APE.

FMSF No.	Address/Name	Style	Year Built	Architect
8DA18102	520 Euclid Avenue	Post War Modern	1961	W. M. Freidman
8DA18107	540-590 Washington Avenue	Art Deco	1935/1946	Henry Hohauser
8DA18108	534 Washington Avenue	Moderne	1939	Henry Hohauser
8DA18111	437 Washington Avenue	Art Deco	1935	Robertson and Patterson
8DA18112	411 Washington Avenue	Mediterranean Revival	1935	Henry Hohauser

*Structures marked with an * are no longer considered contributing according to the Miami Beach Historic Structures Database.*
Structures highlighted in orange have later been determined to be contributing to the local district according to the Miami Beach Historic Structures Database.

The Ocean Beach Historic District (8DA11415) was previously designated a Certified Historic District, allowing property owners to apply for Federal Rehabilitation Tax Credits. The FMSF form from 2005 notes that this district meets NRHP Criterion A for Community Planning and Development, and Ethnic Heritage: Jewish, and Criterion C for Architecture (Gomez 2005). Based on the field survey and further research undertaken for the CRAS, SEARCH recommended that Resource 8DA11415 remains significant under Criterion A for Community Planning and Development, and Ethnic Heritage: Jewish.

Resource 8DA11415 was the first platted area on Miami Beach and helped to establish the city block grid for all of Miami Beach. Additionally, people of Jewish heritage were able to purchase land, open and maintain businesses, and vacation unlike in areas north of 8DA11415. The lack of discrimination towards those with Jewish heritage allowed for a unique and flourishing Jewish community. The resource also remains significant under Criterion C as the district provides excellent examples of Art Deco, Art Moderne, Mid-Century Modern, and Mediterranean Revival.

Furthermore, structures within the district are representative of master works of several significant architects credited with the overall design, development, and aesthetics of Miami Beach. Some of the influential architects includes Lawrence Murray Dixon, Henry Hohauser, Carlos Schoepl, Albert Anis, Victor H. Nellenbogen, Anton Skislewicz, and Norden and Nagel. The CRAS report showed that the Ocean Beach Historic District maintains a level of integrity necessary to convey its significance under Criteria A and C. Therefore, SEARCH recommended the Ocean Beach Historic District (8DA11415) eligible for listing in the NRHP.

Effects Assessment

The proposed improvements intersect with the boundaries of the NRHP-eligible Ocean Beach Historic District (8DA11415) along 5th Street (State Road [SR] A1A), as the project corridor in Miami Beach runs along 5th Street from Washington Avenue to the MacArthur Causeway. The project APE encompasses numerous historic structures contributing to the district.

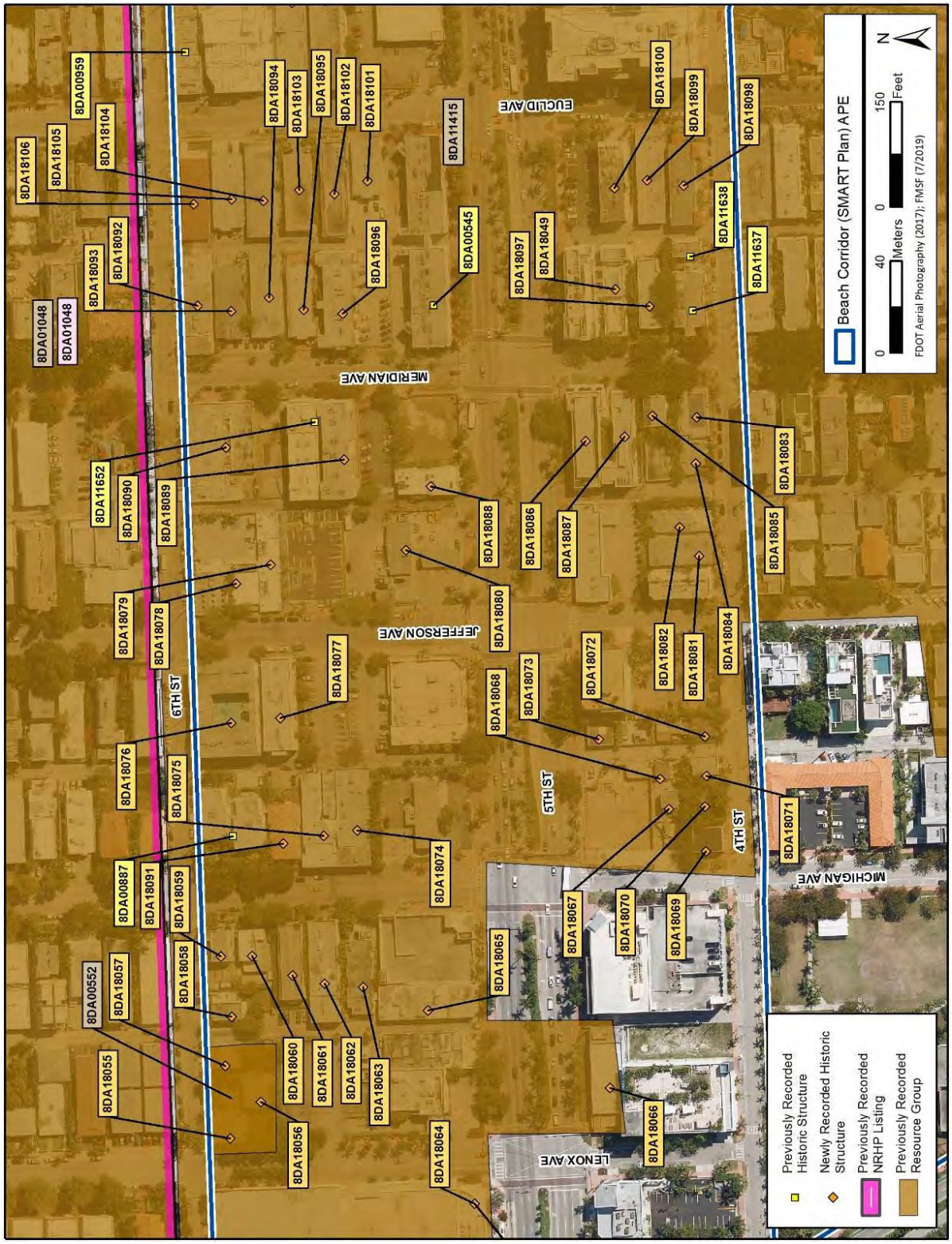

Figure 14. Aerial photograph showing the Beach Corridor (SMART Plan) APE in the vicinity of 8DA11415.

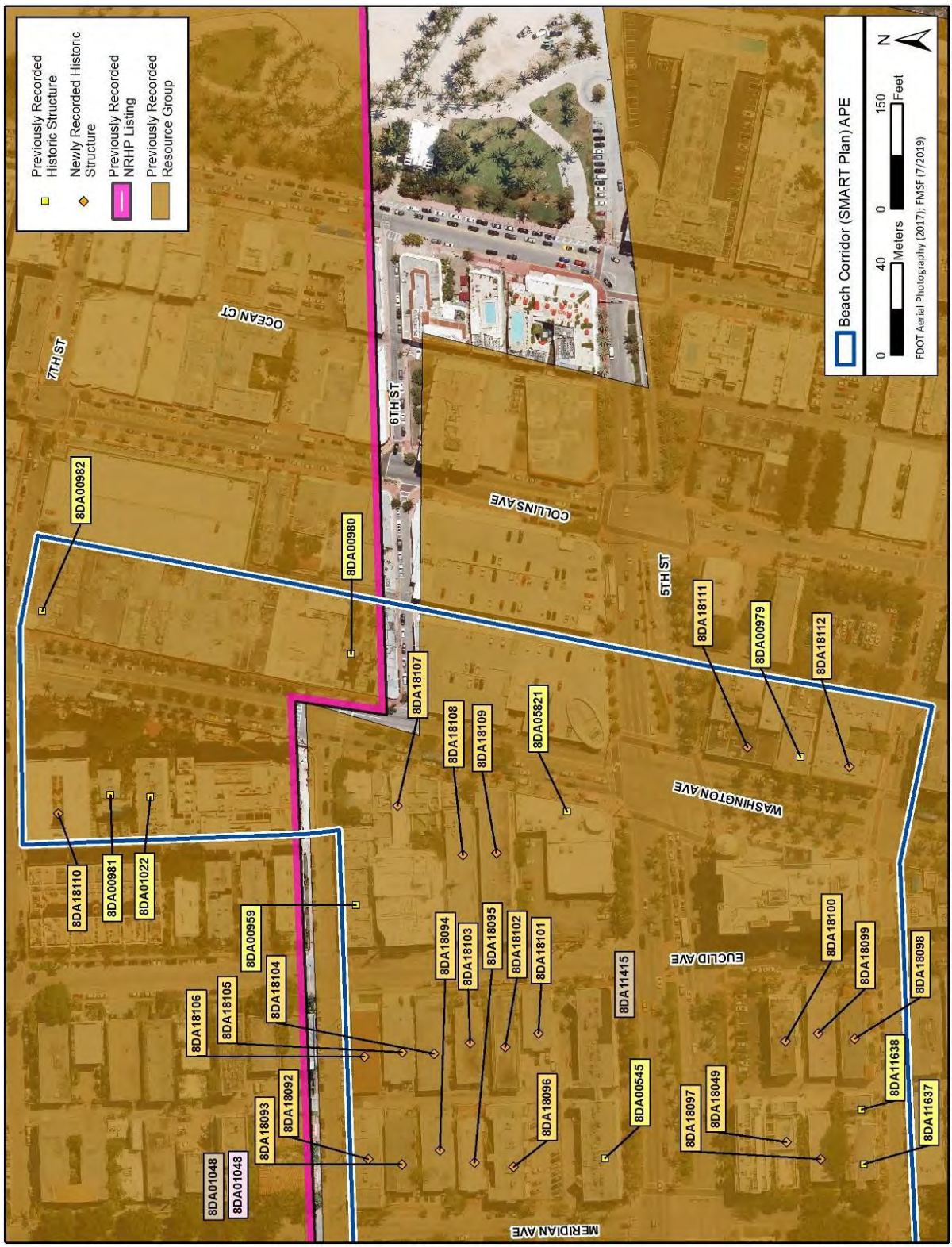

Figure 15. Aerial photograph showing the Beach Corridor (SMART Plan) APE in the vicinity of 8DA11415.

Figure 16. Resource 8DA00545, facing northwest within the Beach Corridor APE.

Figure 17. Resource 8DA00887, facing southeast within the Beach Corridor APE.

Figure 18. Resource 8DA00959, facing southeast within the Beach Corridor APE.

Figure 19. Resource 8DA00979, facing northeast within the Beach Corridor APE.

Figure 20. Resource 8DA11637, facing northeast within the Beach Corridor APE.

Figure 21. Resource 8DA11638, facing northeast within the Beach Corridor APE.

Figure 22. Resource 8DA11652, facing southwest within the Beach Corridor APE.

Figure 23. Resource 8DA18049, facing southeast within the Beach Corridor APE.

Figure 24. Resource 8DA18055, facing west within the Beach Corridor APE.

Figure 25. Resource 8DA18056, facing southwest within the Beach Corridor APE.

Figure 26. Resource 8DA18057, facing east within the Beach Corridor APE.

Figure 27. Resource 8DA18058, facing southeast within the Beach Corridor APE.

Figure 28. Resource 8DA18059, facing southwest within the Beach Corridor APE.

Figure 29. Resource 8DA18060, facing northwest within the Beach Corridor APE.

Figure 30. Resource 8DA18061, facing west within the Beach Corridor APE.

Figure 31. Resource 8DA18062, facing northwest within the Beach Corridor APE.

Figure 32. Resource 8DA18066, facing southeast within the Beach Corridor APE.

Figure 33. Resource 8DA18067, facing southeast within the Beach Corridor APE.

Figure 34. Resource 8DA18068, facing east within the Beach Corridor APE.

Figure 35. Resource 8DA18069, facing northeast within the Beach Corridor APE.

Figure 36. Resource 8DA18070, facing north within the Beach Corridor APE.

Figure 37. Resource 8DA18071, facing northwest within the Beach Corridor APE.

Figure 38. Resource 8DA18072, facing northeast within the Beach Corridor APE.

Figure 39. Resource 8DA18074, facing northeast within the Beach Corridor APE.

Figure 40. Resource 8DA18075, facing southeast within the Beach Corridor APE.

Figure 41. Resource 8DA18076, facing southwest within the Beach Corridor APE.

Figure 42. Resource 8DA18077, facing northwest within the Beach Corridor APE.

Figure 43. Resource 8DA18081, facing northwest within the Beach Corridor APE.

Figure 44. Resource 8DA18082, facing northeast within the Beach Corridor APE.

Figure 45. Resource 8DA18083, facing northeast within the Beach Corridor APE.

Figure 46. Resource 8DA18084, facing northwest within the Beach Corridor APE.

Figure 47. Resource 8DA18085, facing southwest within the Beach Corridor APE.

Figure 48. Resource 8DA18086, facing southwest within the Beach Corridor APE.

Figure 49. Resource 8DA18087, facing northwest within the Beach Corridor APE.

Figure 50. Resource 8DA18088, facing northeast within the Beach Corridor APE.

Figure 51. Resource 8DA18090, facing southwest within the Beach Corridor APE.

Figure 52. Resource 8DA18091, facing east within the Beach Corridor APE.

Figure 53. Resource 8DA18092, facing northeast within the Beach Corridor APE.

Figure 54. Resource 8DA18094, facing northeast within the Beach Corridor APE.

Figure 55. Resource 8DA18097, facing northeast within the Beach Corridor APE.

Figure 56. Resource 8DA18098, facing southeast within the Beach Corridor APE.

Figure 57. Resource 8DA18102, facing southwest within the Beach Corridor APE.

Figure 58. Resource 8DA18107, facing northwest within the Beach Corridor APE.

Figure 59. Resource 8DA18108, facing northwest within the Beach Corridor APE.

Figure 60. Resource 8DA18111, facing southeast within the Beach Corridor APE.

Figure 61. Resource 8DA18112, facing east within the Beach Corridor APE.

Proposed improvements taking place within 8DA11415 involve the construction of an elevated rubber tire mode, either APM or Monorail, that will begin at a new station at Herald Plaza that directly connects with the existing Metromover. It will continue east along a new elevated guideway structure along the south side of MacArthur Causeway, then traverse down the center of 5th Street (**Figure 62**) before terminating at 5th Street and Washington Avenue, in Miami Beach. In Miami Beach, new stations would be provided at 5th Street and Washington Avenue and on 5th Street between Lenox Avenue and Michigan Avenue. The portion of the project corridor roughly between Lenox Avenue and Washington Avenue is within the Ocean Beach Historic District (8DA11415) (see **Figures 14** and **15**). Please refer to Sheet Nos. 232-235 from the 15% project plans in **Attachment A**, which show the proposed improvements within the district.

The proposed improvements within the Ocean Beach Historic District (8DA11415) will not require additional right-of-way from the district, and no historic fabric will be removed or altered by the project. The feeling, setting, and association of 8DA11415 has noticeably changed since 1980, particularly along 5th Street, which is a major east-west thoroughfare that has been altered substantially over the years. Many structures along 5th Street in the vicinity of the improvements have now been noticeably altered or demolished. The current elements present within the 5th Street right-of-way, such as the sidewalks, driveways, curbing, medians, lighting, landscaping, etc. are non-historic and are non-contributing elements, as none contribute to the district's significance.

The improvements associated with this project will not affect the resources that contribute to the district's overall significance. Due to the substantial non-historic changes that have already

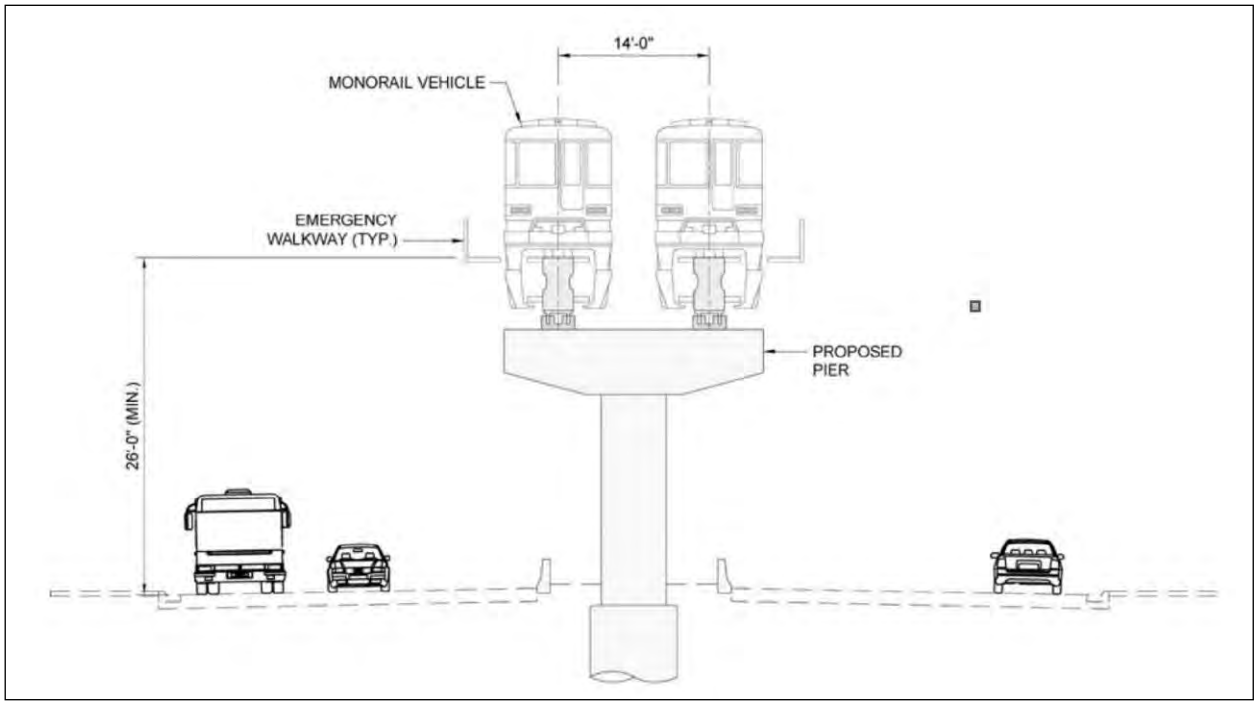

Figure 62. Drawing of the proposed APM/Monorail system along 5th Street in Miami Beach.

affected the 5th Street corridor, the addition of an APM or Monorail and stations down the center of the six-lane thoroughfare will not cause an adverse effect to the district. The integrity of the historic location, design, setting, materials, workmanship, feeling, and association that speak to the district's significance have already been largely removed along 5th Street, with the exception of some of the remaining historic buildings. Additionally, the district will retain its accessibility via car traffic on 5th Street as before, but also receive the benefit of increased accessibility via the new APM or Monorail. The district's current use also will continue as is.

An FTA transit noise analysis also was conducted for the project. Due to the low noise levels inherent to the APM and Monorail transit modes, the study found that there are only two moderate impacts that are along the plotted moderate impact line between moderate impact and no impact and that noise from the project would be below existing noise levels (Parsons 2020). Furthermore, the study concluded that no vibration impacts are projected (Parsons 2020). Due to the high level of current high traffic area compared to the relatively low levels of noise generated by the APM or Monorail modes, the project is not expected to result in any significant ground-borne vibration or noise issues within the historic district. However, continued consultation will take place during the design phase to ensure the surrounding viewsheds and district aesthetics will not be adversely affected.

The addition of the APM/Monorail and associated stations along the central portion of 5th Street will in no way diminish those qualities that render the historic district significant, namely the district's historical connection to the development of Miami Beach, its importance in Jewish ethnic history, or the architecture of its contributing buildings. The project will not interfere with the integrity of the character-defining features that comprise many of the commercial and residential historic resources within the district. SEARCH has determined that the proposed undertaking's effects do not meet the criteria of adverse effect as described above and would not alter any characteristics that qualify 8DA11415 for inclusion in the NRHP in a manner that would diminish any significant aspects of integrity. Based on the current project plans, the Beach Corridor project will have no adverse effects on the NRHP-eligible Ocean Beach Historic District (8DA11415).

CONCLUSION

This technical memorandum provides an effects discussion regarding the proposed Beach Corridor Rapid Transit Project and the effects the project could have on resources within the project's APE. The Beach Corridor Rapid Transit Project will not require the acquisition of right-of-way from the properties, and the indirect effects will not compromise the historical significance or architectural integrity of the resources to the extent that they can no longer convey their importance. Based on a review of the proposed plans, it is the opinion of SEARCH that the project will have no adverse effects to the NRHP-eligible or -listed resources (**Table 4**).

Table 4. Effects Recommendations the Beach Corridor Rapid Transit Project.

FMSF No.	Name/Address	Style	Year Built/Period of Significance	Effects Finding
8DA01048	Miami Beach Architectural District	No Style	1912-1965	No Adverse Effect
8DA01090	City of Miami Cemetery	No Style	ca. 1897	No Adverse Effect
8DA01176	Fire Station No. 2 1401 North Miami Avenue	Mediterranean Revival	ca. 1926	No Adverse Effect
8DA10107	FEC Railway	No Style	ca. 1896	No Adverse Effect
8DA10520	Big Time Equipment, Inc. 59 Northwest 14th Street	Art Deco	ca. 1924	No Adverse Effect
8DA10858	71 Northwest 14th Street	Art Deco	ca. 1921	No Adverse Effect
8DA11415	Ocean Beach Historic District	No Style	1912-1965	No Adverse Effect

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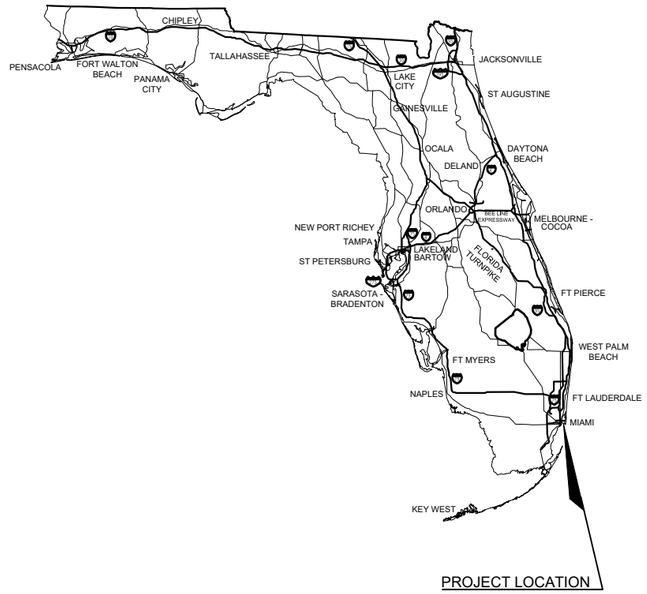
ATTACHMENT A:

SELECT PAGES FROM THE 15% PROJECT PLANS



MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DPTW)

15% CONCEPT PLANS

BEACH CORRIDOR RAPID TRANSIT PROJECT PD&E

MIAMI-DADE COUNTY

BEACH CORRIDOR RAPID TRANSIT PROJECT PD&E

ANGEL ANDRE CHAVARRIA, P.E.
P.E. NO.: 69285
PARSONS
7600 CORPORATE CENTER DRIVE, SUITE 104
MIAMI, FL, 33126
CONTRACT NO.: CIP142-1-TPW16-PE1(1)
PROJECT NO.: CIP153
VENDOR NO.: 360982270 04
CERTIFICATE OF AUTHORIZATION NO.: 1838

MIAMI-DADE DTPW PM:

JIE BIAN, Ph. D.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
T-0000	2020	100

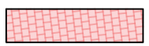
GENERAL LEGEND

- PROPOSED AERIAL EASEMENT
- FDOT R/W
- METROMOVER R/W
- EXISTING 36" WM
- BURIED FIBER OPTIC (D)
- BURIED FIBER OPTIC CABLE (B)
- BURIED FIBER OPTIC ELECTRIC (D)
- BURIED ELECTRIC (A)
- BURIED ELECTRIC (B)
- BURIED ELECTRIC (D)
- BURIED TELEPHONE (B)
- BURIED TELEPHONE (C)
- BURIED TELEPHONE (D)
- BURIED NON-POTABLE WATER LINE (D)
- OVERHEAD ELECTRIC
- BURIED SANITARY SEWER (C)
- BURIED SANITARY SEWER (D)
- BURIED WATER LINE (B)
- BURIED WATER LINE (C)
- BURIED WATER LINE (D)

STATION PLATFORM

MILLING AND RESURFACING PAVEMENT

GRASS MEDIAN



HARDSCAPE MEDIAN

PROPOSED CURB RAMPS

ABBREVIATIONS

A/E	-	ARCHITECT / ENGINEER
AH	-	AHEAD
APPROX.	-	APPROXIMATE
ASPH.	-	ASPHALT / ASPHALTIC
℄	-	BASELINE
BK	-	BACK
BLVD.	-	BOULEVARD
BOT. EL.	-	BOTTOM ELEVATION
BOT.	-	BOTTOM
℄	-	CENTERLINE
CLR.	-	CLEARANCE
CONC.	-	CONCRETE
CONST.	-	CONSTRUCT / CONSTRUCTION
CSWY	-	CAUSEWAY
DIA.	-	DIAMETER
Ø	-	DIAMETER
E	-	EAST / EASTING
EA	-	EACH
EB	-	EASTBOUND
EL.	-	ELEVATION
ENG.	-	ENGINEER
EQ	-	EQUATION
E.W.	-	EACH WAY
EXIST.	-	EXISTING
FT.	-	FOOT / FEET
HOR.	-	HORIZONTAL
IB	-	INBOUND
LT	-	LEFT
MAX.	-	MAXIMUM
MHW	-	MEAN HEIGHT WATER TABLE
MIN.	-	MINIMUM
MLW	-	MEAN LOW WATER TABLE
N	-	NORTH / NORTHING
N.I.C.	-	NOT IN CONTRACT
N.T.S.	-	NOT TO SCALE
OB	-	OUTBOUND
OFF.	-	OFFSET
PAV'T	-	PAVEMENT
PD&E	-	PROJECT DEVELOPMENT AND ENVIRONMENT
PM	-	PROJECT MANAGER
PROP.	-	PORPOSED
RDWY	-	ROADWAY
REQ'D	-	REQUIRED
RT	-	RIGHT
R/W	-	RIGHT OF WAY
S	-	SOUTH
SCHED.	-	SCHEDULE
SDWK	-	SIDEWALK
ST.	-	STREET
STA.	-	STATIONING
STRUCT	-	STRUCTURE
TK	-	TRACK
TK EB	-	EASTBOUND TRACK
TK WB	-	WESTBOUND TRACK
TK XO	-	CROSS OVER TRACK
T/P	-	TOP OF PLINTH
T.O.R.	-	TOP OF RAIL
TYP.	-	TYPICAL
V.C.	-	VERTICAL CURVE
VERT.	-	VERTICAL
W	-	WEST
WB	-	WESTBOUND
WM	-	WATER MAIN
XO	-	CROSS OVER

CURVE / SPIRAL DEFINITIONS:

Ls	-	LENGTH OF SPIRAL MEASURED ALONG THE SPIRAL
Dc	-	DEGREE OF CURVE
R	-	RADIUS OF CIRCULAR CURVE
Δ	-	TOTAL INTERSECTION ANGLE
Δc	-	CENTRAL ANGLE OF CIRCULAR CURVE
Δs	-	CENTRAL ANGLE OF SPIRAL
PC	-	POINT OF CURVATURE
PI	-	POINT OF INTERSECTION (SPIRAL-CURVE-SPIRAL)
PIc	-	POINT OF INTERSECTION (CURVE)
PIs	-	POINT OF INTERSECTION (SPIRAL)
PT	-	POINT OF TANGENCY
TS	-	TANGENT - TO - SPIRAL
SC	-	SPIRAL - TO - CURVE
CS	-	CURVE - TO - SPIRAL
ST	-	SPIRAL - TO - TANGENT
T	-	TANGENT LENGTH FROM PC TO PIc OR PIc TO PT
L	-	LENGTH OF CIRCULAR ARC FROM PC TO PT OR SC TO CS
LC	-	LENGTH OF CHORD FROM PC TO PT OR SC TO CS
E	-	EXTERNAL DISTANCE
M	-	MIDDLE ORDINATE DISTANCE
Ts	-	TANGENT LENGTH FROM TS TO TI OR PI TO ST
Ea	-	ACTUAL SUPERELEVATION (PERCENTAGE)

AGENCIES / COMPANIES

DTPW	-	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
FDOT	-	FLORIDA DEPARTMENT OF TRANSPORTATION
FEC	-	FLORIDA EAST COAST/VIRGIN TRAINS (BRIGHTLINE)
FPL	-	FLORIDA POWER AND LIGHT
MDX	-	MIAMI DADE EXPRESSWAY AUTHORITY
POMT	-	PORT OF MIAMI TUNNEL
SFRTA	-	SOUTH FLORIDA REGIONAL TRANSIT AGENCY

No.	DATE	APP.	REVISIONS
1	05/20	A.CH.	15% CONCEPT PLAN SUBMITTAL

DESIGNED BY: A.CH.
DRAWN BY: R.U. & JMR
CHECKED BY: E.M.
DRAWING SCALE: AS SHOWN

MIAMI-DADE COUNTY

BEACH CORRIDOR RAPID TRANSIT PD&E - CIP # 153

PARSONS
7600 NW 19TH STREET, SUITE 104, MIAMI, FL 33126
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CERTIFICATE OF AUTHORIZATION No. 1838
A. CHAVARRIA, P.E. LICENSE No. 69285

APPROVED | DATE | APPROVED | DATE

DRAWING TITLE: GENERAL NOTES AND LEGEND

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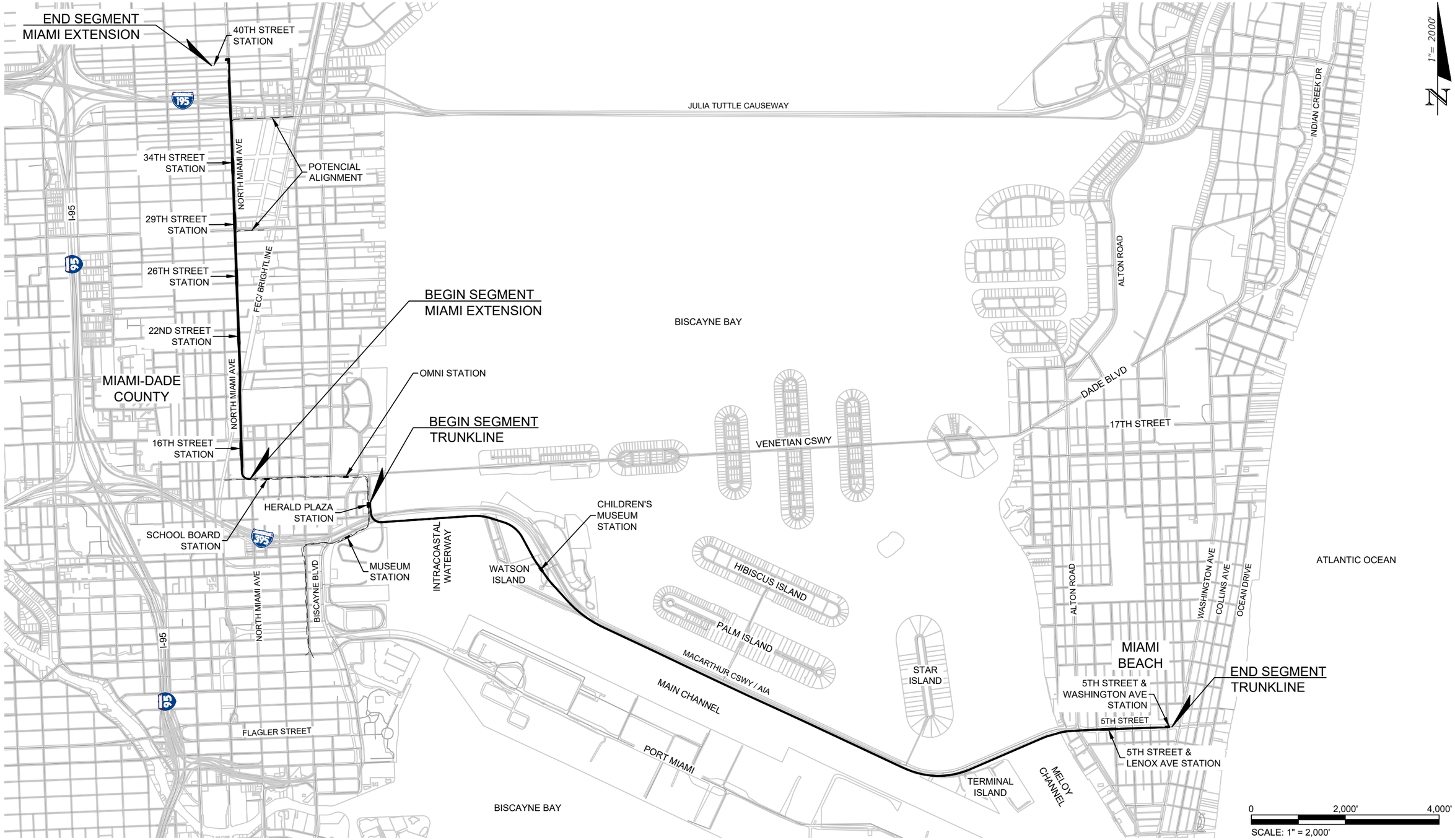

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PEOPLE'S TRANSPORTATION PLAN

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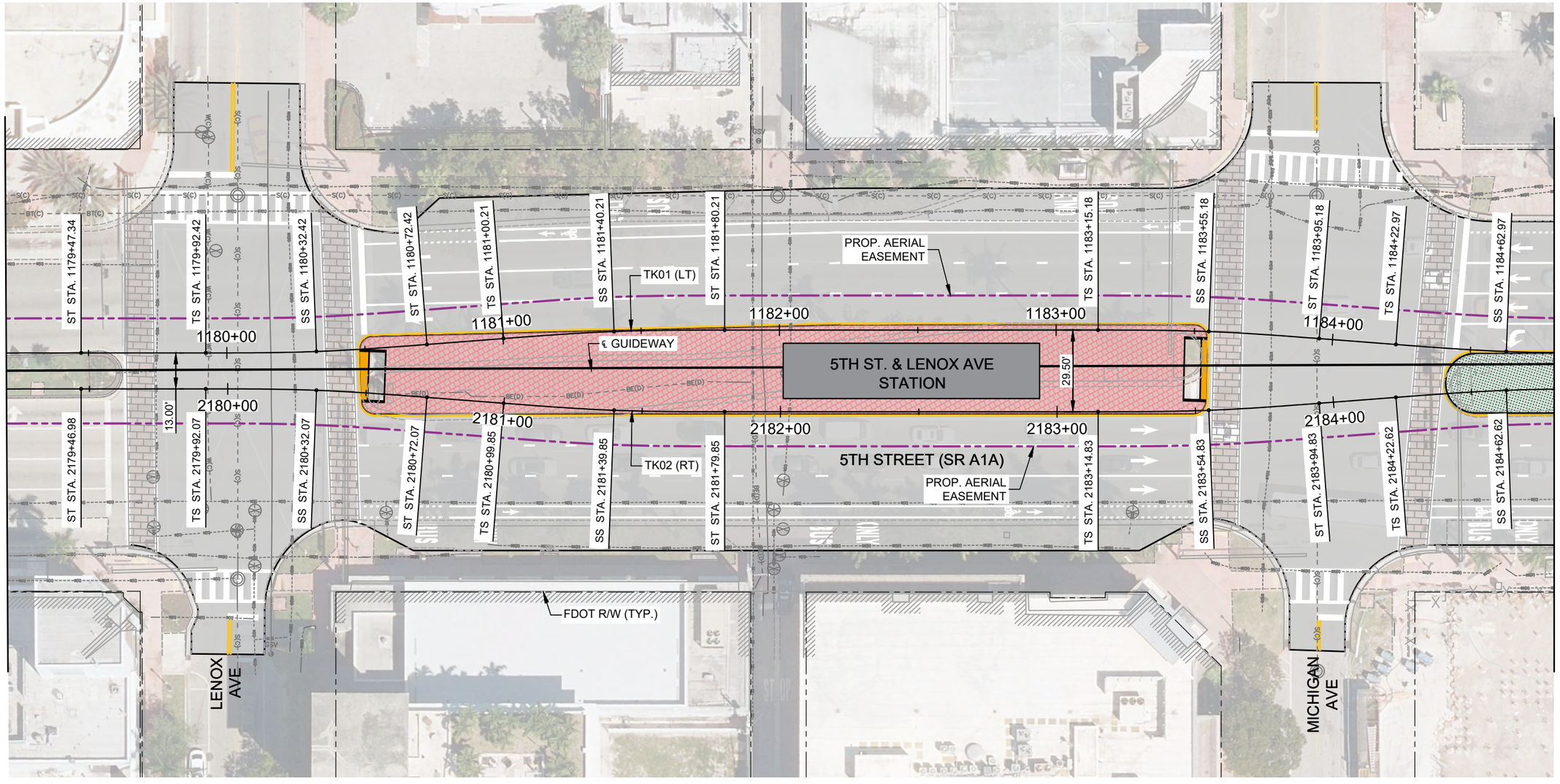

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SHEET NO. 232

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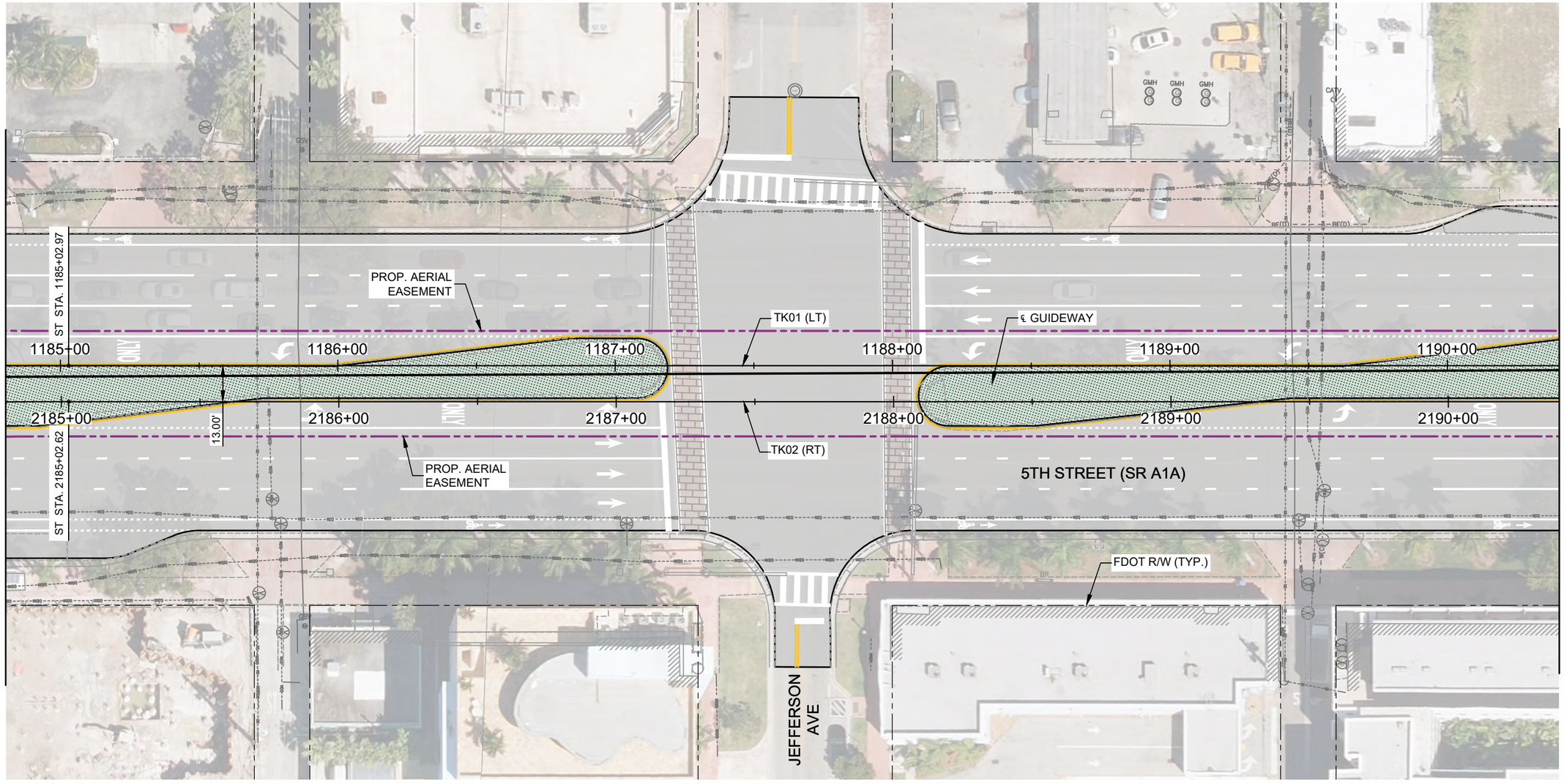

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APPROVED | DATE | APPROVED | DATE

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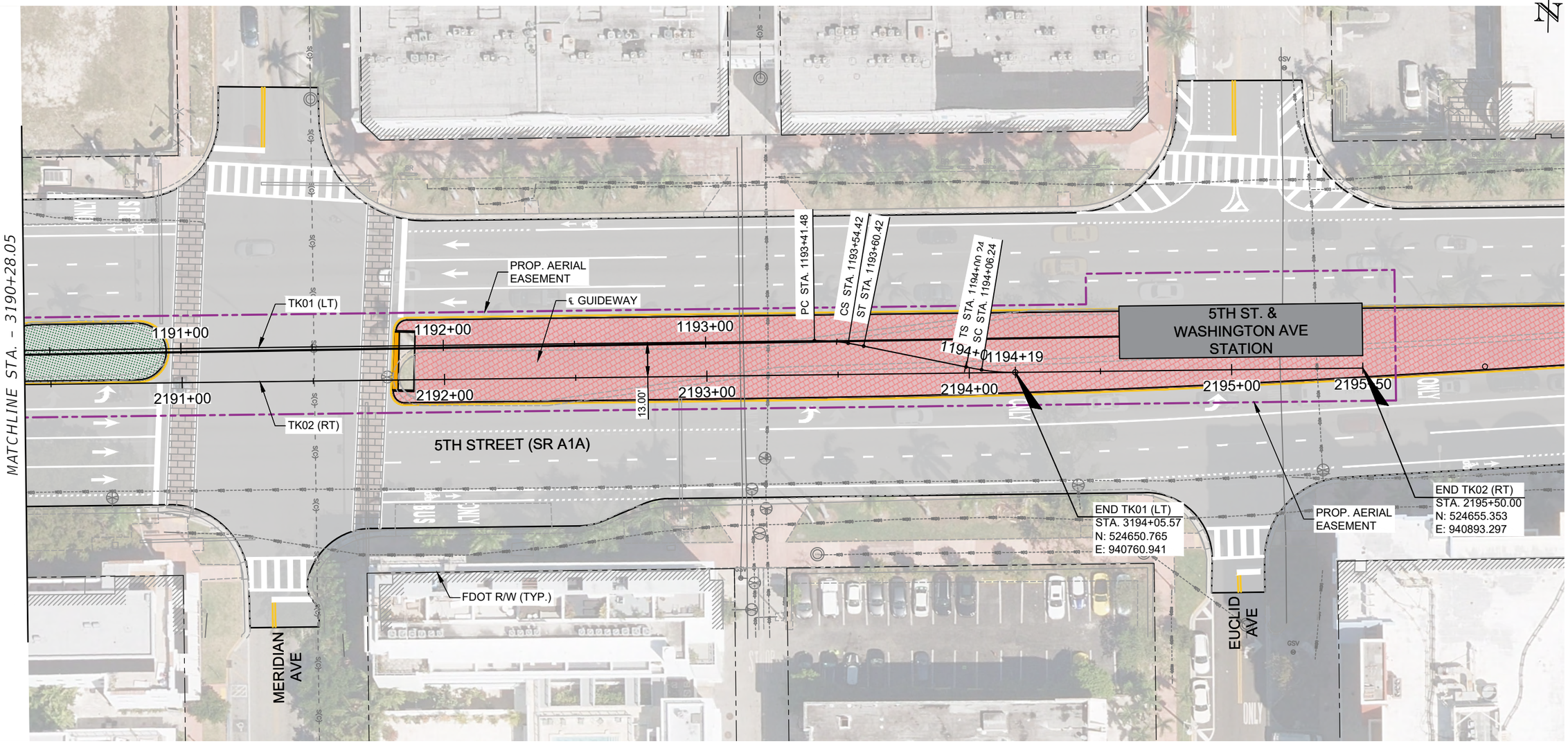

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No.	DATE	APP.	REVISIONS
1	04/20	A.CH.	15% CONCEPT PLAN SUBMITTAL

DESIGNED BY: A.CH.
DRAWN BY: R.U. & JMR
CHECKED BY: E.M.
DRAWING SCALE: AS SHOWN

MIAMI-DADE COUNTY
DTPW TRANSIT
PEOPLE'S TRANSPORTATION PLAN

BEACH CORRIDOR RAPID TRANSIT PD&E - CIP # 153

PARSONS
7600 NW 19TH STREET, SUITE 104, MIAMI, FL 33126
PHONE: (786) 464-1000 FAX: (786) 845-7119
CERTIFICATE OF AUTHORIZATION No. 1838
A. CHAVARRIA, P.E. LICENSE No. 69285

APPROVED | DATE | APPROVED | DATE

DRAWING TITLE:
BEACH CORRIDOR TRUNKLINE - PLAN (35 OF 36)

DRAWING NO.: TTP134
SHEET NO.: 234

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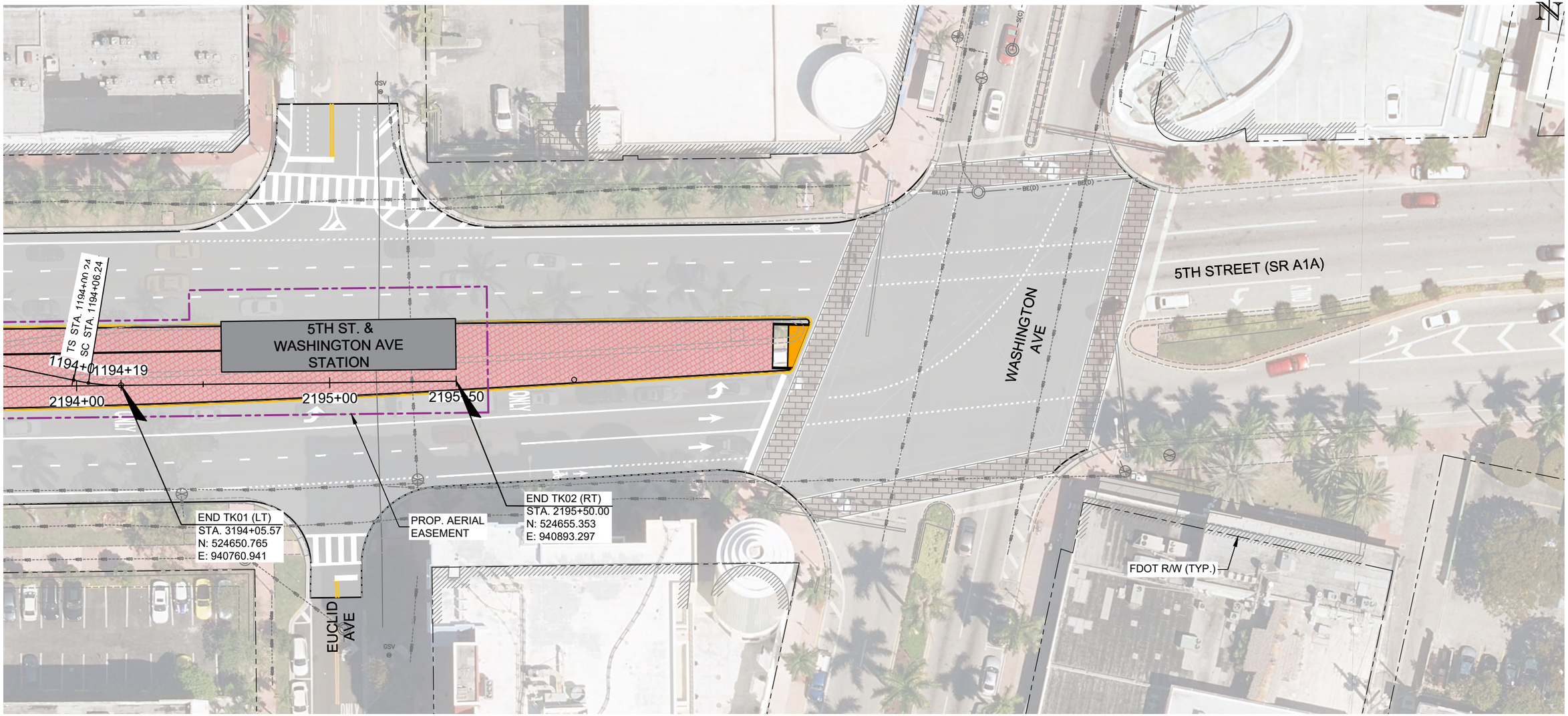

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CHECKED BY: E.M.
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MIAMI-DADE COUNTY
DTPW TRANSIT
PEOPLE'S TRANSPORTATION PLAN

BEACH CORRIDOR RAPID TRANSIT PD&E - CIP # 153

PARSONS
7600 NW 19TH STREET, SUITE 104, MIAMI, FL 33126
PHONE: (786) 464-1000 FAX: (786) 845-7119
CERTIFICATE OF AUTHORIZATION No. 1838
A. CHAVARRIA, P.E. LICENSE No. 69285

APPROVED | DATE | APPROVED | DATE

DRAWING TITLE:
BEACH CORRIDOR
TRUNKLINE - PLAN
(36 OF 36)

DRAWING NO. TTP135
SHEET NO. 235

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1" = 40'

NW 15TH STREET

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ST STA. 4002+69.99

4002+00

BEGIN TK04 (RT)
STA. 5002+99.19
N: 530132.692
E: 921122.312

4003+00

5003+00

N MIAMI AVENUE

4001+00

TK03 (LT)

SC STA. 4000+33.09

R/W (TYP.)

PROP. AERIAL EASEMENT

PT STA. 5003+32.22

TK04 (RT)

PROP. AERIAL EASEMENT

TK03 (LT)

4004+00

TS STA. 4004+88.15

NW 16TH ST

NE 15TH ST

4000+00

TS STA. 4000+03.09

PC STA. 5003+78.19

5004+00

PT STA. 5004+11.22

SS STA. 4005+28.15

4005+00

13.00'

5005+00

MATCHLINE STA. - 4005+39.99

EXISTING METROMOVER

BEGIN SEGMENT (TK03)
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E: 921298.225

METROMOVER R/W

NE 16TH STREET

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DESIGNED BY: A.CH.
DRAWN BY: R.U. & JMR
CHECKED BY: E.M.
DRAWING SCALE: AS SHOWN

MIAMI-DADE COUNTY

BEACH CORRIDOR RAPID TRANSIT PD&E - CIP # 153

PARSONS
7600 NW 19TH STREET, SUITE 104, MIAMI, FL 33126
PHONE: (786) 464-1000 FAX: (786) 845-7119
CERTIFICATE OF AUTHORIZATION No. 1838
A. CHAVARRIA, P.E. LICENSE No. 69285

APPROVED | DATE | APPROVED | DATE

DRAWING TITLE:
BEACH CORRIDOR
MIAMI EXTENSION - PLAN
(1 OF 17)

DRAWING NO. TTP200
SHEET NO. 300

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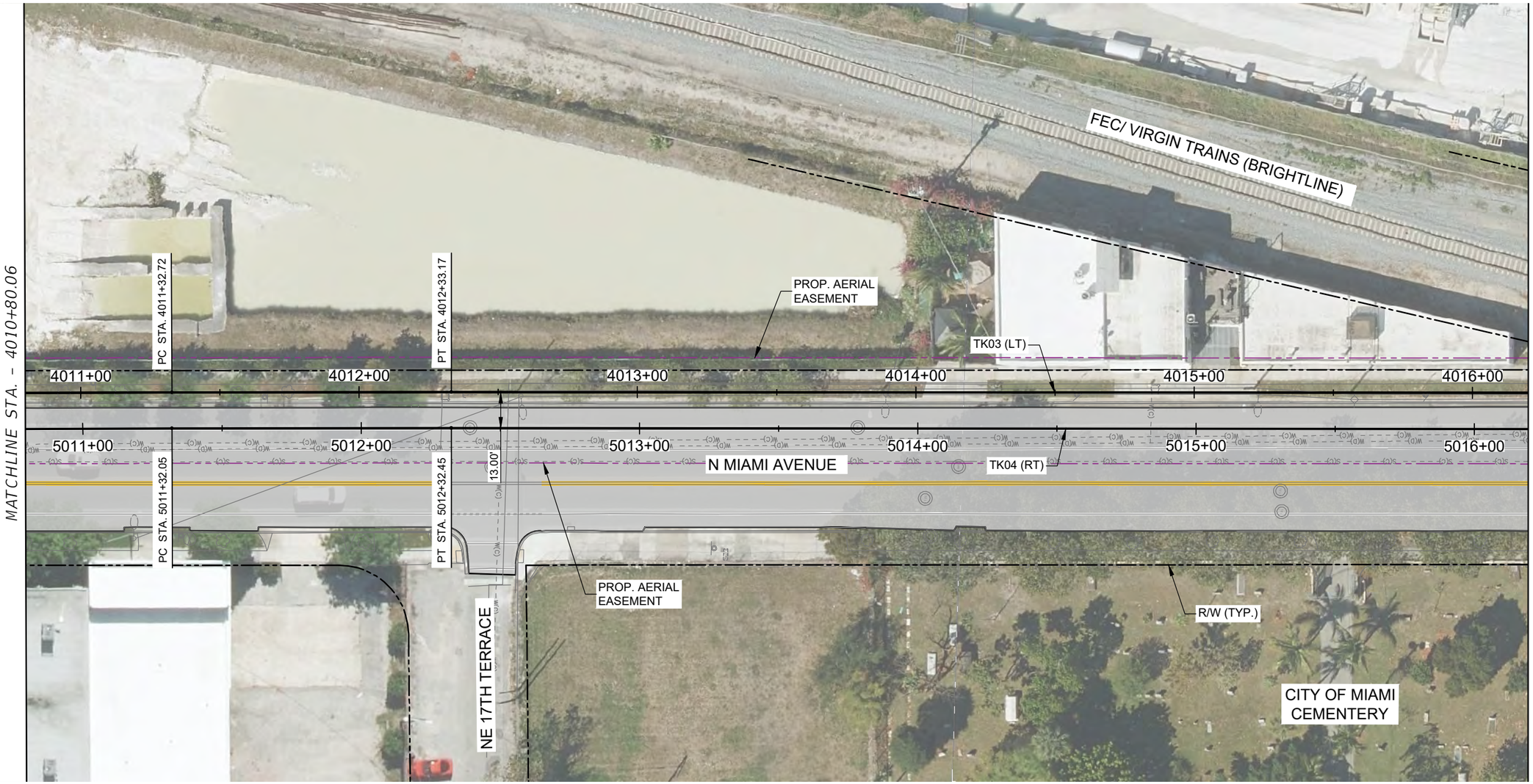

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No.	DATE	APP.	REVISIONS
1	05/20	A.CH.	15% CONCEPT PLAN SUBMITTAL

DESIGNED BY: A.CH.
DRAWN BY: R.U. & JMR
CHECKED BY: E.M.
DRAWING SCALE: AS SHOWN

MIAMI-DADE COUNTY

BEACH CORRIDOR RAPID TRANSIT PD&E - CIP # 153

PARSONS
7600 NW 19TH STREET, SUITE 104, MIAMI, FL 33126
PHONE: (786) 464-1000 FAX: (786) 845-7119
CERTIFICATE OF AUTHORIZATION No. 1838
A. CHAVARRIA, P.E. LICENSE No. 69285

APPROVED | DATE | APPROVED | DATE

DRAWING TITLE:
BEACH CORRIDOR
MIAMI EXTENSION - PLAN
(3 OF 17)

DRAWING NO. TTP202
SHEET NO. 302

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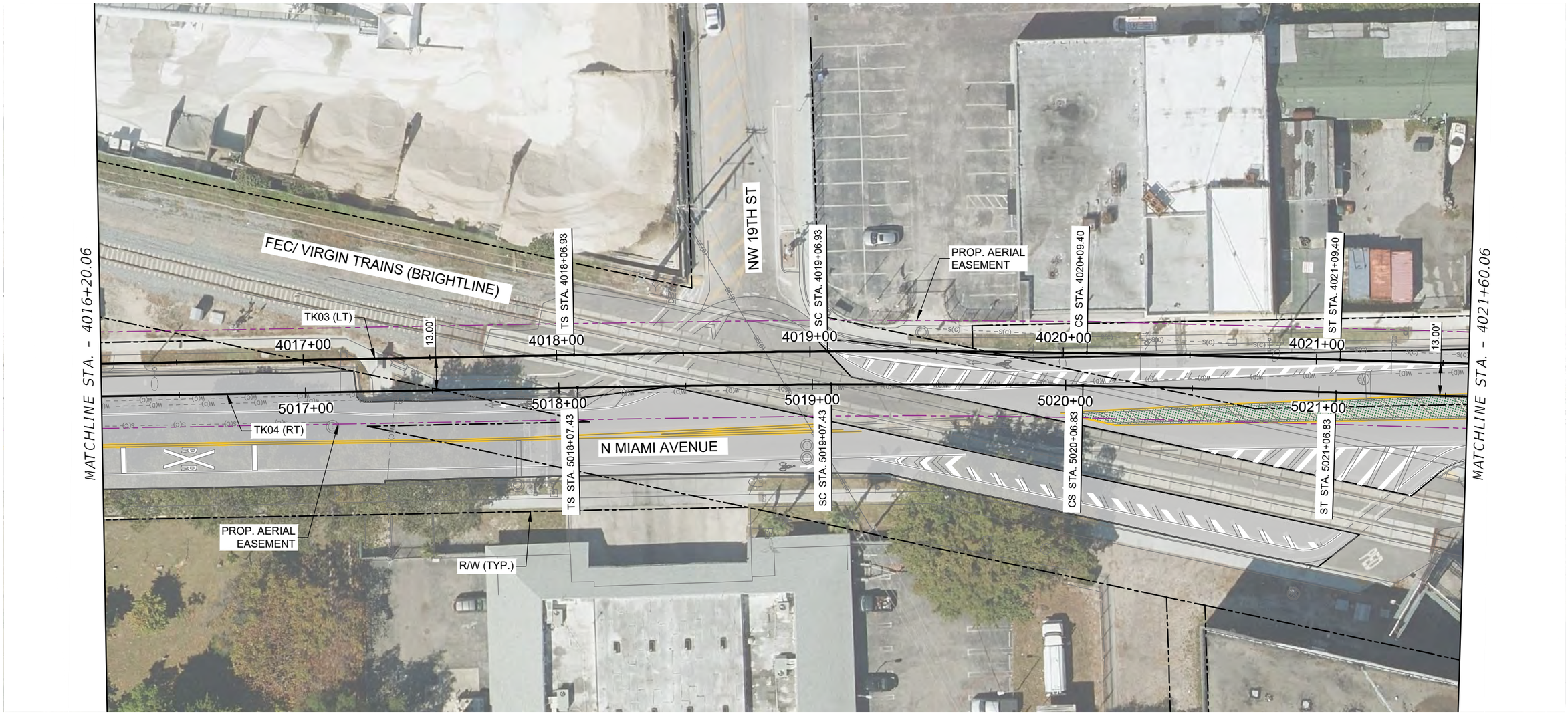

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No.	DATE	APP.	REVISIONS
1	05/20	A.CH.	15% CONCEPT PLAN SUBMITTAL

DESIGNED BY: A.CH.
DRAWN BY: R.U. & JMR
CHECKED BY: E.M.
DRAWING SCALE: AS SHOWN

MIAMI-DADE COUNTY

BEACH CORRIDOR RAPID TRANSIT PD&E - CIP # 153

PARSONS
7600 NW 19TH STREET, SUITE 104, MIAMI, FL 33126
PHONE: (786) 464-1000 FAX: (786) 845-7119
CERTIFICATE OF AUTHORIZATION No. 1838
A. CHAVARRIA, P.E. LICENSE No. 69285

APPROVED | DATE | APPROVED | DATE

DRAWING TITLE:
BEACH CORRIDOR
MIAMI EXTENSION - PLAN
(4 OF 17)

DRAWING NO. TTP203
SHEET NO. 303

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FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

LAUREL M. LEE
Secretary of State

Commander (DPB), Seventh Coast Guard District
909 SE 1st Avenue
Suite 432
Miami, FL 33131-3028

21 January 2021

Attn: Randall Overton

RE: DHR Project File No. 2019-0139C, Received by DHR 14 December 2020
Project: *Beach Corridor Rapid Transit Project Effects Determination*
County: Miami-Dade

Mr. Overton:

The Florida State Historic Preservation Officer reviewed the referenced project for possible effects on historic properties listed, or eligible for listing, on the *National Register of Historic Places.* The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties.*

The effects assessment document states that the proposed undertaking will have no adverse effect on the Miami Beach Architectural District (8DA01048), the City of Miami Cemetery (8DA01090), Fire Station No. 2 (8DA01176), the FEC Railway (8DA10107), Big Time Equipment (8DA10520), 71 Northwest 14th Street (8DA10858), and the Ocean Beach Historic District (8DA11415).

Our office concurs with these recommendations, with the exception of the Ocean Beach Historic District (8DA11415). Based on additional email correspondence regarding the project on January 8, 2020, and the provided renderings of the proposed monorail along 5th Street in Miami Beach, it is the opinion of this office that the proposed undertaking will have an **adverse effect** on the Ocean Beach Historic District (8DA11415). The project, as designed, will adversely affect the setting and feeling for the district by introducing an extended vertical element/vertical massing in the form of a raised platform and by bisecting the district. It will also adversely affect the visual character of the district and contributing resources.

Our office looks forward to continued consultation for this project to avoid, minimize, or mitigate these adverse effects. If you have any questions, please contact Dr. Adrianne Daggett, Archaeologist, Transportation Compliance & Review, by email *adrianne.daggett@dos.myflorida.com*, or by telephone at 850.245.6372 or 800.847.7278.

Sincerely,

Jason Aldridge
For

Timothy A. Parsons, Ph.D.
Director, Division of Historical Resources
and State Historic Preservation Officer

MEMO

To: Timothy A. Parsons (Director FDHR and State Historic Preservation Officer)

Attn: Adrianne Daggett (FDHR)

From: Jason Newton (SEARCH); Mikel Travisano (SEARCH); Mechelle Kerns (SEARCH)

CC: Randall Overton (USCG); Odalys Delgado (Parsons); Beth Chambless (SEARCH)

Date: 4/8/2021

Re: Effects Assessment for the Beach Corridor Rapid Transit Project (SMART Plan)
Miami-Dade County, Florida; Project No. CIP153-1-TPW16-PEI

In June 2020, SEARCH completed a Phase I cultural resource assessment survey (CRAS) of the Beach Corridor Rapid Transit Project (SMART Plan) Study, Miami-Dade County, Florida. The CRAS was submitted to the State Historic Preservation Officer (SHPO) for review, and concurrence was received from the SHPO in a letter dated July 8, 2020 (**Attachment A**). The CRAS and subsequent consultation with the SHPO concluded that there are seven historic resources (i.e., cultural resources listed or eligible for listing in the National Register of Historic Places [NRHP]) located within the project area of potential effects (APE). Due to the presence of these historic resources, SEARCH subsequently produced a technical memorandum addressing project-related effects relative to each of these seven resources. This effects assessment was based on the 15% complete plans submittal provided by Parsons. Based on a review of the proposed plans, SEARCH concluded that the project would have no adverse effects on the NRHP-eligible or -listed resources; this technical memorandum was submitted to the SHPO for review and comment in November 2020. In a letter dated January 21, 2021 (**Attachment B**), the SHPO responded, stating that their office concurs with the recommendations of no adverse effect to six of the seven eligible resources, with the exception being the Ocean Beach Historic District (8DA11415).

As the SHPO has presented concerns that the project will have an adverse effect on the Ocean Beach Historic District (8DA11415), SEARCH is providing this supplementary memorandum in order to provide additional information supporting our recommendation put forth in the effects assessment that the project will have no adverse effect on the Ocean Beach Historic District (8DA11415).

ADDITIONAL CONSULTATION WITH THE CITY OF MIAMI BEACH

The Ocean Beach Historic District (8DA11415) was originally designated as a Local Historic District by the City of Miami Beach in 1995. As this district was initially identified and delineated by the City of Miami Beach, SEARCH conducted additional consultation with the City regarding the project. Ms. Deborah Tackett, Historic Preservation Chief with the Planning Department at the City of Miami Beach, had previously stated via email that she did not have any concerns regarding

adverse effects on the City's cultural resources. This statement was received via email as a result of the Certified Local Government (CLG) coordination undertaken for the CRAS and was referenced in that document. A copy of this email response is included as **Attachment C**. As part of ongoing consultation with the City, SEARCH Architectural Historian Jason Newton spoke at length with Ms. Tackett in order to better understand the City's position and to obtain any thoughts the City may have regarding the project or any desired minimization/mitigation efforts. In an effort to better clarify the City's position regarding the project in relation to the Ocean Beach Historic District, Ms. Tackett provided a letter detailing the City's position that the proposed improvements will have no adverse effect on the Ocean Beach Historic District. This letter is provided as **Attachment D**, and it highlights several important reasons for the City's decision. Coordination with the City of Miami Beach will be ongoing as the project progresses.

THE HISTORIC TROLLEY IN MIAMI BEACH

One noteworthy historical aspect of the project corridor along 5th Street in Miami Beach, where the current project is proposed, is that it was formerly the site of the old trolley route. The first streetcar using overhead wires began Miami's electric trolley system on January 7, 1922 (Miami History 2012). Soon after the establishment of the downtown streetcar, the electric trolley system was extended to Coral Gables. Following this first major extension, the trolley expanded to several lines, including a line to Miami Beach, which was constructed after the 1926 hurricane (Miami History 2012). The trolley continued to provide the public with much needed mass transportation between Miami and Miami Beach throughout the 1920s and 1930s (**Figure 1**). It was the hurricane that struck Miami on November 4, 1935, that marked the beginning of the end of the last trolley system in Miami. After this storm, the two trolleys connecting Coral Gables and Miami ceased operation. In 1939, the streetcar service to Miami Beach, via the County Causeway (later renamed the MacArthur Causeway), also ended. In November 1940, the last trolley car in Miami ceased operation, ending the trolley era in Miami (Miami History 2012).

Figure 1. Trolley No. 301 in Miami Beach in 1938.
Source: Florida Memory 1938.

This historical use of this corridor as the old trolley route was pointed out by Ms. Tackett in telephone conversations regarding the project, as well as in the letter she has provided detailing her position on effects to the historic district. The current project involves the reinstating of public mass transit to an area where it was historically present along 5th Street. The City believes the proposed automated people mover (APM)/monorail will have positive impact on commercial

business and tourism within the district, as well as the City of Miami Beach as a whole. This connection with business and tourism is vitally important to the district, just as it was in the 1920s and 1930s. The re-establishment of a public mass transit line along 5th Street will help to keep the historic use and function of this corridor alive.

In comparison with the historic trolleys that once utilized this corridor, it also is imperative to point out the vital importance of any modern mass transit facilities being elevated. One of the major factors in the ultimate failure of the historic trolley was its vulnerability to hurricanes, as it was constructed at-grade or just a few feet above sea level along the MacArthur Causeway. Due to climate change and the additional challenges being faced by coastal communities, such as Miami Beach with regard to sea-level rise and potential hazardous storms, it is no longer practical to construct a mass transit line at-grade in Miami Beach. Therefore, what must be instituted is an elevated mass transit line that is safe and functional, but that also blends in with the surrounding character of the district. This is the goal of the current project.

CURRENT CONDITIONS ALONG THE 5TH STREET CORRIDOR WITHIN THE OCEAN BEACH HISTORIC DISTRICT

As previously discussed in the effects analysis, 5th Street currently serves as a major east-west thoroughfare in Miami Beach and has been altered substantially by non-historic modifications over the years. The current elements present within the 5th Street right-of-way, such as the roadway itself, sidewalks, driveways, curbing, medians, lighting, landscaping, etc. are non-contributing to the district's significance or integrity. Although many of the smaller streets within the district to the north and south of 5th Street retain much of their historic character, the integrity of location, design, setting, materials, workmanship, feeling, and association that speak to the district's significance have already been lost along 5th Street. Demolitions, modern infill, and the modernization of the features along the 5th Street corridor have led to this destruction of the historical setting and feeling (**Figures 2-5**).

In the response letter received from the SHPO for the effects evaluation, concerns were expressed that the improvements would "adversely affect setting and feeling for the district by introducing an extended vertical element/vertical massing in the form of a raised platform and by bisecting the district." However, it is important to point out that the district is already bisected by this modernized corridor that no longer retains the historic setting or feeling present in other parts of the district. Not only does SEARCH believe that the addition of the APM/monorail will not cause further division within the district, the facility could in fact help to harmonize the two portions of the district that have already been bisected by modernized 5th Street and help to connect these two sections both visually and in terms of access. Ms. Tackett with the City of Miami Beach concurs with this position, noting that the transit line would be beneficial to the district by serving as a force of harmonization and creating a more pedestrian-friendly streetscape.

Figure 2. Representative view of 8DA11415 within the Beach Corridor APE showing some of the non-historic, multi-story buildings along the 5th Street corridor, facing southeast.

Figure 3. Representative views of 8DA11415 within the Beach Corridor APE showing some of the non-historic, multi-story buildings along the 5th Street corridor, facing southwest.

Figure 4. Representative view of 8DA11415 within the Beach Corridor APE showing some of the non-historic buildings along the 5th Street corridor, facing southeast.

Figure 5. Representative view of 8DA11415 within the Beach Corridor APE showing some of the non-historic, multi-story buildings and demolitions along the 5th Street corridor, facing southeast.

The response letter received from the SHPO also stated concern that the elevated line would "adversely affect the visual character of the district and contributing resources." SEARCH does not believe the improvements associated with this project will adversely affect the remaining individual historic resources that contribute to the district's overall significance. Due to the limited elevation of the APM/monorail compared to surrounding (typically multi-story) structures and its location in the middle of a large, six-lane roadway, the proposed APM/monorail will not cause adverse visual effects to the district's contributing resources.

Although the view from the front of these buildings along 5th Street will be altered, as the elevated line will be visible, SEARCH does not believe that this would constitute an adverse effect. Due to factors such as substantial non-historic infill and demolitions on parcels along 5th Street, particularly along the south side of the road, as well as the modern nature of the roadway/ corridor itself, there is no longer a historic viewshed from the front of any remaining contributing buildings left to preserve (**Figure 6**).

CURRENT CONCEPT DRAWINGS AND THE CONTINUING DESIGN PROCESS

With regard to the ongoing project design process, it is important to emphasize that the renderings that were provided to the SHPO upon request in January 2021 are preliminary concept drawings that are based on 15% plans; they do not depict the intended design of the facility. Rather, these designs will be developed and refined during the next phase of the project. In particular, the design of the two stations that will be located within the historic district have yet to be developed. As the project moves forward, Miami-Dade County will work with the SHPO and the City of Miami Beach to ensure that a design is implemented that will be harmonious with the district. Some possible ideas may involve:

- Incorporating Art Deco detailing in the design of the rail/stations/canopies to better harmonize with the remaining historic resources that contribute to the district;
- Incorporating stucco, Spanish tile, or other elements into the rail/stations/canopies in an effort to recreate some of the original design elements that were featured on the original Miami trolley stations (**Figure 7**);
- Incorporating landscaping in the medians below the tracks (which are currently rendered as concrete islands); grass, palms, and seagrape could be used to mimic the current landscaping and Miami Beach character; and/or
- Incorporating public interpretation elements to engage with the public about the history of the district; such elements could include interpretive displays/signage on the walls of the APM/monorail facilities.

There are numerous examples of incorporating Art Deco elements into the design of new structures (in this case, of the rail/station/canopies) in an effort to minimize visual effects to a historic district or resource group. **Figure 8** is an example of a modern Art Deco-inspired light rail station that was constructed in 2009 at Fair Park in Dallas, Texas. In this example, the architects

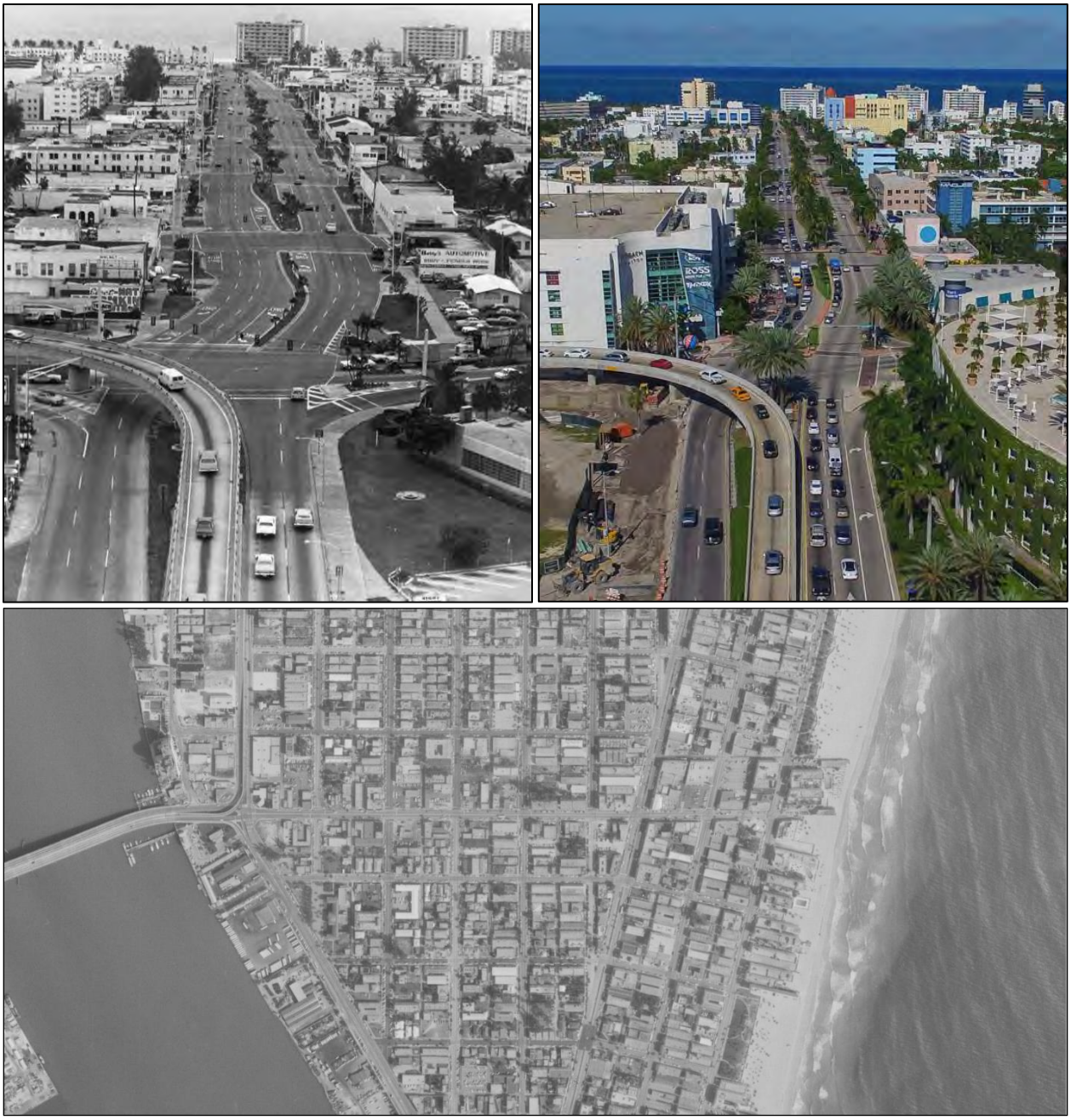

Figure 6. Aerial images showing the changes to the 5th Street corridor over the years. The image at top left dates from 1980 (Source: Florida Memory 1980). The image on the top right dates from 2015 (Source: Golden Dusk Photography 2015). The image on the bottom dates from 1968 and shows 5th Street with four lanes (Source: Florida Department of Transportation [FDOT]) 1968.

skillfully emulated, but did not attempt to duplicate, the original Art Deco buildings located in Fair Park. Through the use of motifs, materials, and lighting, the modern station blends in harmoniously with its Art Deco surroundings. Although this particular station is not elevated, it still serves as an excellent example of harmonizing the modern structure with its surroundings through the incorporation of Art Deco elements.

CONCLUSION

The effects evaluation for the Ocean Beach Historic District (8DA11415) applied the Criteria of Adverse Effects as defined in the Section 106 implementing regulations, 36 CFR part 800.5:

Figure 7. Trolley Car No. 109 eastbound on 5th Street. Source: Florida Memory 1921.

> *An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.*

Due to the substantial non-historic modifications that have affected the 5th Street corridor, the addition of an APM/monorail and the two stations along the center of the modern six-lane thoroughfare will not cause an adverse visual effect to the district. The historic viewshed along 5th Street has already been lost, and the few remaining structures along this thoroughfare that contribute to the district are already adjacent to non-historic buildings and the modernized roadway. The characteristics that qualify the Ocean Beach Historic District for NRHP eligibility,

Figure 8. Fair Park Station. Courtesy of Brad J. Goldberg, Inc. (n.d.).

specifically its role in Community Planning and Development, and Ethnic Heritage: Jewish (Criterion A) and Architecture (Criterion C), will not be diminished by the project. Along the 5th Street corridor, the district's integrity of design, setting, materials, workmanship, feeling, and association have either been greatly reduced or lost. The re-introduction of a mass transit line, which was historically present along this corridor, will be beneficial to the district by helping to reconnect the two portions that are now separated by the 5th Street corridor.

Miami-Dade County has committed to coordinating with the SHPO regarding the design of the built structures to ensure this mass transit line will be a harmonizing feature within the district and help to alleviate the challenges presented by the current bisected nature of the district.

In summary, based on the discussion presented here and in the effects evaluation, and in view of the County's commitment to maintaining coordination with the SHPO throughout the design process, SEARCH maintains the recommendation that the project will have no adverse effect to the Ocean Beach Historic District (8DA11415).

REFERENCES CITED

Brad J. Goldberg, Inc.

n.d. Fair Park. Electronic document, https://www.bradjgoldberg.com/project/fair-park, accessed March 2021.

Florida Department of Transportation (FDOT)

1968 Aerial Photographs: Dade County. Electronic document, https://fdotewp1.dot.state.fl.us/AerialPhotoLookUpSystem/, accessed April 6 2021.

Florida Memory

1921 Trolley car 109 East bound on 5th Street. Electronic document, https://www.floridamemory.com/items/show/5552, accessed March 2021.

1938 Trolley #301 - Miami Beach, Florida. Electronic document, https://www.floridamemory.com/items/show/144648, accessed March 2021.

1980 5th Street and Alton Road after widening. Electronic document, https://www.floridamemory.com/items/show/55160, accessed October 9, 2019.

Golden Dusk Photography

2015 This Was 5th Street & Alton Road in South Beach In 1980 – Before & After. Electronic document, https://www.goldenduskphotography.com/blog/2015/6/17/south-beach-5th-alton-road-1980-and-now, accessed March 2021.

Miami History

2012 History of the Trolley in Miami. Electronic document, https://miami-history.com/history-of-the-trolley-in-miami/, accessed March 2021.

SEARCH

2006 *Technical Memorandum: Effects Assessment for the Beach Corridor Rapid Transit Project (SMART Plan), Miami-Dade County, Florida*. On file, Florida Division of Historical Resources, Tallahassee, and SEARCH, Newberry.

ATTACHMENT A

SHPO CONCURRENCE LETTER FOR THE CRAS
JULY 8, 2020

FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

LAUREL M. LEE
Secretary of State

Commander (DPB), Seventh Coast Guard District
909 SE 1st Avenue
Suite 432
Miami, FL 33131-3028

8 July 2020

Attn: Randall Overton

RE: DHR Project File No. 2019-0139B, Received by DHR 15 June 2020
Project: *Beach Corridor Rapid Transit Project*
County: Miami-Dade

Mr. Overton:

The Florida State Historic Preservation Officer reviewed the referenced project for historic properties listed, or eligible for listing, on the *National Register of Historic Places*. The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties*.

Our office concurs with the determinations of eligibility as enumerated in the Cultural Resources Assessment Survey (CRAS). We look forward to reviewing the case study for potential effects to eligible or listed properties.

If you have any questions, please contact Dr. Adrianne Daggett, Archaeologist, Transportation Compliance & Review, by email *adrianne.daggett@dos.myflorida.com*, or by telephone at 850.245.6372 or 800.847.7278.

Sincerely,

Jason Aldridge
For

Timothy A. Parsons, Ph.D.
Director, Division of Historical Resources
and State Historic Preservation Officer

ATTACHMENT B

SHPO CONCURRENCE LETTER FOR THE EFFECTS ANALYSIS JANUARY 21, 2021

FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

LAUREL M. LEE
Secretary of State

Commander (DPB), Seventh Coast Guard District
909 SE 1st Avenue
Suite 432
Miami, FL 33131-3028

21 January 2021

Attn: Randall Overton

RE: DHR Project File No. 2019-0139C, Received by DHR 14 December 2020
Project: *Beach Corridor Rapid Transit Project Effects Determination*
County: Miami-Dade

Mr. Overton:

The Florida State Historic Preservation Officer reviewed the referenced project for possible effects on historic properties listed, or eligible for listing, on the *National Register of Historic Places.* The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties.*

The effects assessment document states that the proposed undertaking will have no adverse effect on the Miami Beach Architectural District (8DA01048), the City of Miami Cemetery (8DA01090), Fire Station No. 2 (8DA01176), the FEC Railway (8DA10107), Big Time Equipment (8DA10520), 71 Northwest 14th Street (8DA10858), and the Ocean Beach Historic District (8DA11415).

Our office concurs with these recommendations, with the exception of the Ocean Beach Historic District (8DA11415). Based on additional email correspondence regarding the project on January 8, 2020, and the provided renderings of the proposed monorail along 5th Street in Miami Beach, it is the opinion of this office that the proposed undertaking will have an **adverse effect** on the Ocean Beach Historic District (8DA11415). The project, as designed, will adversely affect the setting and feeling for the district by introducing an extended vertical element/vertical massing in the form of a raised platform and by bisecting the district. It will also adversely affect the visual character of the district and contributing resources.

Our office looks forward to continued consultation for this project to avoid, minimize, or mitigate these adverse effects. If you have any questions, please contact Dr. Adrianne Daggett, Archaeologist, Transportation Compliance & Review, by email *adrianne.daggett@dos.myflorida.com*, or by telephone at 850.245.6372 or 800.847.7278.

Sincerely,

Jason Aldridge
For
Timothy A. Parsons, Ph.D.
Director, Division of Historical Resources
and State Historic Preservation Officer

ATTACHMENT C

CLG CORRESPONDENCE WITH THE CITY OF MIAMI BEACH
NOVEMBER 14, 2019

From:	Tackett, Deborah
To:	Jason Newton
Cc:	Mechelle Kerns
Subject:	RE: City of Miami Beach CLG Coordination for Beach Corridor Rapid Transit Project (SMART Plan) Study CRAS
Date:	Thursday, November 14, 2019 12:11:40 PM
Attachments:	image001.png

Hi Jason,

Although a portion of the plan is located within the Ocean Beach Local Historic District, I do not have any concerns regarding adverse impacts on our cultural resouces.

Hope you are having a great day!

MIAMIBEACH RISING ABOVE

Debbie Tackett
Chief of Historic Preservation
Planning Department
1700 Convention Center Drive – 2nd Floor, Miami Beach, FL 33139
Tel: 305-673-7000 x 26467/ dtackett@miamibeachfl.gov
www.miamibeachfl.gov

From: Jason Newton <jason.newton@searchinc.com>
Sent: Thursday, November 14, 2019 8:40 AM
To: Tackett, Deborah <DeborahTackett@miamibeachfl.gov>
Cc: Mechelle Kerns <mechelle.kerns@searchinc.com>
Subject: City of Miami Beach CLG Coordination for Beach Corridor Rapid Transit Project (SMART Plan) Study CRAS

Good morning Deborah,

SEARCH is conducting a Cultural Resource Assessment Survey (CRAS) in support of the Beach Corridor Rapid Transit Project (SMART Plan) Study, which is partially located within the City of Miami Beach. The Project Development and Environment (PD&E) study will evaluate possible routes for the development of multi-modal transportation corridors to connect the Design District/Midtown Miami, Downtown Miami, and Miami Beach. SEARCH has been contracted by Parsons to support the Miami-Dade Department of Transportation and Public Works (DTPW) in collaboration with the Federal Transit Administration (FTA) and Florida Department of Transportation (FDOT) to evaluate the alternative corridors for the purpose of identifying cultural resource potential and previously recorded historic properties that are listed, or may be eligible for listing, in the National Register of Historic Places (NRHP).

The proposed transit corridor is located in Miami Dade County with portions in the City of Miami and

the City of Miami Beach. This area is urban with a mix of high and low rise residential and commercial buildings contained within a dense grid of two- and four-lane paved streets edged with sidewalks and street parking. Nearly all of the project corridor consists of impervious surface. The main section of the Beach Corridor (SMART Plan) Study Area starts at North Miami Avenue and NE 41st Street near the eastern termini of the Interstate 195 (I-95)/Julia Tuttle Causeway. The route continues south with North Miami Avenue until NW 13th Street where it turns east to the eastern termini of I-395/MacArthur Causeway/State Road (SR) A1A. The route follows MacArthur Causeway and crosses Biscayne Bay heading east to Miami Beach. A separate spur heads south on North Miami Avenue from NW 11th Street until NW 6th Street, turns west on NW 6th Street and south onto NW 1st Avenue to connect with the Wilkie D. Ferguson Metromover Station at NW 1st Avenue and NE 5th Street. This spur connects the new corridor with the existing Metromover transit line. The main section of the corridor Study Area continues east on I-395/MacArthurCauseway/SR A1A and ends on the island of Miami Beach at the intersection of Alton Road and 5th Street. The corridor continues east on 5th Street until it interests with Washington Street, the eastern termini of the Miami Beach section.

As a part of this cultural resources evaluation, consultation with the local CLG is required by the Florida Division of Historical Resources (FDHR). Please note that not all of the project area is located within your jurisdiction, but CLG coordination is also being conducted with the City of Miami and Miami-Dade County. A project location map is attached for your reference.

We would appreciate it if you would let us know if you have any local cultural resource concerns in relation to this project or project area.

Thank you so much,

Jason Newton, M.A., MLIS
Architectural Historian

SEARCH - $SEARCH_2O$
2028 Harrison Street
Suite 204
Hollywood, FL 33020
512-618-2626 cell 754-777-6668 ext. 7602 office
jason.newton@searchinc.com www.searchinc.com

Archaeology–Maritime Archaeology–Architectural History–History & Archives–Museum Services

ATTACHMENT D

LETTER FROM DEBORAH TACKETT,
HISTORIC PRESERVATION CHIEF, CITY OF MIAMI BEACH
FEBRUARY 17, 2021

MIAMIBEACH

City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139. www.miamibeachfl.gov

PLANNING DEPARTMENT
Tel: 305-673-7550, Fax: 305-673-7559

February 17, 2021

Timothy A. Parsons, Ph.D.,
Director and State Historic Preservation Officer
Florida Division of Historical Resources
Florida Department of State
R.A. Gray Building
500 South Bronough Street
Tallahassee, Florida 32399-0250

Attn: Dr. Adrianne Daggett, Transportation Compliance Review Program

RE: DHR Project File No. 2019-0139C
Beach Corridor Rapid Transit Project Effects Determination
County: Miami-Dade

Dear Dr. Parsons,

As Chief of Historic Preservation for the City of Miami Beach, I would like to address the State Historic Preservation Officer's (SHPO's) finding of an adverse effect to the Ocean Beach Historic District (8DA11415). I was previously contacted by SEARCH as part of their Certified Local Government (CLG) coordination during the Cultural Resource Assessment Survey (CRAS) for the subject project, completed in 2020. As I stated via email at that time, I have no concerns regarding adverse effects on the City's cultural resources. This letter is an effort to help clarify and detail my position.

Although a portion of the project corridor is located within the Locally-designated and NRHP-eligible Ocean Beach Historic District (8DA11415), I do not believe the project will adversely affect the district or any historic resources that contribute to the district. The widening of the roadway in 1971 bisected the district with a wide, modern thoroughfare and resulted in the substantial loss of historic fabric on the south side of 5th Street. Further, only two contributing buildings remain on the north side of 5th Street between Alton and Ocean Drive. It is my professional opinion that the addition of an appropriately designed elevated Automated People Mover (APM)/Monorail along this corridor should not cause additional division within the Ocean Beach Historic District. Depending on the design of the proposed elevated rail and stations, which have yet to be developed, the introduction of this transit line may serve as a force of harmonization in this area of the district by narrowing the vehicular lanes, introducing new crosswalks and creating a more pedestrian friendly streetscape. Furthermore, the 5th Street corridor was historically the location of a trolley line that once connected Miami with Miami Beach. The reinstatement of public mass transit that was historically present should have a positive effect on mobility, sustainability, business, and tourism, all of which are historically, and currently, important to the district and the City.

It is the job of the Planning Department of the City of Miami Beach Planning Department to examine all site and building plans to confirm that physical changes proposed to an

existing site or building are consistent with the surrounding aesthetic character of the community. Based on the current 15% plans for the Beach Corridor project located along 5th Street in Miami Beach, the City finds that the proposed improvements should have no adverse effect on the Ocean Beach Historic District or any other cultural resources.

If you have any questions regarding the position of the City in reference to this project, please contact me at 305-673-7000 x 26467.

Sincerely,

Debbie Tackett
Chief of Historic Preservation
Planning Department, City of Miami Beach
1700 Convention Center Drive – 2nd Floor, Miami Beach, FL 33139
Tel: 305-673-7000 x 26467/ dtackett@miamibeachfl.gov

FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

LAUREL M. LEE
Secretary of State

Commander (DPB), Seventh Coast Guard District
909 SE 1st Avenue
Suite 432
Miami, FL 33131-3028

10 June 2021

Attn: Randall Overton

RE: DHR Project File No. 2019-0139D, Received by DHR 14 December 2020
Project: *Beach Corridor Rapid Transit Project Effects Determination*
County: Miami-Dade

Mr. Overton:

The Florida State Historic Preservation Officer reviewed the referenced project for possible effects on historic properties listed, or eligible for listing, on the *National Register of Historic Places*. The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties*.

The effects assessment document states that the proposed undertaking will have no adverse effect on the Miami Beach Architectural District (8DA01048), the City of Miami Cemetery (8DA01090), Fire Station No. 2 (8DA01176), the FEC Railway (8DA10107), Big Time Equipment (8DA10520), 71 Northwest 14th Street (8DA10858), and the Ocean Beach Historic District (8DA11415).

On January 21, 2021, our office issued a letter with a finding of an adverse effect to the Ocean Beach Historic District (8DA11415). Based on additional information provided to our office during an interagency conference call on April 15, 2021, and a memorandum dated May 7, 2021, our office finds that the proposed undertaking will have no adverse effect to historic properties.

We look forward to continuing consultation regarding the design of the built structures. If you have any questions, please contact Dr. Adrianne Daggett, Archaeologist, Transportation Compliance & Review, by email *adrianne.daggett@dos.myflorida.com*, or by telephone at 850.245.6372 or 800.847.7278.

Sincerely,

Jason Aldridge
For
Timothy A. Parsons, Ph.D.
Director, Division of Historical Resources
and State Historic Preservation Officer

U.S. Department of Homeland Security

United States Coast Guard

Commander
United States Coast Guard
Seventh District

909 SE First Avenue
Miami, Florida 33131
Staff Symbol: (dpb)
Phone: (305) 415-6736
Fax: (305) 415-6763
Email: randall.d.overton@uscg.mil

16591
23 June 2020

Mr. Timothy A. Parsons
Director, Florida Division of Historical Resources
State Historic Preservation Officer
R. A. Gray Building – 4th Floor
500 South Bronough Street
Tallahassee, Florida 32399-0250
Sent via email: Jason.Aldridge@dos.myflorida.com and Adrianne.Daggett@dos.myflorida.com

Dear Mr. Parsons:

Enclosed please find a technical memorandum providing a desktop analysis prepared in support of the Beach Corridor Rapid Transit Project (SMART Plan) in Miami-Dade County, Florida. The Miami-Dade County Department of Public Works (DTPW), in collaboration with the US Coast Guard (USCG; lead federal agency for the trunkline) and the Federal Transit Administration (FTA), is conducting a Project Development and Environment (PD&E) study to evaluate possible routes for the development of a multi-modal transportation corridor, known as the Beach Corridor Rapid Transit Project (SMART Plan), to connect the Design District/Midtown Miami, Downtown Miami, and Miami Beach. A Phase I cultural resource assessment survey (CRAS) for the Beach Corridor Rapid Transit Project was completed by SEARCH in April 2020. The enclosed is an addendum to that original CRAS and summarizes a desktop analysis of four proposed maintenance yard facility locations for the preferred technology alternatives for the proposed corridor in the City of Miami. The Miami-Dade DTPW requested the analysis to evaluate the alternative maintenance yard locations with the purpose of identifying cultural resource potential and historic properties that are listed, or may be eligible for listing, in the National Register of Historic Places (NRHP).

For the purpose of this desktop analysis, the Study Area was defined as the boundaries of each proposed maintenance yard location, plus a 100-meter (328-foot) buffer to consider potential direct and indirect effects to historic and cultural resources.

This study was conducted in support of compliance with Chapter 267 of the Florida Statutes and Rule Chapter 1A-46, Florida Administrative Code. All work was performed in accordance with Part 2, Chapter 8 of the Florida Department of Transportation's (FDOT) PD&E Manual (revised July 2020), as well as the Florida Division of Historical Resources' (FDHR) recommendations for such projects, as stipulated in the FDHR's Cultural Resource Management Standards & Operations Manual, Module Three: Guidelines for Use by Historic Preservation Professionals.

The Principal Investigator for this project meets the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716-42).

Due to the anticipation of future federal action, this study supports compliance with Public Law 113 287 (Title 54 U.S.C.), which incorporates the provisions of the National Historic Preservation Act (NHPA) of 1966, as amended, and the Archeological and Historic Preservation Act of 1979, as amended. The study also complies with the regulations for implementing NHPA Section 106 found in 36 CFR Part 800 (Protection of Historic Properties).

There are four proposed locations for the Beach Corridor maintenance yards. Two alternative locations for the preferred technology, the AGT/APM (automated people mover/Metromover), are within the historic Overtown neighborhood in the City of Miami. These proposed maintenance yards are adjacent to the transit corridor, North Miami Avenue, with one alternative on each side. Two additional proposed maintenance yards for the preferred APM/Monorail are located along the Bay Crossing (Trunk Line) Segment. These two proposed maintenance yards are located on Watson Island to the south of the MacArthur Causeway roadway on either side of the Miami Children's Museum. These properties are not part of the existing FDOT right-of-way.

This desktop study found that no previously recorded archaeological resources are documented within the Maintenance Yards Study Area. However, none of the proposed maintenance yard locations have been subject to Phase I archaeological testing, and the two locations along the North Miami Avenue corridor have been developed and occupied since the first quarter of the twentieth century, thus indicating a high probability for historic archaeological resources. Background research indicated that 18 recorded historic structures, two resource groups, and one linear resource have been recorded within the Maintenance Yards Study Area. Of the 21 recorded resources, nine have not been evaluated for NRHP eligibility by the State Historic Preservation Officer (SHPO), 10 have been determined ineligible, and two were determined NRHP-eligible by the SHPO. The Study Area also contains 20 unrecorded historic resources.

The project consultant, SEARCH, recommends that once the preferred Maintenance Yard location along the North Miami Avenue corridor is determined, a CRAS should be performed. The APE for this CRAS should encompass the subject property and be large enough to consider project-related effects to adjacent resources related to the planned elevated train technology. All historic resources within the APE should be recorded and evaluated. The CRAS should include archaeological pedestrian survey and Phase I testing of areas of open ground to determine the presence or absence of cultural resources that may be eligible for listing in the NRHP.

As for the Study Area on Watson Island, only one historic resource, MacArthur Causeway (8DA16540), intersects the Study Area. The SHPO concurred that MacArthur Causeway (8DA16540) is ineligible for listing in the NRHP as a result of the 2020 CRAS. Therefore, the proposed maintenance yards on Watson Island have no potential to affect historic properties. Furthermore, no archaeological testing is required in this area as the island is man-made and has

no potential for unidentified archaeological sites. No additional cultural survey is necessary for either of the proposed maintenance yard locations on Watson Island.

This desktop analysis is being submitted to request your review and comment on the alternative maintenance yard locations and the recommendations for future work. I respectfully request your concurrence with the findings and recommendations presented in this letter and the enclosed memorandum.

If you have any questions, feel free to contact me at (305) 415-6736 or email at randall.d.overton@uscg.mil.

Sincerely,

RANDALL D. OVERTON
Director, District Bridge Program
U. S. Coast Guard Seventh District

Encl: Cultural Resource Desktop Analysis Maintenance Yard Locations (email attachment)

eCopy: Commandant USCG, Bridge Administration (CG-BRG)
Jie Bian, Miami-Dade County Department of Transportation and Public Works

The Florida State Historic Preservation Officer has reviewed the attached report titled Cultural Resource Desktop Analysis in Support of the Beach Corridor Rapid Transit Project (SMART Plan) Proposed Maintenance Yard Locations and

☑ concurs / ☐ does not concur with the recommendations and findings provided in this cover letter for SHPO/FDHR Project File Number 2019-0139E. Or, the SHPO finds the attached document contains _____ insufficient information.

SHPO Comments: We look forward to reviewing the CRAS.

Jason Aldridge DSHPO

Timothy A. Parsons, PhD, Director

July 13, 2021

Date

Florida Division of Historical Resources

CULTURAL RESOURCE DESKTOP ANALYSIS IN SUPPORT OF THE BEACH CORRIDOR RAPID TRANSIT PROJECT (SMART PLAN) PROPOSED MAINTENANCE YARD LOCATIONS, MIAMI, MIAMI-DADE COUNTY, FLORIDA

CONSULTANT:	SEARCH, 2031 Harrison Street, Hollywood, Florida 33020
PRINCIPAL INVESTIGATOR:	Mechelle Kerns, PhD, RPA
CLIENT:	Miami-Dade County and Parsons Transportation Group Inc.
DATE:	April 2021
CONTRACT NO.:	CIP142-1-TPW16-PE1
PROJECT NO.:	CIP153
SEARCH PROJECT NO.:	180194

The Miami-Dade County Department of Public Works (DTPW) is conducting a Project Development and Environment (PD&E) study to evaluate possible routes for the development of a multi-modal transportation corridor, known as Beach Corridor Rapid Transit Project (SMART Plan), to connect the Design District/Midtown Miami, Downtown Miami, and Miami Beach. In support of the PD&E study, SEARCH completed a desktop analysis of four proposed maintenance yard facility locations for the preferred technology alternatives for the proposed corridor in the City of Miami, Miami-Dade County, Florida (**Figures 1-3**). SEARCH has been contracted by Parsons Transportation Group Inc. to support DTPW in collaboration with the US Coast Guard (USCG; lead federal agency for the trunkline) and the Federal Transit Administration (FTA) to evaluate the maintenance yard locations; this desktop analysis was conducted with the purpose of identifying cultural resource potential and previously recorded historic properties that are listed, or may be eligible for listing, in the National Register of Historic Places (NRHP). A cultural resource assessment survey (CRAS) was prepared for the project corridor area of potential effects (APE) in 2020; the 2020 CRAS document to which this analysis serves as an addendum addresses the project description, the prehistoric and historic context of the project area, as well as a historic map and aerial photograph review of the project corridor (SEARCH 2020). This background research is therefore not repeated herein.

The objective of this cultural resource desktop analysis is to compile existing information on known cultural resources and assess the likelihood that unrecorded archaeological sites or historic resources exist within the project area. For the purpose of this desktop analysis, the Study Area was defined as the boundaries of each proposed maintenance yard location, plus a 100-meter (328-foot) buffer to consider potential direct and indirect effects to historic and cultural resources.

LOCATION AND SETTING

Two of the four proposed maintenance yard locations are in the historic Overtown neighborhood in the City of Miami. Both locations consist of urban city blocks containing multiple lots of various

Figure 1. Locations of the proposed Beach Corridor Maintenance Yards.

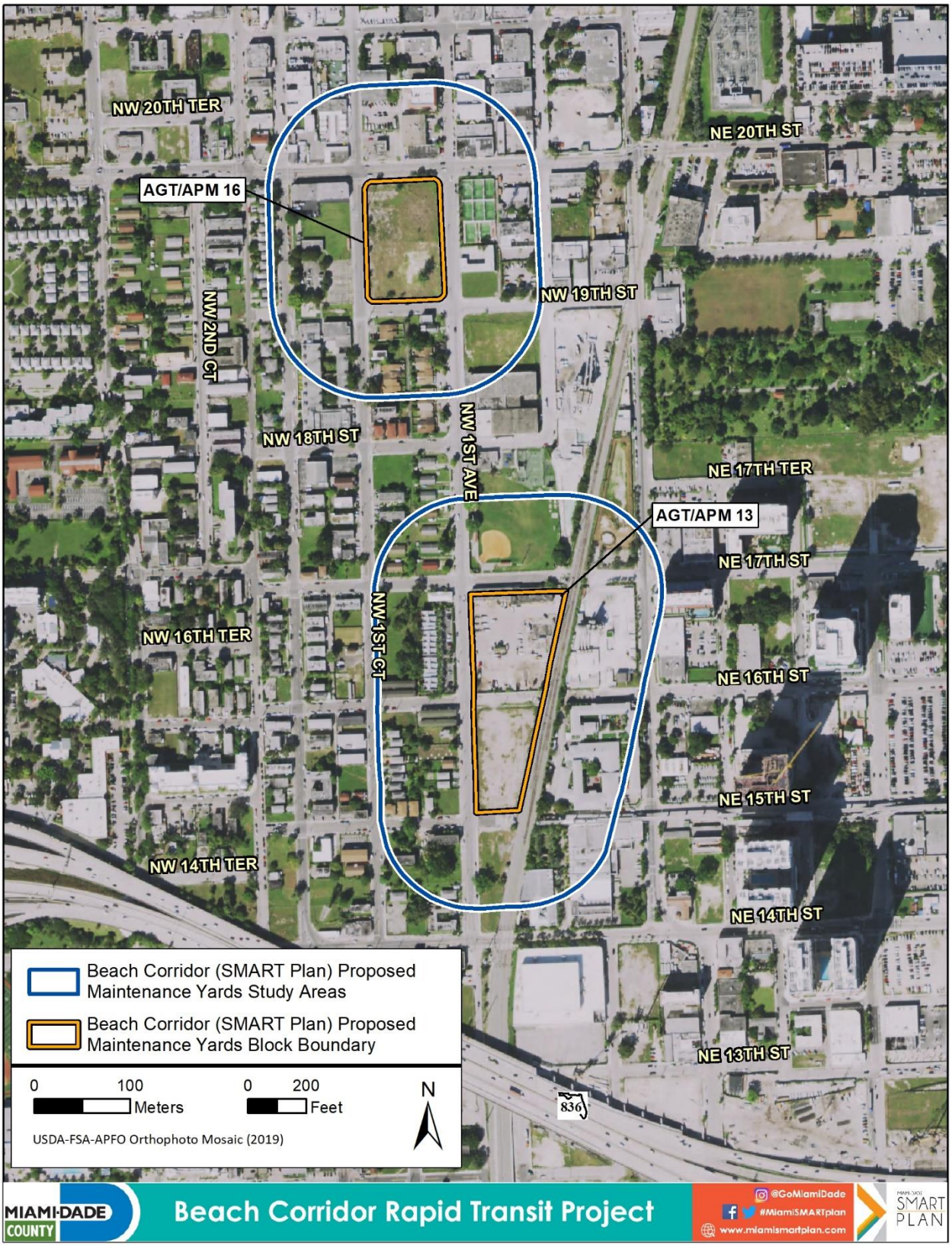

Figure 2. Location of the proposed Beach Corridor Maintenance Yards Study Area along North Miami Avenue.

Figure 3. Location of the proposed Beach Corridor Maintenance Yards Study Area on Watson Island.

sizes and of mixed use. The properties chosen for these proposed facilities are either vacant or with low occupancy; however, historically, the same blocks were subdivided into as many as 14 lots depicting a trend of lot consolidation and variable land use over time (**Figure 4**). Currently, these two proposed facility locations contain a total of five lots. Only one of the lots contains extant structures. The lots would be cleared of existing structures and redeveloped to meet the needs of the elevated transit corridor technology to include a spur of elevated railway, maintenance facility buildings, and parking.

The two remaining proposed maintenance yard locations are on Watson Island in Biscayne Bay along the MacArthur Causeway between Miami and Miami Beach, although the island is within the jurisdictional boundaries of the City of Miami. Watson Island is bisected by US 41/State Road (SR) A1A/MacArthur Causeway, and both of the potential maintenance yard locations are south of the highway (see **Figure 3**). The two parcels proposed for the maintenance yards are currently owned by the City of Miami, with the southernmost parcel containing the Miami Children's Museum and the northernmost parcel vacant aside from a large metal Quonset hut. Watson Island is man-made, was originally created by land reclamation in 1926 with material dredged from the ship channel to the Port of Miami and has expanded with regard to size and development over time.

The Florida Master Site File (FMSF) database was reviewed for any previous surveys or previously recorded resources. Archaeological site probability was based on soil drainage, distance to water, previous land use and occupation, and prior disturbance. In addition, the Miami-Dade County Property Appraiser's database, historic maps, and aerial photographs were reviewed to determine if structures constructed prior to 1975 are located in the vicinity of the proposed maintenance yard locations.

Currently, there are two proposed locations for the Beach Corridor maintenance yards for the preferred technology, the AGT/APM (automated people mover/Metromover), hereafter referred to as AGT/APM 13 and 16 (**Table 1**). The proposed maintenance yards are adjacent to the transit corridor, North Miami Avenue, one on each side (see **Figure 2**).

Table 1. Proposed Maintenance Yard Locations along the North Miami Avenue Transit Corridor.

Technology/ID	Location	Area	City of Miami Plat Block
AGT/APM 13	NE 16th Street & NW 1st Avenue	1.75 a	18
AGT/APM 16	NW 20th Street & NW 1st Court	3.94 a	32 & 39

*Block locations from the northwest corner, see **Figure 2**.*

There are two additional proposed locations for the Beach Corridor maintenance yards for the preferred APM/Monorail along the Bay Crossing (Trunk Line) Segment (**Table 2;** see **Figure 3**). These two proposed maintenance yards are located on Watson Island to the south of the MacArthur Causeway roadway on either side of the Miami Children's Museum.

Table 2. Proposed Maintenance Yard Locations along the Bay Crossing Transit Corridor.

Technology/ID	Location	Area
APM or Monorail/TRUNKLINE 1	980 MacArthur Causeway	2.19 a
APM or Monorail/TRUNKLINE 2	880-950 Macarthur Causeway	4.14 a

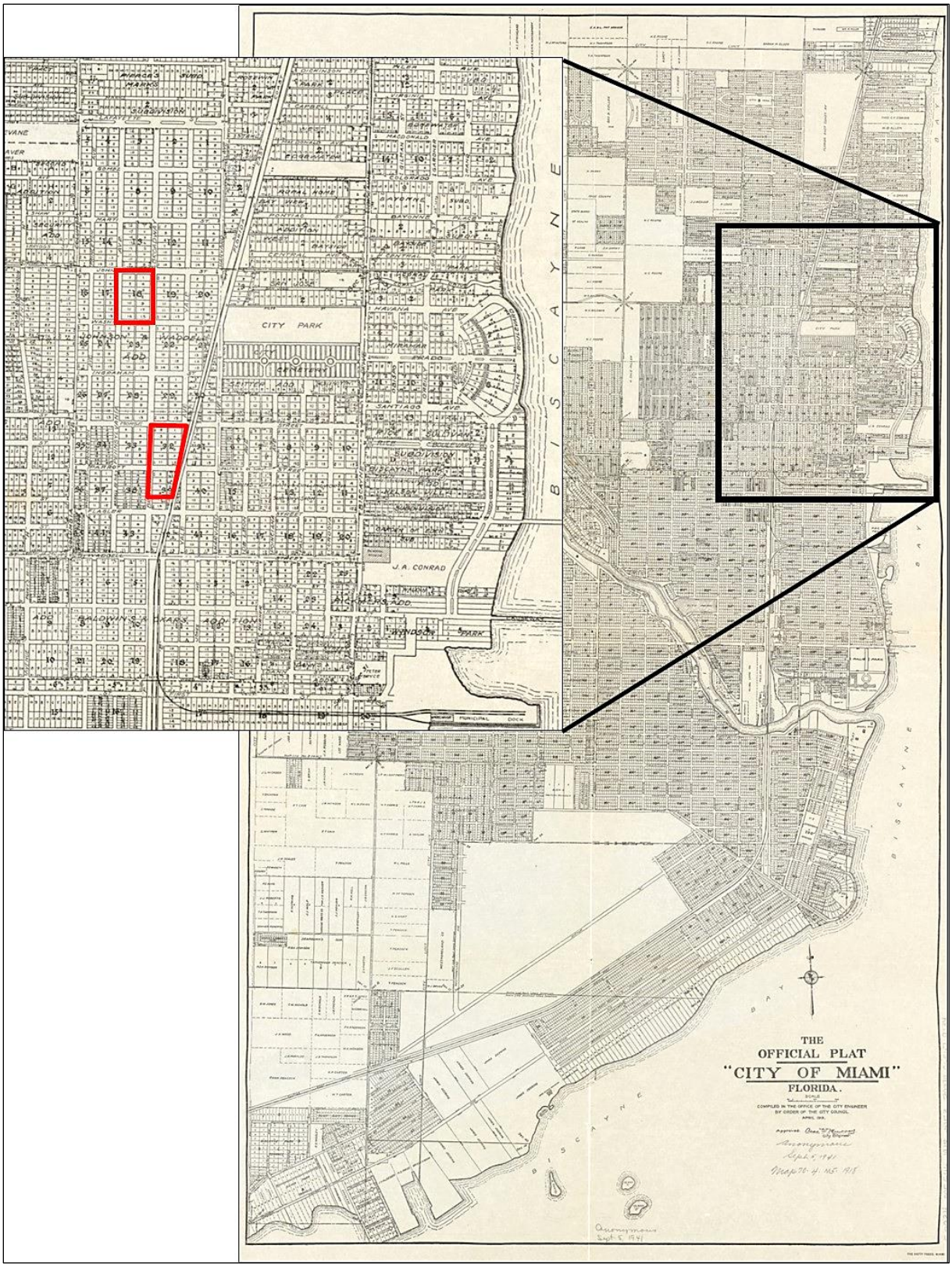

Figure 4. 1918 plat map for the City of Miami showing Blocks 18 and 32/39 of the "Johnson and Waddell's Addition to Miami" subdivision.

For ease of reference, the two properties located along the North Miami Avenue transit corridor will be referred to as Block 18 (which coincides with the proposed location for AGT/APM 16) and Block 32/39 (which coincides with the proposed location for AGT/APM 13) as they appeared in the 1918 City of Miami plat map that depicts the subdivisions and additions of land that made up the city during the first quarter of the twentieth century (see **Table 1**; see **Figure 4**). This section of the city was platted ca. 1910 and was included in the "Johnson and Waddell's Addition to Miami" subdivision, which contained 45 city blocks that were bounded by Waddell Street to the south, Lafayette Street to the north, Columbia Avenue to the west, and Harvard Avenue and the Florida East Coast (FEC) Railroad to the east (see **Figure 4**). In 1920, the street names were changed to a system of numbers; both set of street names are provided for reference in **Table 3**

Table 3. Original and Current Street Names.

Original Street Name	Post 1920/Current Street Name
Waddell Street	NW 14th Street
Flagler Street	NW 15th Street
Parrott Street	NW 16th Street
Morse Street	NW 17th Street
Ingraham Street	NW 18th Street
Washington Street	NW 19th Street
Johnson Street	NW 20th Street
Marti Street	NW 21st Street
Gomez Street	NW 22nd Street
Lafayette Street	NW 23rd Street
Columbia Avenue	NW 2nd Avenue
Harvard Avenue	North Miami Avenue
Yale Street	NW Miami Court
Broadway	NW 1st Avenue
Pennsylvania Street	NW 1st Court
Princeton Avenue	NW 1st Place

BACKGROUND RESEARCH

Previous Surveys

As part of this PD&E study, SEARCH conducted a CRAS of the proposed North Miami Avenue transit corridor, as well as the proposed Trunkline crossing Watson Island (FMSF No. TBD, SEARCH 2020). This current desktop captures the proposed maintenance yard locations along North Miami Avenue, which occur outside the original corridor APE. A review of the FMSF database indicated that six previous surveys overlap or intersect the Maintenance Yards Study Area along North Miami Avenue; however, none of the proposed yard locations have been surveyed for cultural resources (**Table 4; Figure 5**).

Table 4. Cultural Resource Surveys that Overlap or Intersect the Maintenance Yards Study Area Along North Miami Avenue.

FMSF No.	Title	Year	Reference
1085	*Downtown Miami Multiple Resource Area*	1988	Florida Division of Historic Resources (FDHR)
5218	*Cultural Resource Assessment Survey for East-West Multimodal Corridor from West of Palmetto Expressway to Port of Miami, Volume Report, Volume 2: Appendices*	1997	Janus Research, Inc.
13353	*Miami Streetcar Analysis Cultural Resources*	2006	Janus Research, Inc.
14408	*Miami Comprehensive Neighborhood Plan*	1989	City of Miami Planning Department

Table 4. Cultural Resource Surveys that Overlap or Intersect the Maintenance Yards Study Area Along North Miami Avenue.

FMSF No.	Title	Year	Reference
19480	*Cultural Resource Assessment Report for the All Aboard Florida Passenger Rail Project from West Palm Beach to Miami, West Palm Beach, Broward, and Miami-Dade Counties*	2012	Janus Research, Inc.
25872	*CRAS Reevaluation Addendum: I-395 from I-95 to MacArthur Causeway Bridges and SR 836 Improvements from NW 17th Avenue to I-95/Midtown Interchange and I-95 Pavement Reconstruction*	2018	Janus Research, Inc.

Unlike the Maintenance Yards Study Area along North Miami Avenue, the entirety of the Study Area for the proposed maintenance yards on Watson Island was included within the APE for the 2020 CRAS completed by SEARCH. No NRHP-eligible or -listed resources are located within the Study Area on Watson Island. A review of the FMSF database indicated that four previous surveys overlap or intersect the Maintenance Yards Study Area on Watson Island (**Table 5; Figure 6**).

Table 5. Cultural Resource Surveys that Overlap or Intersect the Maintenance Yards Study Area on Watson Island.

FMSF No.	Title	Year	Reference
1789	*Proposed Upgrading of SR A1A from US 1 to Watson Island*	1988	Browning, William D., Melissa G. Wiedenfeld
3086	*A Historical Resource Assessment Survey of the Port of Miami Tunnel and Access Project*	1991	Janus Research, Inc.
5218	*Cultural Resource Assessment Survey for East-West Multimodal Corridor from West of Palmetto Expressway to Port of Miami*	1997	Janus Research, Inc.
26098	*Cultural Resource Desktop Analysis and Field Review for SR A1A/MacArthur Causeway Improvements from SR 5/Biscayne Boulevard to SR 997/Alton Road, City of Miami Beach and City of Miami, Miami-Dade County, Florida*	2019	Janus Research, Inc.

Previously Recorded Archaeological Sites

The FMSF review found that no previously recorded archaeological sites have been documented within the Maintenance Yards Study Area. None of the previous surveys employed archaeological testing on the properties associated with the proposed transit corridor. No Phase I archaeological testing was conducted within the proposed transit corridor during the 2020 CRAS as the setting is urban, densely developed, and covered with impervious surface.

Previously Recorded Historic Resources

The FMSF review shows that there are 18 recorded historic structures, two resource groups, and one linear resource within the Maintenance Yards Study Area (**Figures 7** and **8**). Of the 21 recorded resources, nine have not been evaluated for the NRHP by the State Historic Preservation Officer (SHPO) (one of which has been destroyed, 10 have been determined ineligible, and two were determined eligible for listing in the NRHP [**Table 6**]). None of the

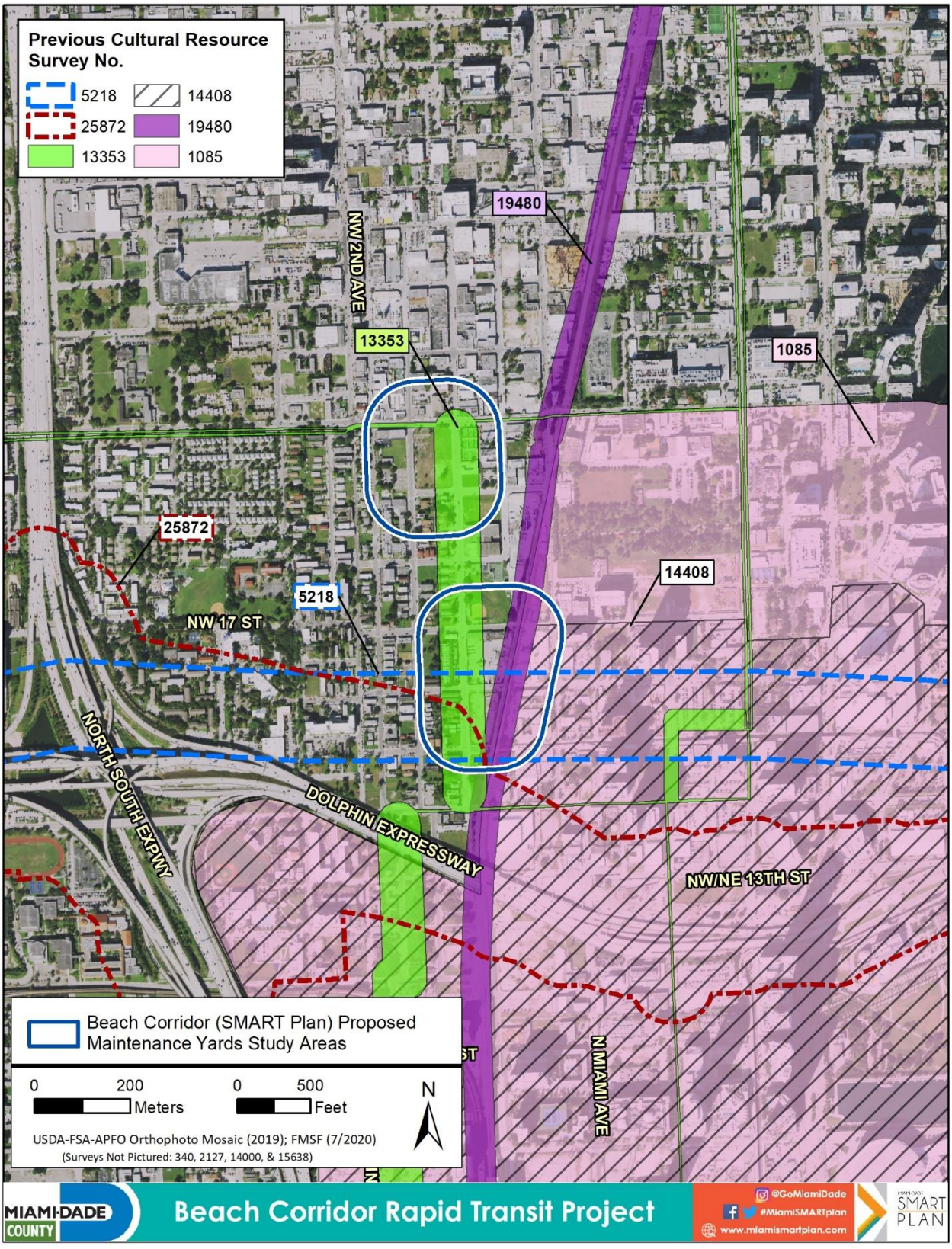

Figure 5. Previous surveys that overlap or intersect with the Maintenance Yards Study Area along North Miami Avenue.

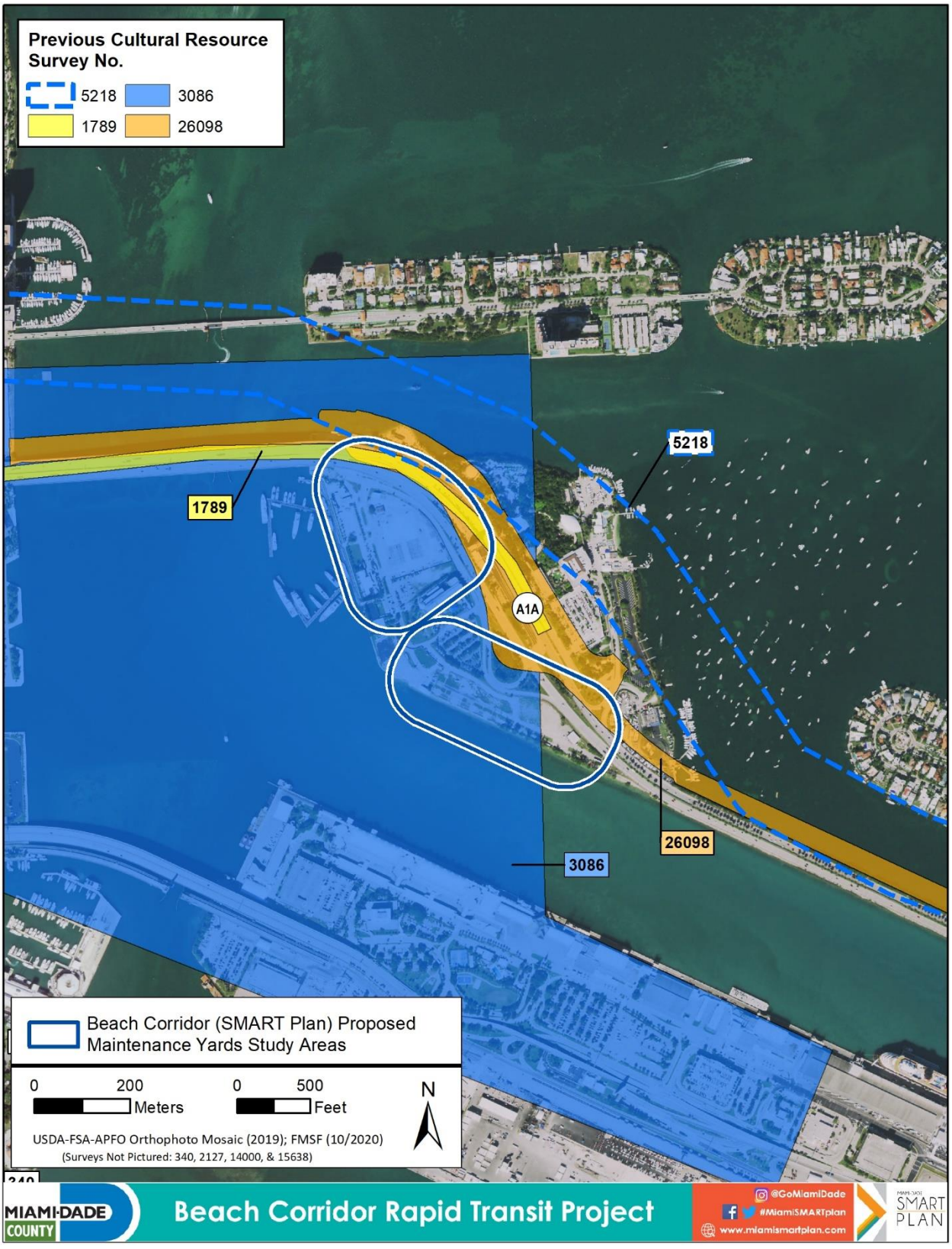

Figure 6. Previous surveys that overlap or intersect with the Maintenance Yards Study Area on Watson Island.

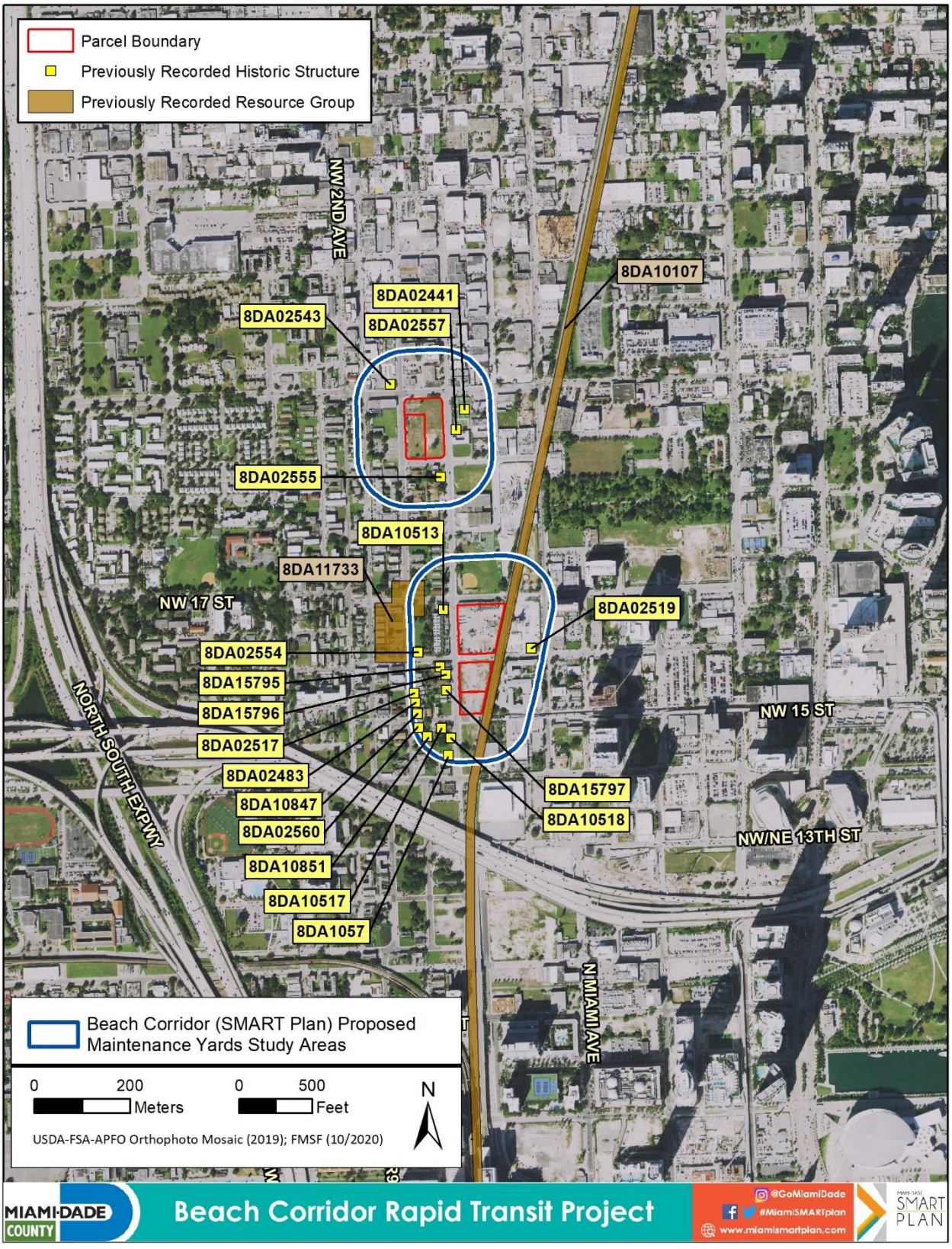

Figure 7. Previously recorded historic resources within the Maintenance Yards Study Area along North Miami Avenue.

Figure 8. Previously recorded historic resource within the Maintenance Yards Study Area on Watson Island.

Table 6. Previously Recorded Historic Structures within the Maintenance Yards Study Area.

Historic Structures				
FMSF No.	**Address**	**Year Built**	**Surveyor Evaluation**	**SHPO Determination**
8DA02441	80 NW 20th Street	c. 1936	Not Evaluated by Recorder	Not Evaluated by SHPO
8DA02483	1527 NW 1st Court	c. 1920	Not Evaluated by Recorder	Not Evaluated by SHPO
8DA02517	1531-1539 NE 1st Court	c. 1920	Not Evaluated by Recorder	Not Evaluated by SHPO
8DA02519	613 NW 16th Street	c. 1930	Not Evaluated by Recorder	Not Evaluated by SHPO
8DA02543	2024 NW 1st Court	c. 1923	Not Evaluated by Recorder	Not Evaluated by SHPO
8DA02554	1629 NE 1st Court	1920	Not Evaluated by Recorder	Not Evaluated by SHPO
8DA02555	1846 NW 1st Avenue	c. 1936	Not Evaluated by Recorder	Not Evaluated by SHPO
8DA02557	1950 NE 1st Avenue	c. 1936	Not Evaluated by Recorder	Not Evaluated by SHPO
8DA02560	1451 NW 1st Court	c. 1920	Documented as Destroyed	Not Evaluated by SHPO
8DA10513*	100 NW 17th	1941	Eligible for NRHP	Eligible for NRHP
8DA10517	1450 NW 1st Avenue	c. 1956	Ineligible for NRHP	Ineligible for NRHP
8DA10518	1440 NW 1st Avenue	c. 1930	Ineligible for NRHP	Ineligible for NRHP
8DA10847	123 NW 15th Street	1940	Ineligible for NRHP	Ineligible for NRHP
8DA10851	1445 NW 1st Court	1957	Ineligible for NRHP	Ineligible for NRHP
8DA10857	1416 NW 1st Court	1954	Ineligible for NRHP	Ineligible for NRHP
8DA15795	1558 NW 1st Avenue	c. 1947	Ineligible for NRHP	Ineligible for NRHP
8DA15796	1540 NW 1st Avenue	c. 1930	Ineligible for NRHP	Ineligible for NRHP
8DA15797	1524-1526 NW 1st Avenue	c. 1920	Ineligible for NRHP	Ineligible for NRHP
Resource Groups				
FMSF No.	**Name**	**Period of Significance**		**SHPO Determination**
8DA11733	D & K Island Project	1940s		Ineligible for NRHP
8DA10107	FEC Railway	Nineteenth Century American, 1821-1899, 1896-1959		Eligible for NRHP
8DA16540	MacArthur Causeway	World War I & Aftermath, 1917-1920		Ineligible for NRHP

** HS-16 Dorsey Memorial Library is a City of Miami Designated Historic Site (2003) (City of Miami n.d.).*
Yellow highlighting indicates eligible resources within the Study Area.

recorded resources have been listed in the NRHP. Two eligible resources are within the Study Area: the FEC Railway (8DA10107) was determined eligible for the NRHP on October 1, 2019, and Dorsey Memorial Library (8DA10513) was determined eligible on October 18, 2006. The Dorsey Memorial Library (HS-16) is a City of Miami-designated Historic Site (City of Miami n.d.). The MacArthur Causeway (8DA16540) intersects the boundaries of the two proposed maintenance yards on Watson Island. None of the other previously recorded historic resources are within the footprints of the maintenance yards along North Miami Avenue. There are no recorded archaeological resources within the Study Area.

UNRECORDED CULTURAL RESOURCES

The objective of this desktop review is to compile existing information regarding known cultural resources and assess the likelihood that unrecorded archaeological sites or historic resources exist within the project vicinity. For prehistoric and/or historic archaeological sites, settlement patterns were influenced by environmental conditions, such as proximity to fresh water, soil drainage, landform elevation, and local vegetation. In general, relatively elevated, better-drained

land within 100 meters (328 feet) of a freshwater source is considered to have a high potential for pre-modern site location. Generally, as distance from a water source increases, site expectancy decreases. Zones of moderate probability are often defined as situated between 100 and 300 meters (328 to 984 feet) of potable water. Settlements with easy access to drinking water are often multicomponent with subsequent inhabitants occupying established locations of resource procurement. For thousands of years, the margins of the Miami River have served as a transportation route and a zone rich with the natural resources required for human habitation.

Archaeological Site Potential

Prehistoric Site Potential

Generally, the period of indigenous occupation of southeast Florida can be divided into four broad periods, three associated with the Glades culture (**Table 7**). Archaeological sites of this type are well documented near the project area and throughout south Florida. The Beach Corridor (SMART Plan) project area is located within the Glades archaeological region, originally defined by Goggin (1947). Geographically, the region encompasses all southern Florida, south of Lake Okeechobee and up the east coast to St. Lucie County. Archaeologically, the region is dominated by the presence of plain, sand-tempered pottery, a technology based on bone and shell tools, and an economy based on freshwater and marine resources (Goggin 1949).

Table 7. Cultural Periods of Indigenous Occupation in South Florida.

Period	Date Range
Archaic	ca 10,000–500 BC
Glades I	500 BC–AD 750
Glades II	AD 750–AD 1200
Glades III	AD 1200–AD 1763

Common environmental variables for prehistoric habitation include elevated landforms, access to fresh water, and/or nearby protected marine habitats. These sites also tend to be situated in areas of well drained to somewhat poorly drained soils near wetlands, ponds, and creeks. All these variables are present within the project area; however, road and bridge construction, buried utilities, and commercial and residual development have resulted in significantly disturbed soils within the portion of the Maintenance Yards Study Area along North Miami Avenue. Use of traditional probability models, based on modern soil type and conditions, are impractical in this case due to the extent of urban development and the type of soil classification noted as “Urban land” (created by disturbance and episodes of fill) that encompasses the entire project area. Due to the extent of urban development within the Study Area along North Miami Avenue, the use of soil type for predicative modeling is not practical as there are no undisturbed areas with natural soils. While modern environmental conditions indicate generally low probability, many sites (such as the Miami Circle [8DA00012]) have been identified in similar conditions elsewhere in the county.

The project area along North Miami Avenue is 0.62 miles (1,000 meters) east of Biscayne Bay and more than 0.93 miles (1,500 meters) northeast of the nearest natural freshwater supply, Warner Creek, which flows into the Miami River. These bodies of water could have provided access to food and drinking water in the past, but are located at such a distance from the proposed Maintenance Yards that they do not possess high potential for prehistoric settlement. The two

sites for the Maintenance Yards along North Miami Avenue are situated at 14 feet (4.3 meters) above mean sea level (amsl). The soils within the Maintenance Yards Study Area at these two locations are recorded as Urban land due to the level of development in this section of the city related to grading and fill deposits as well as urban commercial and residential development. The extant buildings consist of commercial/ light industrial structures related to utilities services. The potential for prehistoric archaeological features and sites is considered low due to the distance from fresh water and previous disturbance related to development (grading, excavation, and infill) and, in some cases, redevelopment of these city blocks.

It should be noted that the Study Area at the two proposed maintenance yard locations on Watson Island are located on fill created by dredging of the ship channel to the Port of Miami in the 1920s. As Watson Island is a man-made island, there is no potential for prehistoric sites at either of these locations.

Historic Site Potential

Table 8. Miami Historic Periods.

Period	Date Range
Early Exploration	1513–1830
Pioneer Era	1831–1895
Formative Years	1886–1913
Suburban Expansion	1914–1919
The Boom	1920–1926
The Bust and The Great Depression	1927–1942

For the historic period, occupation of the Study Area dates to as early as the sixteenth century by the Tequesta, the Spanish, and Anglo-English and is represented in the historic and, in some cases, the archaeological record with multicomponent sites consisting of complex domestic settlements, improved water, ground transportation routes, trading posts, and religious mission sites (**Table 8**) (Wheeler 2004).

Table 9. Current Lots, Recorded and Unrecorded Resources.

Blocks 18 and 32/39 Only	Count
Individual Lots	5
Lots with pre-1975 Structures	1
Vacant Lots	4
Lots with post-1975 Structures	0
Previously Recorded Historic Properties	0
Unrecorded Historic Properties	1

Review of the Miami-Dade County Property Appraiser's database indicated that the two proposed Maintenance Yards properties along North Miami Avenue contain five individual lots, but only one has extant structures (see **Figure 7**). However, the configuration of the proposed parcels has changed dramatically over time (**Table 9**). A map from 1936 shows the early configuration of these city blocks and the number of buildings occupying the lots during the first half of the twentieth century (**Table 10**). Although some of the lots are now vacant, the remains of earlier occupation and structures are likely extant and could be encountered during construction. The potential for historic archaeological sites within the Maintenance Yards Study Area along North Miami Avenue is considered high based on past land use and period of occupation.

Table 10. Comparison of Lot Configurations in 1936 and 2020.

Technology/ID	Maintenance Yard Location*	Current Lots	Lots in 1936*
AGT/APM 13	NW 17th Street & NW 1st Avenue	3	24
AGT/APM 16	NW 20th Street & NW 1st Court	2	14

**Does not represent all lots captured by the Study Area, only physical lots within the proposed locations. Data from G. M. Hopkins & Co. Plat book of Greater Miami, Florida and suburbs (Philadelphia, PA) 1936.*

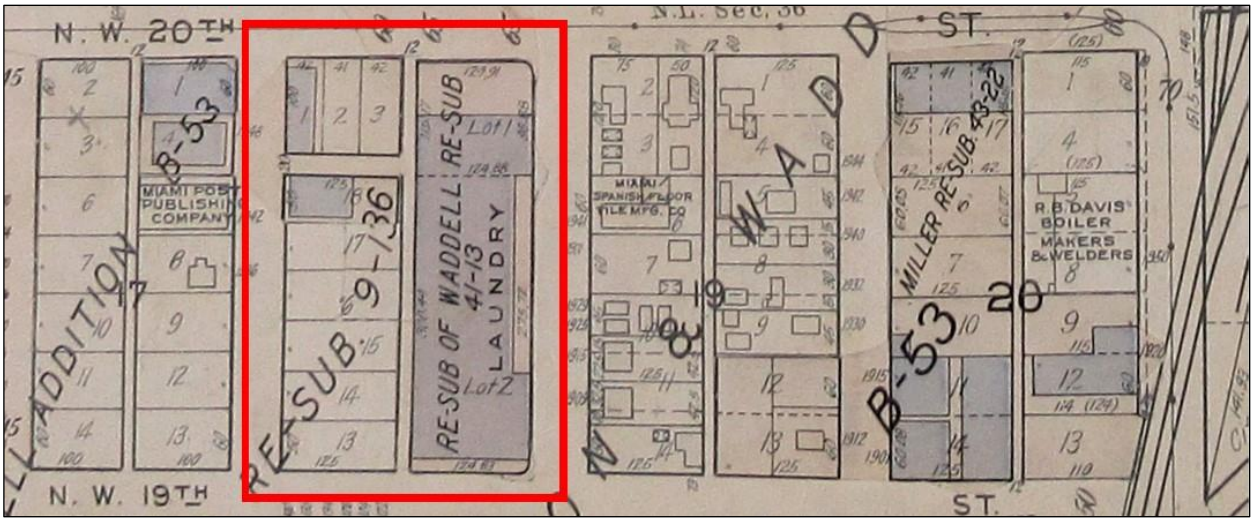

Figure 9. AGT/APM 16 proposed Maintenance Yard location at the corner of NW 1st Court and NW 20th Street (G. M. Hopkins & Co. 1936).

Block 18

The AGT/APM 16 proposed location encompasses one city block (Block 18) located between NW 20th Street and NW 19th Street, bounded by NW 1st Court to the west and NW 1st Avenue to the east (see **Figure 2**). Currently it consists of vacant land composed of two lots recorded as the National Linen Properties subdivision. Buildings were located on the lots until the late 1990s, but were demolished between 1999 and 2002. Block 18 is bisected by a north-south oriented alleyway, and in 1936, the east side was occupied by a large "laundry" building (**Figure 9**). The west side was divided into nine lots: three fronted NW 20th Street (measuring 100 feet by 42 feet) and six fronted NW 1st Court (measuring 125 feet by 50 feet). In 1936, only two structures were mapped on the west side of the lots and the other lots were unimproved (G. M. Hopkins & Co. 1936). This northern section of Miami was first subdivided into lots for sale in ca. 1910 and was originally part of the Johnson & Waddell's Addition to Miami (*Miami News* 1911). Prior to 1910, this section of Miami was agricultural land or undeveloped.

Block 32

AGT/APM 13 includes Blocks 32 and 39 (**Figure 10**). This proposed maintenance yard location consists of two irregular blocks of land between NW 1st Avenue (previously Broadway Street) and the FEC Railway bounded on the north by NW 17th Street (previously Morse Street) and on the south NW 15th Street (previously Flagler Street). Currently, the property is consolidated as two contiguous lots owned by the Florida Power and Light (FPL) utility company. There are small buildings dating to the 1950s and 1960s fronting NW 17th Street; the rest of the lot is vacant. The northern section of the property, Block 32 at NW 17th Street and NW 1st Avenue, was originally part of the Johnson & Waddell Addition to Miami (ca. 1910) and later subdivided into the S. R. Inch Subdivision. In 1925, Block 32 was divided into 12 lots measuring 60 feet by 125 feet with an alleyway running down the middle of the block. The southwest corner of the block had a "gas holder" that occupied Lots 10 and 11 (G. M. Hopkins & Co. 1925). This was an expansion of

the Miami Gas Company facility that was located on the block to the east on the other side of the FEC Railway: it was established in 1904 (Moody's Investors Service 1922). By 1936, the northern section of Block 32 contained five gas storage and manufacturing structures and a small office that was part of the FPL complex that straddled the FEC Railway (G. M. Hopkins & Co. 1936). The FPL was founded in 1925 and soon after acquired the Miami Gas Company. The FPL parent company still owns the subject property (NextERA Energy 2020).

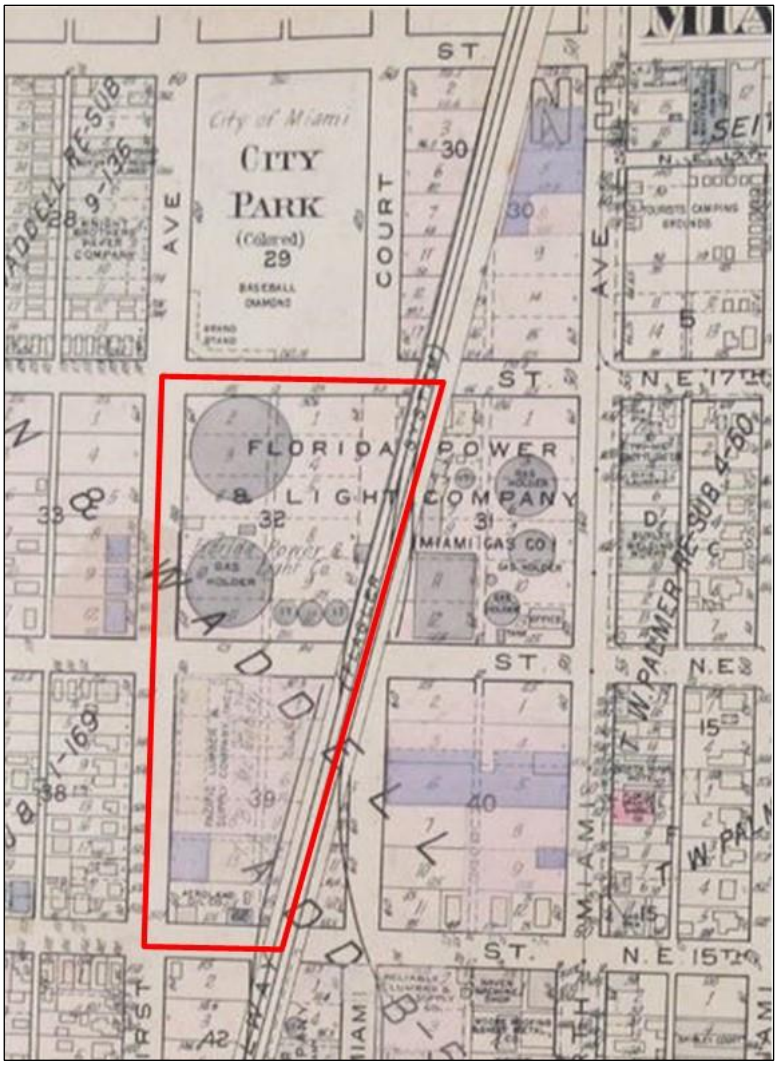

Figure 10. Proposed Maintenance Yard AGT/APM 13 location within Blocks 32 and 39 of the plat map of Miami, as occupied in 1936 (G. M. Hopkins & Co. 1936).

Block 39

The southern section of the proposed AGT/APM 13 property, Block 39, was part of the T. B. McGahey subdivision, and it faced Broadway (now NW 1st Avenue). In 1918, it consisted of six developed lots; three with two small dwellings per lot and three oversized lots with one building each. This parcel extended to NW 15th Street and was wedge-shaped due to abutting the FEC Railway to the east: six of the lots were full lots (facing Broadway/NW 1st Avenue), the others were small wedge-shaped parcels. Those abutting the railway appear undeveloped in 1918 and 1925. Block 39 was reconfigured and developed by 1936, and 10 of the lots were occupied by the Pacific Lumber and Supply Company (see **Figure 10**). One double lot was located at the corner of NW 1st Avenue and NW 15th Street. It was occupied by the Aeroland Oil Company and contained three small structures (G. M. Hopkins & Co. 1936). By 1940, there were four lumberyard structures within Block 39, and the Aeroland property appears unchanged (Sanborn Map Company 1940) (**Figure 11**). In the mid-1990s, aerial photographs show three structures on Block 39, two in what had been the lumber yard (north section) and one in the same place as the Aeroland Oil Company building depicted in 1940. This building is in the same location as one depicted on the 1918 Sanborn Map Company map. These building were extant in 2006, but by late 2007, they had been removed and the property was vacant. It remains as such today.

Due to the long period of occupation, development, and redevelopment in this part of the city, it is probable that historic archaeological resources dating to Miami's earliest period of development could be encountered during construction activities.

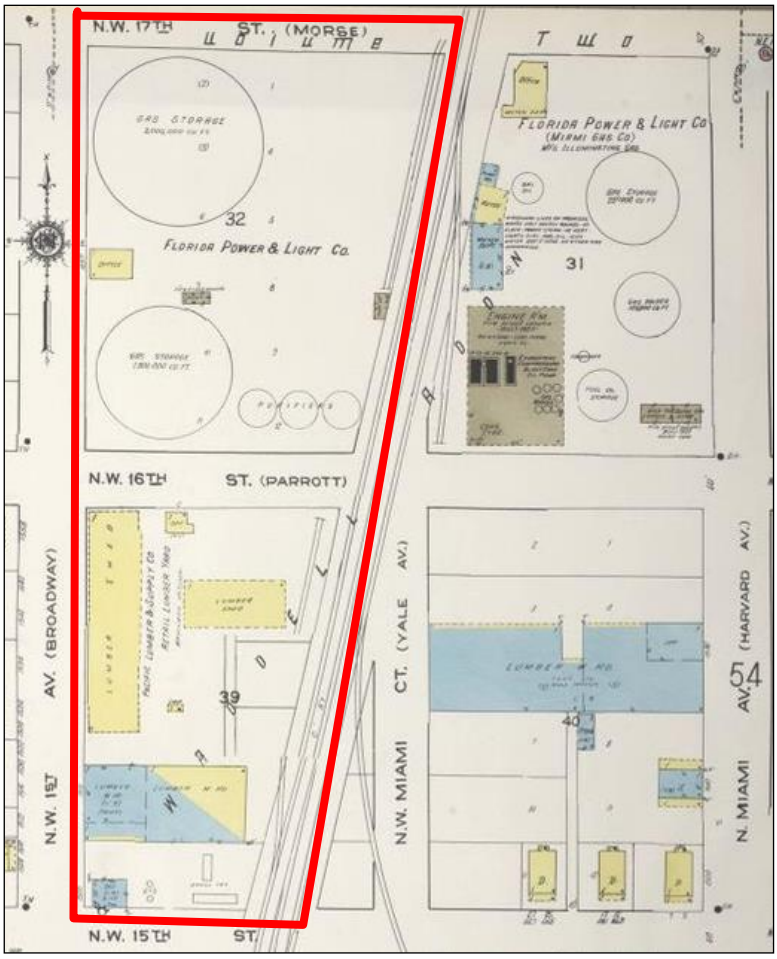

Figure 11. City of Miami Blocks 32 and 39 as occupied in 1940 (Sanborn Map Company 1940).

Unrecorded Historic Resources

A review of the Miami-Dade Property Appraiser's database in geographic information system (GIS) format indicates that 20 parcels containing historic-age (i.e., pre-1975) buildings are located within the Maintenance Yards Study Area for the two potential locations along North Miami Avenue (**Table 11**). The proposed maintenance yards are located northwest of downtown, in the Overtown neighborhood (made up of Lummas Park, Dixie Park, and Dorsey Park), which is bounded by NW 20th Street to the north, NW 5th Street to the south, Interstate 95 to the west, and the FEC Railway and NW 1st Avenue to the east (Miami-Dade County 2011b).

Table 11. Parcels Containing Unrecorded Historic Structures within the Maintenance Yards Study Area.

Parcel ID	Name/Address	Year Built
01-3125-052-0080	101 NW 20th Street	1959
01-3125-052-0060	2010 NW 1st Avenue	1974
01-3125-052-0110	2031 NW 1st Court	1935
01-3125-054-0550	175 NW 20th Street	1941
01-3125-054-0560	2021 NW 1st Place	1963
01-3136-055-0010	164 NW 20th Street	1924
01-3136-054-0050	1801 NW 1st Place	1940
01-3125-048-0621	1898 NW 1st Avenue	1930
01-3125-048-0650	1851 NW 1st Court	1954
01-3136-019-0010	1849 NW 1st Avenue	1963
01-3125-048-0420	60 NW 20th Street	1959
01-3125-048-0460	1940 NW Miami Court	1956
01-3125-048-0490	1932 NW Miami Court	1947

Table 11. Parcels Containing Unrecorded Historic Structures within the Maintenance Yards Study Area.

Parcel ID	Name/Address	Year Built
01-3125-054-0440	79 NW 20th Street	1938
01-3125-054-0480	2045 NW 1st Avenue	1946
01-3125-054-0430	41 NW 20th Street	1938
01-3125-048-1120	1775 NW 1st Avenue	ca. 1925
01-3125-048-1141	60 NW 17th Street	1952
01-3125-048-1140	1600 N Miami Avenue	1969
01-3136-090-0010	59 NW 14th Street	1922

This section of the of city was once known as "Colored Town" and dated to the earliest days of incorporated Miami, with Black laborers moving to the area in 1895 (George 1978). Many of the early residents came to the area to work for Henry Flagler during construction of the FEC Railway (Miami-Dade County 2011b). Later, the area was known as Overtown and was "... recognized as one of the oldest Black communities in Miami" (Miami-Dade County 2011b). From the 1890s to the early 1920s, Colored Town was a segregated, crowded, and unplanned section of the city with frail, cramped housing and little to no infrastructure or public services usually associated with twentieth-century cities. This part of the city was designated for Blacks in 1911 to limit where Blacks were allowed to live, restricting them from settling in white neighborhoods (**Figure 12**).

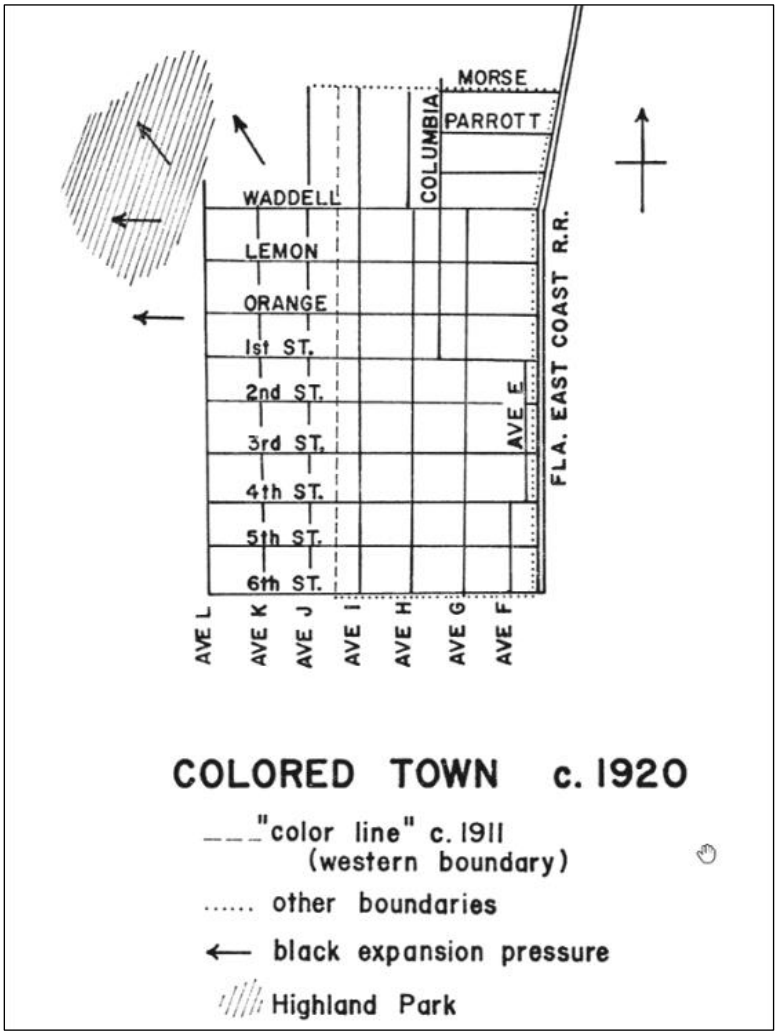

Figure 12. Map of Colored Town in 1920, part of what is now Overtown (George 1978).

This area was formally developed as investment real estate subdivisions in the 1920s during the "land boom" and development continued through the 1950s. However, this neighborhood had a segregated "Colored" city park (Block 39, within the Study Area for AGT/APM 13; see **Figures 7** and **10**) as early as 1925 that was improved with a baseball field by 1936 (G. M. Hopkins & Co. 1925, 1936). There also was a "Colored" library donated by African American developer and philanthropist Dana Albert Dorsey (Miami-Dade County 2011a). The structure is extant and located at 100 NW 17th Street within the

Study Area. This NRHP-eligible structure, the D. A. Dorsey Library (8DA10513), dates to 1941. After World War II, Miami-Dade County experienced unprecedented growth. This was spurred by aggressive transportation programs: "In 1956, the Florida State Road Department created plans that routed Interstate 95 [I-95] through central portions of Overtown to better allow for the westward expansion of the Central Business District" (University of Miami 2016). The construction of the expressway started in 1957 and continued until 1968 (University of Miami 2016). This interstate project divided Overtown and negatively impacted the setting and character of the neighborhood.

No systematic cultural resource survey of Overtown has been completed to date. There are historic-age properties dating to as early as the 1920s within the Maintenance Yards Study Area (see **Table 11**).

RECOMMENDATIONS AND CONCLUSIONS

This report presents the results of a desktop evaluation for four proposed Maintenance Yard locations conducted in support of the Beach Corridor Rapid Transit Project (SMART Plan). The PD&E study concerns the proposed construction of a transit corridor (Beach Corridor) in Miami-Dade County. SEARCH has been contracted by Parsons Transportation Group Inc. in coordination with the Miami-Dade DTPW, in collaboration with the FTA, to evaluate this corridor and its associated maintenance yards for the purpose of identifying cultural resource potential and previously recorded historic properties that are listed, or may be eligible for listing, in the NRHP. The Study Area for the present cultural resource desktop analysis was defined to include the four proposed maintenance yard locations and a 100-meter (328-foot) buffer of each.

SEARCH's review of the FMSF database and data provided by Miami-Dade County indicates that no previously recorded archaeological resources are documented within the Maintenance Yards Study Area. However, none of the proposed maintenance yard locations have been subject to Phase I archaeological testing, and the two locations along the North Miami Avenue corridor chosen for the proposed maintenance yards have been developed and occupied since the first quarter of the twentieth century, thus indicating a high probability for historic archaeological resources. A walkover survey should be conducted within the construction area to identify areas where subsurface testing would be feasible, and an unanticipated discoveries plan should be prepared for use during construction to provide guidelines in the event of the inadvertent discovery of archaeological material. These efforts would occur during the CRAS for the preferred maintenance yard location, discussed further in the conclusion section below.

Background research indicated that 18 recorded historic structures, two resource groups, and one linear resource have been recorded within the Maintenance Yards Study Area. Of the 21 recorded resources, nine have not been evaluated for the NRHP by the SHPO, 10 have been determined ineligible, and two were determined eligible by the SHPO for the NRHP. The Study Area also contains 20 unrecorded historic resources.

SEARCH recommends, once the preferred Maintenance Yard location along the North Miami Avenue corridor is determined, a CRAS should be performed. The APE for this CRAS should encompass the subject property and be large enough to consider project-related effects to adjacent resources related to the planned elevated train technology. All historic resources within the APE should be recorded and evaluated. The CRAS should include archaeological pedestrian survey and Phase I testing of areas of open ground to determine the presence or absence of cultural resources that may be eligible for listing in the NRHP. The resulting CRAS report should be submitted to the appropriate agencies for review and comment.

The APE for the previous CRAS completed by SEARCH in 2020 included the entirety of the proposed maintenance yard locations and their Study Area on Watson Island. Only one historic resource, MacArthur Causeway (8DA16540), intersects the Study Area. The SHPO has concurred that MacArthur Causeway (8DA16540) is ineligible for listing in the NRHP as a result of the 2020 CRAS. Therefore, the proposed maintenance years on Watson Island have no potential to affect historic properties. Furthermore, no archaeological testing is required in this area as the island is man-made and has no potential for unidentified archaeological sites. No additional cultural survey is necessary for either of the proposed maintenance yard locations on Watson Island.

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ATTACHMENT B

- **Beach Corridor Rapid Trasit Project Noise and Vibration Report dated November 2019 and revised April 2020**
- **Noise and Vibration Assessment dated August 2021**

Noise and Vibration Study Report
for the

Beach Corridor Rapid Transit Project
Project Development and Environment (PD&E) Study

Prepared for:

MIAMI-DADE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

Prepared by:

Parsons Corporation

November 2019; Revised April 2020

Table of Contents

List of Tables

List of Figures

LIST OF ACRONYMS

FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HVAC	Heating, Ventilation, and Air Conditioning
NEPA	National Environmental Policy Act
PPV	Peak Particle Velocity
RMS	Root Means Square
VdB	Vibration decibel

I. INTRODUCTION

In 2016, the Miami-Dade County Transportation Planning Organization (TPO) adopted the Strategic Miami Area Rapid Transit (SMART) plan as the blueprint for developing premium transit services throughout Miami-Dade County. Subsequently the Miami-Dade County Department of Transportation and Public Works (DTPW) initiated the Beach Corridor Rapid Transit Project Development and Environment (PD&E) study in 2017, in collaboration with the Florida Department of Transportation (FDOT) and the cities of Miami and Miami Beach. This study analyzes the potential noise and vibration impacts for the premium transit alternatives being considered for the Beach Corridor Rapid Transit Project. The objectives of this analysis are to describe the existing noise and vibration environments along the Project corridor, describe the potential noise and vibration effects/changes that would result from implementing the different alternatives along the Project, and determine whether those changes would result in potential noise and vibration impacts per Federal Transit Administration (FTA) guidelines. All noise model files that encompass the analysis in this report have been digitally delivered to Miami-Dade County.

A. STUDY AREA

The Beach Corridor study area **(Figure 1)** is located in the Cities of Miami and Miami Beach, Florida in Miami-Dade County in the east central region of the SMART Corridor Plan and is generally bounded by:

- I-195/Julia Tuttle Causeway on the north
- I-395/MacArthur Causeway on the south
- I-95 on the west
- Washington Avenue on the east

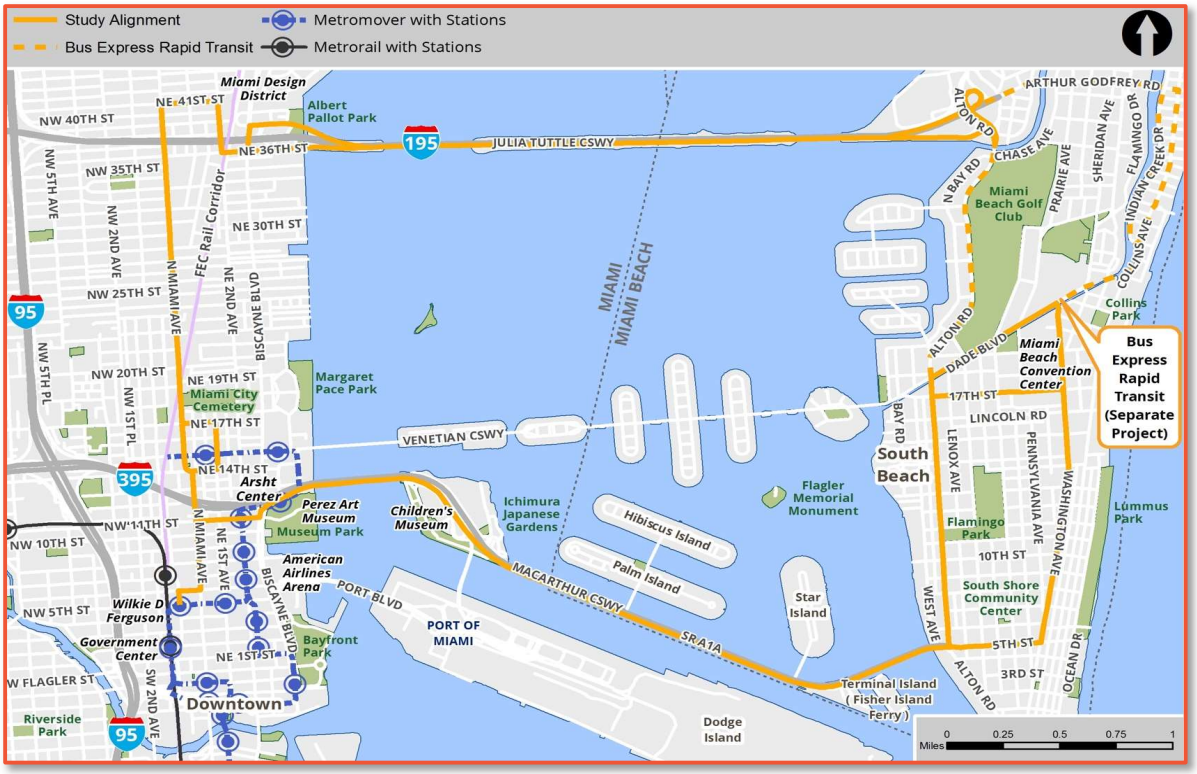


Figure 1 - Study Area

B. PURPOSE AND NEED

The purpose of this project is to increase the person-throughput to the Beach Corridor's major origins and destinations via a rapid transit technology. The need for the project is based upon the extensive population growth throughout the study area resulting in ever-increasing traffic congestion and the demand for enhanced access to the area's many facilities and services. The following rapid transit technologies were assessed: Automated People Mover (APM), Monorail, Light Rail Transit (LRT), and Bus Rapid Transit (BRT) options.

The Beach Corridor traverses an area that is at the epicenter of population and economic growth within Miami-Dade County. The central business district (CBD) area and Miami Beach have undergone rapid population and employment increases over the past decade, a trend that is projected to continue over the next 20 years. The population densities in the study area are among the highest in the nation, with Downtown Miami (CBD) at 17,800 persons per square mile and Miami Beach at 11,500 persons per square mile, per the 2010 U.S. Census. Downtown Miami saw a dramatic 172 percent increase in population density over the last decade.

Due to the region's appealing qualities, such as its temperate climate; attractive beaches; and convenient access to the Caribbean and Latin America, South Florida, and Miami-Dade County, it has become an important tourist destination for both national and international visitors. The county hosts millions of annual visitors and seasonal residents. Visitors typically access the study area via tour bus, taxi, or rental car.

In 2018, Greater Miami and the Beaches attracted a record 16.5 million overnight visitors and an additional 6.8 million day trippers. Miami Beach and Downtown Miami are the two most popular locations for overnight stays, lodging nearly 50 percent of all 2018 area visitors with approximately 6.1 million and 1.6 million overnight guests, respectively. Additionally, four of the six most-visited attractions are in proximity to the Beach Corridor, including South Beach, the Beaches, Lincoln Road, Bayside Market Place, and Downtown Miami. This high rate of tourism generates additional demand for travel, produces additional trips within the area, and contributes to traffic and subsequently roadway congestion. The Greater Miami Convention and Visitor's Bureau 2018 Visitor Industry Overview indicated that traffic congestion is the top negative aspect of trips to Greater Miami and Miami Beach. Traffic congestion has been the top-ranked problem in each of the last eight annual surveys.

In order to meet the project's purpose and need, goals were established that would accommodate the high travel demand throughout the study area and provide relief to the extreme traffic congestion along the surface streets. The project goals include the following:

- Connect to and provide direct, convenient, and comfortable rapid-transit service to serve existing and future planned land uses;
- Provide enhanced interconnections with Metrorail, Tri-Rail, Brightline, Metromover, and Metrobus routes; Broward County Transit (BCT) bus routes; Miami and Miami Beach circulators; jitneys; shuttles; taxis; Transportation Network Companies (TNCs); and/or other supporting transportation services; and
- Promote pedestrian- and bicycle-friendly solutions in the corridors of the study area.

C. PROJECT DESCRIPTION

The project corridor is characterized by:

- Mixed-use development, including areas of high residential and employment density;
- A diverse population with a higher-than-countywide minority percentage and a lower median household income than county and national levels;

- Limited transportation pathways, with high average daily traffic volumes and congestion on the expressways and major roadways;
- Land uses sensitive to noise and vibration effects.

The project is comprised of three sub-areas along this project corridor, featuring distinct segments of travel demand and origin/destination pairs that vary in their land use and environmental characteristics:

The Midtown/Design District sub-area, a north–south corridor between the Design District/Midtown and downtown Miami.

The Bay Crossing sub-area, an east–west corridor between Miami Beach and downtown Miami that would form the "trunk line" of the project. The travel demand in this corridor could be served directly via I-395/MacArthur Causeway, or less directly via I-95 and the Julia Tuttle Causeway (I-195).

The Miami Beach sub-area is a north-south corridor extending from Washington Avenue and 5th Street to the Miami Beach Convention Center.

An overview of these areas is shown in Figure 1.

D. ALTENATIVE TRANSIT MODES CONSIDERED

DTPW determined that the following transit mode technologies had the potential to meet the project purpose and need and would be advanced for further development in Tier Two.

- Automated People Mover (APM)
- Light Rail Transit/Streetcar (LRT)
- Monorail
- Bus Rapid Transit (BRT)

Further assessment resulted in the APM and monorail as the preferred alternatives; both are rubber tire vehicles on an elevated guideway. A detailed discussion of the alternatives analysis and evaluation is provided in the project's Preliminary Engineering Report.

II. NOISE AND VIBRATION

A. NOISE

Noise is "unwanted sound" and by this definition, the perception of noise is a subjective process. Several factors affect the actual level and quality of sound (or noise) as perceived by the human ear and can generally be described in terms of loudness, pitch (or frequency), and time variation. The loudness, or magnitude, of noise determines its intensity and is measured in decibels (dB) that can range from below 40 dB (e.g., the rustling of leaves) to more than 100 dB (e.g., a rock concert). Pitch describes the character and frequency content of noise, such as the very low "rumbling" noise of stereo subwoofers or the very high-pitched noise of a piercing whistle. Finally, the time variation of noise sources can be characterized as continuous, such as with a building ventilation fan; intermittent, such as for trains passing by; or impulsive, such as pile-driving activities during construction.

Various sound levels are used to quantify noise from transit sources, including a sound's loudness, duration, and tonal character. For example, the A-weighted decibel (dBA) is commonly used to describe the overall noise level because it more closely matches the human ear's response to audible frequencies. Since the A-weighted decibel scale is logarithmic, a 10 dBA increase in a noise level is generally perceived as a doubling of loudness, while a 3 dBA increase in a noise level is just barely perceptible to the

human ear. Typical A-weighted sound levels from transit and other common sources are documented in the FTA's guidance manual on Transit Noise and Vibration Impact Assessment (2006), as shown on **Figure 2.** The 2006 guidance was the most recent at the start of this Beach Corridor study process.

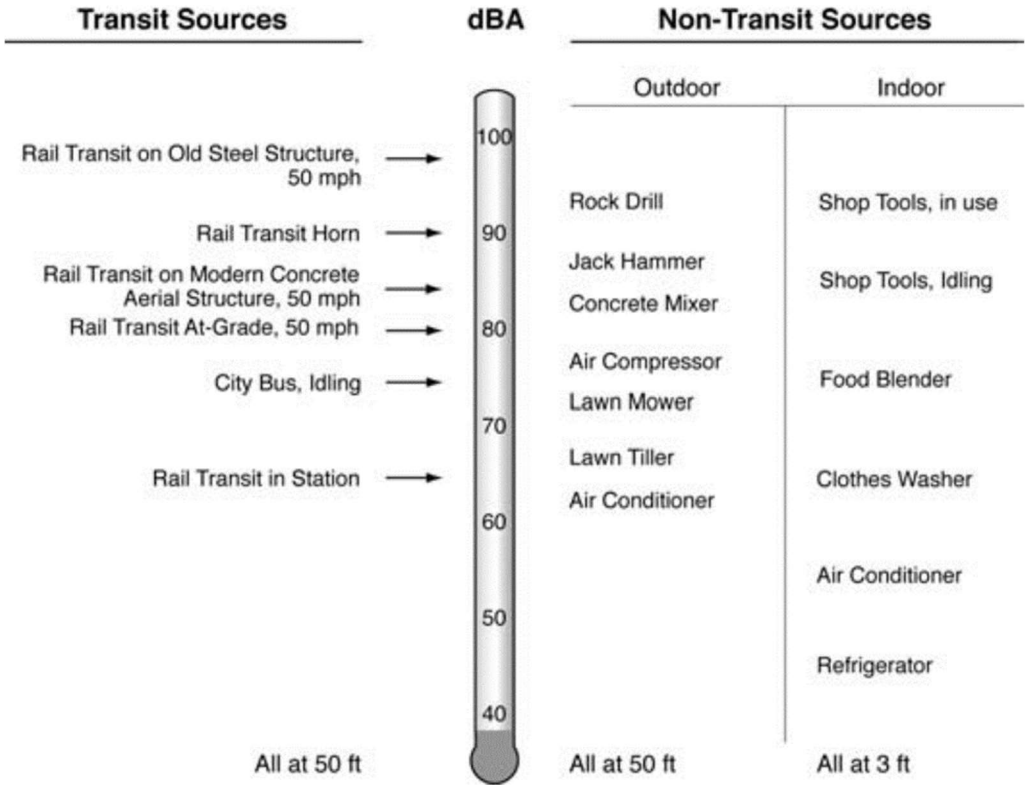


Figure 2 - Typical A-weighted Noise Levels

Several A-weighted noise descriptors are used to determine impacts from stationery and transit related sources, including:

- Equivalent Sound Level (Leq): Leq represents an average of the sound energy occurring over a specified period. In effect, Leq is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A-weighted equivalent sound level (Leq[h]) is the energy average of A-weighted sound levels occurring during a one-hour period and is the basis for noise abatement criteria (NAC) used by FDOT and FHWA.
- Maximum Sound Level (Lmax): Lmax is the highest instantaneous sound level measured during a specified period.
- Day-Night Level (Ldn): Ldn is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10 p.m. and 7 a.m.

B. VIBRATION

Ground-borne vibration associated with vehicle movements is usually the result of uneven interactions between wheels and the road or rail surfaces. Examples of such interactions (and subsequent vibrations) include train wheels over a jointed rail, an untrue rail car wheel with "flats," and a motor vehicle wheel hitting a pothole, a manhole cover, or any other uneven surface. Typical ground-borne vibration levels from transit and other common sources are shown on **Figure 3.** Unlike noise, which travels in air, transit vibration typically travels along the surface of the ground. Depending on the geological properties of the surrounding terrain and the type of building structure exposed to transit vibration, vibration propagation can be more or less efficient. Buildings with a

solid foundation set in bedrock are “coupled” more efficiently to the surrounding ground and experience relatively higher vibration levels than buildings located in sandier soil. Heavier buildings (such as masonry structures) are less susceptible to vibration than wood-frame buildings because they absorb more vibration energy.

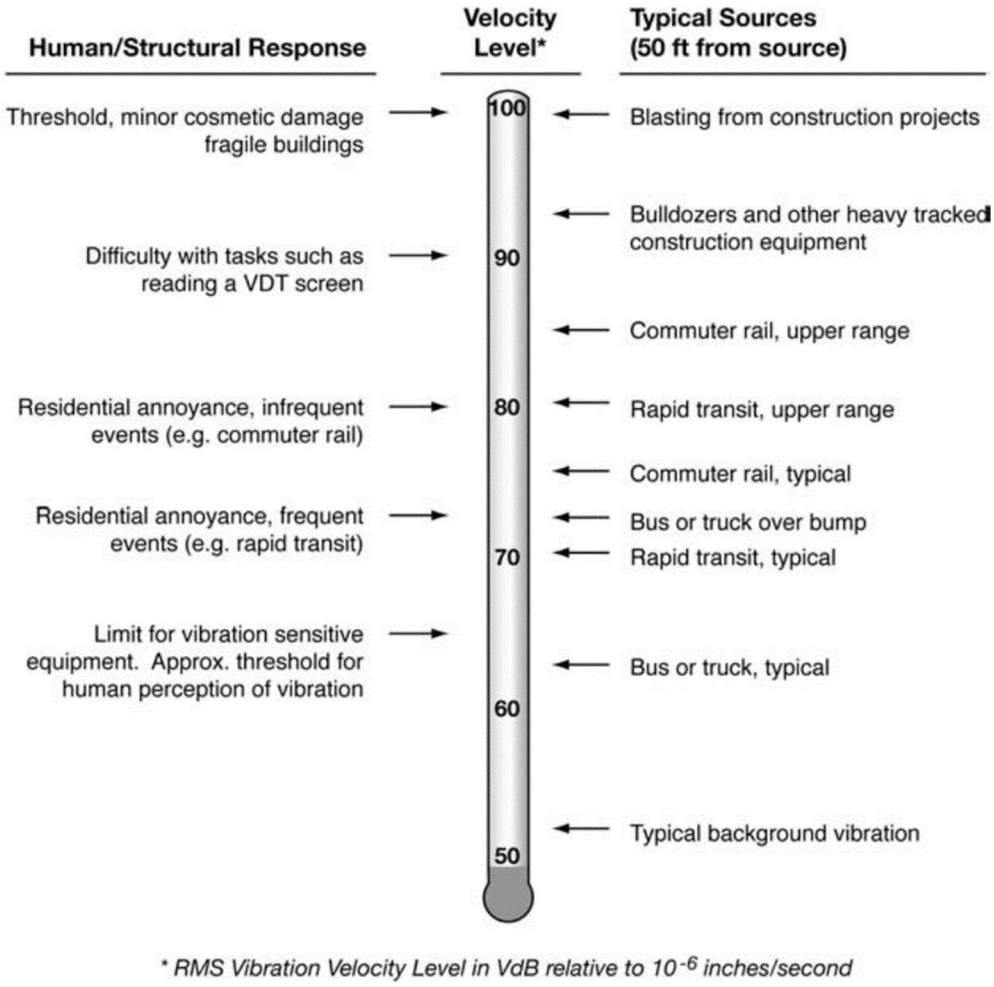


Figure 3 - Typical Ground-Borne Vibration Levels

Vibration induced by passing vehicles can generally be discussed in terms of displacement, velocity, or acceleration. However, human responses and responses by monitoring instruments and other objects are most accurately described with velocity. Therefore, the vibration velocity level is used to assess vibration impacts from transit projects.

To describe the human response to vibration, the average vibration amplitude (called the root mean square [RMS] amplitude) is used to assess impacts. The RMS velocity level is expressed in inches per second (ips) or vibration velocity levels in decibels (VdB). All VdB vibration levels are referenced to one micro-inch per second (ips). Similar to noise decibels, vibration decibels are dimensionless because they are referenced to (i.e., divided by) a standard level (such as 1x10-6 ips in the United States). This convention allows compression of the scale over which vibration occurs, such as 40 to 100 VdB rather than 0.0001 ips to 0.1 ips.

III. REGULATORY CONTEXT

This section presents the guidelines, criteria, and regulations used to assess noise and vibration impacts associated with the Project.

A. OPERATION NOISE IMPACT CRITERIA

The criteria in the *Transit Noise and Vibration Impact Assessment* (FTA, 2006) were used to assess existing ambient noise levels and future noise impacts from the project. The criteria are founded on well-documented research on community reaction to noise and are based on change in noise exposure using a sliding scale. The amount that transit projects are allowed to change the overall noise environment is reduced with increasing levels of existing noise.

The FTA Noise Impact Criteria applicable to three categories of land use are summarized in **Table 1** - Land Use Categories and Metrics for Transit Noise Impact Criteria.

Table 1 - Land Use Categories and Metrics for Transit Noise Impact Criteria

Land Use Category	Noise Metric, dBA	Description of Land Use Category
1	Outdoor $L_{eq}(h)$*	Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use.
2	Outdoor L_{dn}	Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
3	Outdoor $L_{eq}(h)$*	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Buildings with interior spaces where quiet is important, such as medical offices, conference rooms, recording studios, and concert halls fall into this category. Places for meditation or study associated with cemeteries, monuments, and museums. Certain historical sites, parks, and recreational facilities are also included.

Note: * - L_{eq} for the noisiest hour of transit-related activity during hours of noise sensitivity.

Source: FTA, 2006

L_{dn} is used to characterize noise exposure for residential areas, hotels, and hospitals (Category 2). The maximum 1-hour L_{eq} during the period that the facility is in use is used for other noise-sensitive land uses such as schools, libraries, churches, and parks (Category 3). The noise impact criteria for human annoyance are based on comparison of the existing outdoor noise levels and the future outdoor noise levels from a proposed transit project. The criteria incorporate activity interference caused by the transit project alone and annoyance due to the change in the noise environment caused by the project. There are two levels of impact included in the FTA criteria, as shown in **Figure 4**- Noise Impact Criteria for Transit Projects. The interpretations of these two levels of impact are summarized as follows:

- *Severe Impact*: Project noise above the upper curve is considered to cause Severe Impact since a significant percentage of people would be highly annoyed by the new noise. This curve flattens out at 75 dB for Category 1 and 2 land use, a level associated with an unacceptable living environment.
- *Moderate Impact:* The change in the cumulative noise level is noticeable to most people, but it may not be sufficient to cause strong, adverse reactions from the community. In this transitional area, other project-specific factors must be considered to determine the magnitude of the impact and the need for mitigation, such as the existing level,

predicted level of increase over existing noise levels, and the types and numbers of noise-sensitive land uses affected.

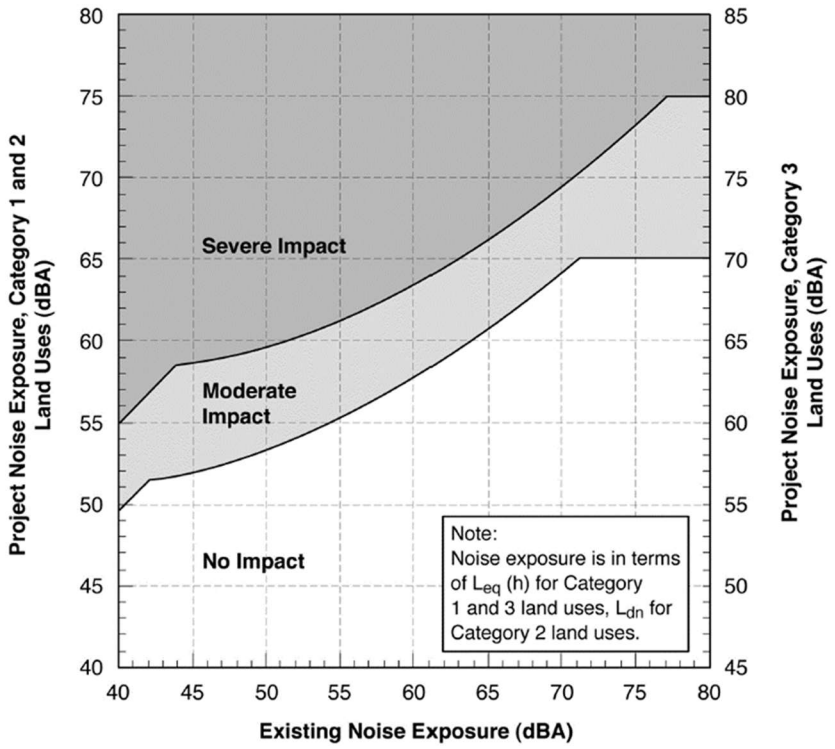
The horizontal axis in **Figure 4**, Noise Impact Criteria for Transit Projects, is the existing L_{dn} or L_{eq} without any project-related noise. The vertical axis on the left side is the L_{dn} at residential land uses and hotels caused by a project, whereas the vertical axis on the right side is the L_{eq} at schools, churches, and parks. Figure 4 illustrates that a project noise level with an L_{dn} of 61 dBA at a Category 2 receptor would be considered as "moderate impact," if the existing L_{dn} of a selected residence is 65 dBA. If the project noise level reaches an L_{dn} of 67 dBA, the project noise level would be considered as "severe impact" to the Category 2 receptor.

Although the curves in Figure 4 are defined in terms of the project noise exposure and the existing noise exposure, it is important to emphasize that the increase in the *cumulative* noise – when the project noise is added to existing noise – is the basis for the criteria. Figure 4 shows the noise impact criteria for Category 1 and 2 land uses in terms of the allowable increase in the cumulative noise exposure.

Figure 5, Increase in Cumulative Noise Levels Allowed by Criteria, shows that the criterion for moderate impact allows a noise exposure increase of 10 dB, if the existing noise exposure is 42 dBA or less, but only a 1-dB increase when the existing noise exposure is 70 dBA. As the existing level of ambient noise increases, the allowable level of project noise increases, but the total allowable increase in community noise exposure is reduced. This reduction accounts for the unexpected result – project noise exposure levels that are less than the existing noise exposure can still cause moderate impact.

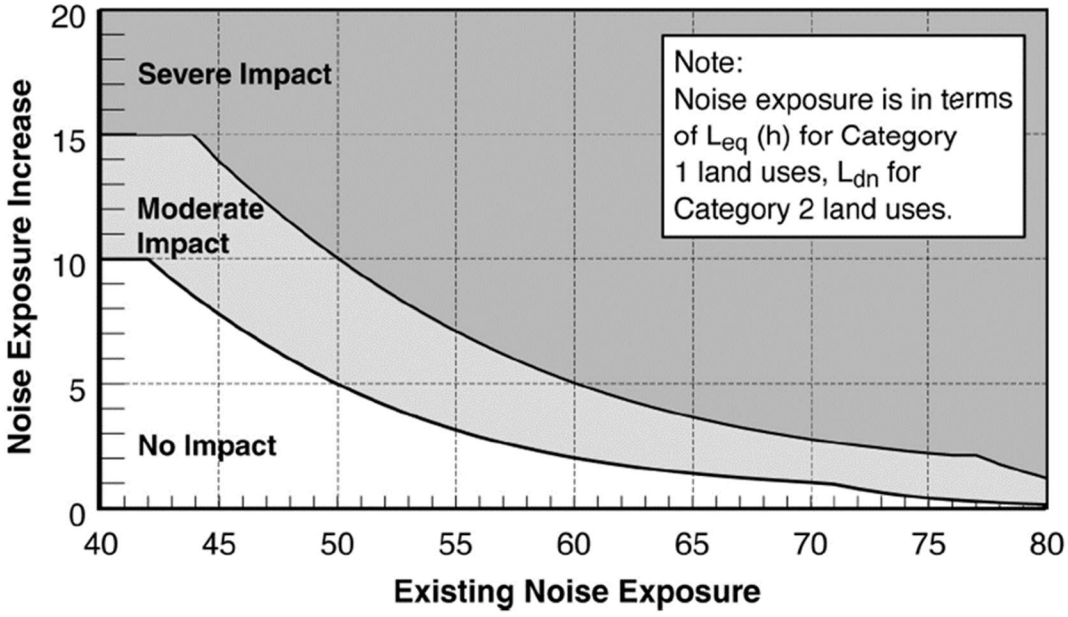
For residential land uses, the noise criteria are to be applied outside the building locations at noise-sensitive areas with frequent human use, including outdoor patios, decks, pools, and play areas. If none are present, the criteria should be applied near building doors and windows. For parks and other significant outdoor use areas, the criteria are to be applied at the property lines. However, for locations where land use activities are solely indoors, noise impact may be less significant if the outdoor-to-indoor reduction is greater than for typical buildings (approximately 25 dB with windows closed); thus, if it can be demonstrated that there will only be indoor activities, mitigation may not be needed.

A review of the land use by windshield survey and GIS did not reveal any "Special Buildings" that are very sensitive to noise and vibration within the project footprint and therefore, were not assessed for this project.



Source: FTA, 2006

Figure 4 - Noise Impact Criteria for Transit Projects



Source: FTA, 2006

Figure 5 - Increase in Cumulative Noise Levels Allowed by Criteria

B. OPERATION VIBRATION IMPACT CRITERIA

The criteria in the Transit Noise and Vibration Impact Assessment (FTA, 2006) were used to evaluate vibration impacts from transit operations. The evaluation of vibration impacts can be divided into two categories: (1) human annoyance, and (2) building damage.

Generally, human annoyance criteria are used to assess potential impacts associated with operational vibration. However, building damage criteria are also used to estimate vibration impacts due to operation activities.

1. HUMAN ANNOYANCE CRITERIA

The ground-borne vibration impact criteria describe human response to vibration and potential interference in relation to the operation of vibration sensitive equipment. The criteria for acceptable ground-borne vibration are expressed in terms of RMS velocity levels in VdB. Table 2 Ground-Borne Vibration Impact Criteria for Human Annoyance presents the criteria for various land use categories as well as the frequency of events.

Sensitive receptors within the project boundary include residences, hotels, and hospitals. These areas fall under Category 2, places where people normally sleep, and Category 3, schools, churches, and parks with primarily daytime use. For several alternatives, the number of proposed operations is 264 trains per weekday, therefore, FTA classifies the proposed service under "Frequent Events." According to **Table 2,** the maximum vibration level cannot exceed 72 VdB for Category 2 land uses and 75 VdB for Category 3 land uses.

2. BUILDING DAMAGE CRITERIA

Vibration propagation for this project would be due to Rubber tire wheels rolling on rails, which would produce less vibration, then other mass transit systems, such as Light Rail Transit (LRT) which is steel wheel against rail. Because the rubber tires and suspension systems of an Automated People Mover (APM) or Monorail provide vibration isolation, it is unusual for them to cause ground-borne noise or vibration problems. It is extremely rare for vibration from APM operations to cause any sort of building damage, even minor cosmetic damage. However, there is sometimes concern about damage to fragile historic buildings located near the right-of-way. Even in these cases, damage is unlikely except when the track will be very close to the structure. Damage thresholds that apply to these structures are shown in **Table 3.**

Using the generalized vibration based curve graph and the appropriate curve adjustments as discussed in section 10.1 of the FTA Transit Noise and Vibration Impact Assessment Manual (FTA, 2006), APM with rubber wheels on elevated structures is not expected to exceed 65 VdB beyond 10 feet. For LRT traveling 25 mph at grade is not expected to exceed 72 VdB beyond 10 feet. There are no historic sites within 10 feet of the APM or LRT tracks.

Table 2 - Ground-Borne Vibration Impact Criteria for Human Annoyance

Land Use Category	Ground-Borne Vibration Impact Levels, VdB*		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Notes:

1. "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.

2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.

3. "Infrequent Events" is defined as more than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

* Root-mean-square velocity in decibels (VdB) re: 1 micro-inch per second.

Source: FTA, 2006.

Table 3 - Ground-Borne Vibration Impact Criteria for Building Damage

Building Category	PPV (in/sec)	Approximate L_v †
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

† RMS velocity in decibels (VdB) re 1 micro-inch/second

Source: FTA, 2006.

C. CONSTRUCTION NOISE VIBRATION IMPACT CRITERIA

1. CONSTRUCTION NOISE ORDINANCES

Construction impacts to sensitive neighborhoods, although temporary in nature, can significantly affect residents and/ or compromise building structures. This is recognized by most municipal governments who establish and enforce limits for construction noise disturbance. The following are brief descriptions of the construction noise and ordinances for the City of Miami and the City of Miami Beach:

- City of Miami:

Sec. 36-6. – Construction equipment.

(a) Prohibition; definitions. Operating or permitting the operation of any tools or equipment used in construction, drilling, or demolition work such as pile drivers, steam shovels, pneumatic hammers, pumps, or other like equipment is prohibited:

(1) Between the hours of 6:00 p.m. and 8:00 a.m. the following day on weekdays, or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across and at a residential district boundary or within a noise sensitive zone, except for emergency work of public service utilities or by special permission issued pursuant to subsection (c).

(2) At any other time such that the sound level at or across a real property boundary exceeds a reading of 0.79 weighted average dBA for the daily period of operation. Such sound levels shall be measured with a sound level meter manufactured according to standards prescribed by the American National Standards Institute.

- City of Miami Beach:

Sec. 46-152: It shall be unlawful for any person to make, continue or cause to be made or continued any unreasonably loud, excessive, unnecessary or unusual noise. The following acts, among others, are declared to be unreasonably loud, excessive, unnecessary or unusual noises in violation of this section, but this enumeration shall not be deemed to be exclusive, namely noise sources from loudspeakers and horns to power tools. Temporary permits are by the City Manager in Sec 46-156; with construction activities being aloud for temporary noise permits between the hours of 7:30 a.m. and 6:30 p.m., and between the hours of 7:30 a.m. and 7:30 p.m.during daylight savings time, on any day.

Because the proposed Beach Corridor Project spans two the cities, compliance with each separate set of construction noise guidelines would require adherence with varying limits under different jurisdictions that would prove difficult and impractical. As a result, FTA daytime and nighttime construction noise level thresholds should be applied for the entire project. **Table 4** presents the recommended noise limits for the proposed project. These limits are for 8-hour average noise levels (Leq) at the property line of the nearest location to the construction site.

Table 4: FTA Construction Noise Impact Criteria

Land Use	8-hour L_{eq}, dBA		L_{dn}, dBA
	Day	Night	30-day Average
Residential	80	70	75[1]
Commercial	85	85	80[2]
Industrial	90	90	85[2]

Notes:
1. In urban areas with very high ambient noise levels (L_{dn}>65), L_{dn} from construction operations should not exceed existing ambient +10 dB.
2. 24-hour L_{eq}, not L_{dn}.
3. Daytime hours are 7:00 a.m. to 10:00 p.m.; nighttime hours are 10:00 p.m. to 7:00 a.m.

Source: FTA, 2006.

The FTA Transit Noise and Vibration Impact Assessment manual suggests 8-hour Leq and 30-day averaged Ldn for consideration where construction noise is involved. **Table 4** may then be used as a general guide in interpreting the significance of the measured construction noise levels.

2. CONSTRUCTION VIBRATION ORDINANCES

Municipal guidelines on allowable construction-induced vibration levels were not identified either in the City of Miami, City of Miami Beach or Miami Dade County. Therefore, FTA guidelines, previously summarized in **Tables 2** and **3,** will be applied.

IV. EXISTING CONDITIONS

This section describes the existing noise and vibration environment along the project corridor study area roadways and summarizes the monitoring results in two parts. The first part will discuss the existing noise environment and the latter will discuss vibration issues.

1. INVENTORY OF EXISITNG NOISE/VIBRATION SITES

Characteristics of neighborhoods vary along the alignment. The alignment travels through primarily commercial land uses, including retail, restaurants and offices with multi-family residential land uses, hotels/motels, schools, and a museum.

Noise-sensitive receptors that may be affected by the project include multi-family residences, hotels/motels, and schools located near the project corridor. Noise monitoring was conducted at various sites to assess the existing noise conditions along the alignment.

The Midtown/Design District sub-area, a north–south corridor between the Design District/Midtown and downtown Miami. Characteristics of this area neighborhood are mix use, residential, and commercial land uses with commercial properties dominating the first row land use along the corridor except near NW 24th Street which has a mix use front row land use and two institutional land use near NE 28th Street and another near NW 20th Street (Aspira Art School).

The Bay Crossing sub-area, an east–west corridor between Miami Beach and downtown Miami that would form the "trunk line" of the project. The travel demand in this corridor could be served directly via I-395/MacArthur Causeway, or less directly via I-95 and the Julia Tuttle Causeway (I-195). The area along cause does not have institutional or residential land uses with 500 feet of the alignment, except for the Miami Children Museum on Watson Island

The Miami Beach sub-area is a north-south corridor extending from Washington Avenue and 5th Street to the Miami Beach Convention Center. Characteristics of this area neighborhood are mix use, residential, and commercial land uses with commercial properties dominating the first row land use along the corridor except for school near the Convention center(Touro College South) and a hotel along 5th Street (Urban the Hotel).

2. EXISTING ENVIRONMENT – NOISE

The primary source of existing noise along the proposed project corridor roadways is largely dominated by local traffic on surface roads, primarily Miami Avenue, Biscayne Boulevard, 1-395 and I-195, as well as, local mass transit noise from the existing Metromover and Metrorail.

Noise measurements were taken at 21 locations along the corridor roadways. Locations were chosen based on the project's footprint. The primary objectives of the measurements are to evaluate the existing noise environment and use them in determining the appropriate impact criteria per FTA guidelines. Transit projects are allowed to change the overall noise environment in a community only to the extent established by FTA based on existing noise levels. The impact criteria published by FTA dictate the suitability and noise mitigation needs of a project.

Short-term noise measurements, each lasting15 minutes in duration, were conducted at 13 measurement sites. Long-term noise measurements were conducted for a minimum of 24 hours at 8 locations. The Ldn levels at long-term measurement locations were calculated subsequently by applying nighttime-hour noise weightings to the measured data. Nighttime noise weightings are the addition of 10 dB from the hours of 10:00 p.m. through 7:00 a.m. At short-term locations, Ldn levels were estimated by comparing the short-term measured noise levels to results obtained from nearby long-term measurement locations that were in progress concurrently. The difference or delta between the measured short-term levels and the simultaneous nearby long-term 1-hour interval is applied to the calculated Ldn of the long-term measurement site to estimate the Ldn of the short-term site. The peak-hour noise level (Leq) for the short-term measurement sites were also estimated by applying the delta to the peak-hour noise level of the nearby long-term measurement site.

Table 5 summarizes the short-term noise measurement results. Also included in Table 5 are the addresses and land use types for each of the measurement sites. **Table 6** summarizes long-term monitoring results and shows addresses and land use types of the monitoring locations. The short-term and long-term noise measurement locations are shown in **Figure 6.**

Table 5 - Short-Term Noise Measurement Results

Site No.	Location/Site Description	Land Use[1]	Date	Start Time	Measured L_{eq}, dBA	Adjusted L_{dn}, dBA	Adjusted Peak-Hour Leq, dBA	Adjusted to Long-Term Site
ST1	404 5th Street Facing 5th Street	Com	11/27/2018	3:00 PM	70	70	70	LT1
ST2	404 5th Street Facing Washington Avenue	Com	11/27/2018	3:00 PM	66	70	68	LT2
ST3	926 Lenox Avenue	SFR	11/28/2018	10:30 AM	59	62	62	LT4
ST4	1701 Michigan Avenue	SFR	11/28/2018	11:15 AM	69	72	70	LT3
ST5	17th Street (City Hall)	Gov	11/28/2018	11:15 AM	63	66	64	LT3
ST6	1801 Michigan Avenue	SFR	11/28/2018	12:45 PM	54	60	58	LT3
ST7	20 34th Terrace	SFR	11/29/2018	9:15 AM	63	67	65	LT7
ST8	3452 N Miami Avenue	Com	11/29/2018	9:00 AM	63	67	65	LT7
ST9	3445 Garden Avenue	SFR	11/29/2018	10:45 AM	57	59	59	LT6
ST10	Talmudic University 4000 Alton Road	SCH	11/29/2018	10:45 AM	61	61	61	LT6
ST11	Mount Sinai Hospital 4302 Alton Rd #540	Med	11/29/2018	12:15 PM	63	65	65	LT6
ST12	Miami Beach Golf Club	REC	11/30/2018	11:15 AM	68	72	70	LT8
ST13	2229 Bay Road	SFR	11/30/2018	11:15 AM	61	65	63	LT8

Note:
SFR = Single Family Residence, MFR = Multiple Family Residence, Com = Commercial Property. REC = Recreational Property, Med = Medical Facility, and Gov = Government Building

Table 6 – Long-Term Noise Measurement Results

Site No.	Location/Site Description	Land Use[1]	Date	Start Time	Measured L_{dn}, dBA	Peak-Hour Leq, dBA	Time of Peak Hour
LT1	404 5th Street Facing 5th Street 4th floor	Com	11/27/2018	10:30 AM	67	67	3PM, 4PM, and 7AM
LT2	405 5th Street Facing Washington Avenue 9th floor	Com	11/27/2018	11:00 AM	66	64	12PM to 2PM
LT3	1780 Lenox Avenue	SFR	11/27/2018	10:30 AM	64	62	6AM to 8AM
LT4	1215 Alton Road	SFR	11/27/2018	12:45 PM	64	64	3PM
LT5	Miami Children's Museum	Gov	11/28/2018	8:45 AM	72	71	9AM
LT6	4236 Alton Road	SFR	11/28/2018	2:10 PM	65	64	11AM and 2PM
LT7	14 3rd Street	MFR	11/28/2018	1:55 PM	73	71	5AM to 7AM
LT8	2152 Alton Road	SFR	11/29/2018	1:30 PM	72	70	3PM and 6PM

Note:
SFR = Single Family Residence, MFR = Multiple Family Residence, Com = Commercial Property, and Gov = Government Building

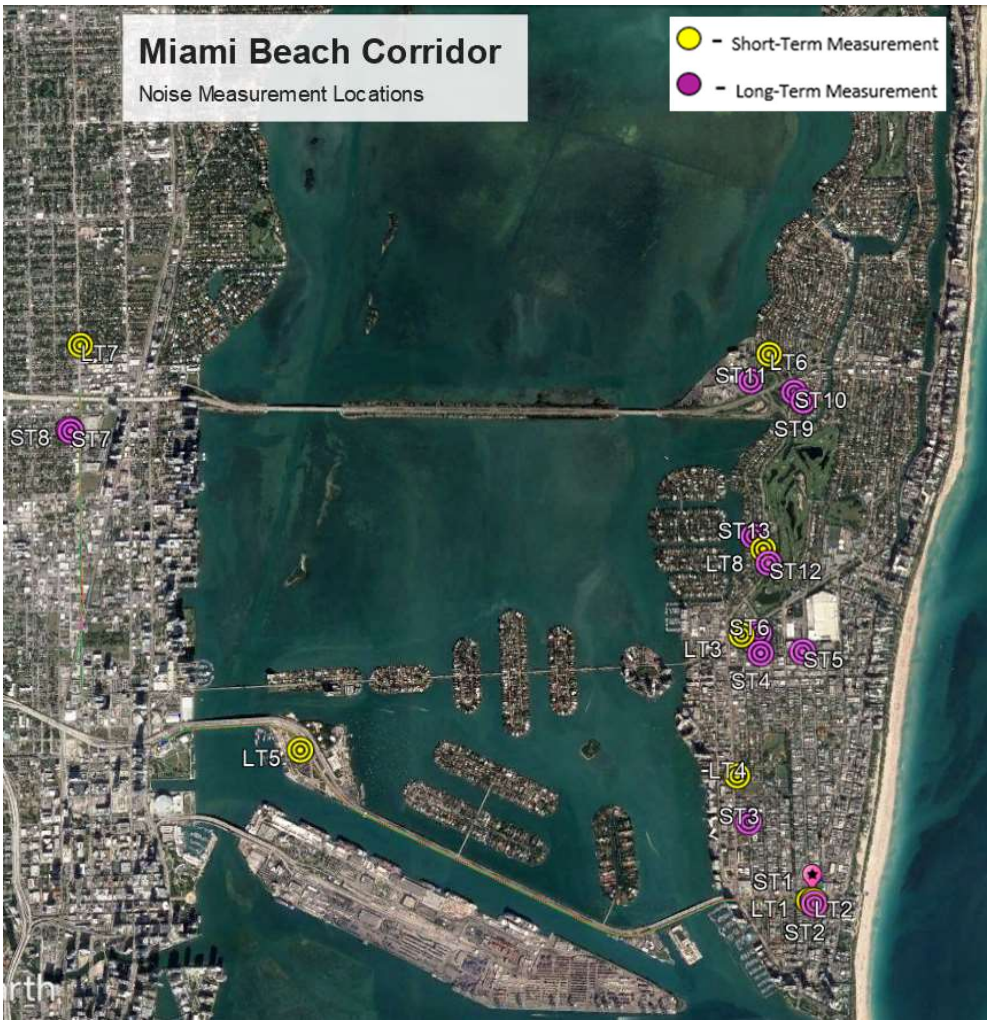


Figure 6 - Noise Measurement Locations

3. EXISTING ENVIRONMENT – VIBRATION

Since no significant vibration sources exist along the majority of the proposed project corridor roadways, ambient vibration levels were not measured as part of this study. Typical large vehicle pass-bys from buses or heavy trucks along local roadways would be the only possible perceptible vibration source along most of the alignment and this is due to roadway roughness or unevenness caused by bumps, pot holes, expansion joints, or roadway transitions. The FTA Vibration Impact Criteria were used to identify locations where potential impact may occur based on existing land use activities. Furthermore, the FTA vibration impact criteria are not based upon the existing vibration levels measured at adjacent structures to the proposed alignment. They are based on the frequency of the proposed transit service and the type of proposed transit vehicle only. If needed, locations that exceed these criteria will be surveyed for ambient vibration levels at a later time as part of final engineering design. No buildings with special ground-bourne vibration concerns were identified.

Also, as noted in the FTA manual vibration screening section, rubber wheels APM's are unlikely to cause vibration impacts and no further analysis is required. However, using the FTA Ground Surface review curve and the -10 VdB adjustment factor for elevated structures , APM with rubber wheels on elevated structures are not expected to exceed 65 VdB beyond 10 feet. For LRT at grade is not expected to exceed 72 VdB beyond 10 feet when adjusted with a -6 VdB adjustment factor. Furthermore, FTA manual states that rubber tire mass transit systems do not cause vibration issues with building structures, unless there are discontinuity or spurs in the rail guide that could cause vibrations.

4. NOISE IMPACT ANALYSIS METHODOLOGY

NOISE

An operational noise assessment was conducted using the 2007 FTA Noise Impact Assessment spreadsheet and procedures from the 2006 FTA Noise and Vibration guidance manual. Project-related noise levels were calculated using FTA reference sound levels for rail transit. Potentially noise-sensitive land uses were identified. Results of the assessment spreadsheet are in Appendix A.

OPERATION PARAMETERS

As stated in the draft service plan, the fixed guideway system will operate in exclusive right-of-way to ensure system speed and reliability and to avoid conflicts with automobile and pedestrian traffic. The analysis was based on operations between 5 a.m. and 11 p.m., with a train arriving in each direction at each station every 5 minutes during peak operation hours and every 10 minutes during non-peak hours. Trains will achieve an average speed of 30 mph. **Table 7** shows the project train operation characteristics for alternative rail technologies.

Noise effects from the Project were determined by comparing the project-generated noise exposure level at each representative receptor in the corridor to the appropriate FTA criterion, given the land use and existing noise levels. If the project-generated noise is below the level for moderate impact, no impact will occur. If the noise level is between the level for moderate impact and severe impact, a moderate impact will occur. If the project noise level is equal to or above the severe impact level, a severe impact will occur.

Table 7 - Projected Train Operating Characteristics

All Technology Alternatives	
Total Number of Daily Trains	264
Number of Trains - Day	228
Number of Trains – Night	36
Number of Peak Hour Trains	24
Average Operating Speed (mph)	15 to 45

V. IMPACTS

1. OPERATIONAL IMPACTS

Operation Noise

Noise Impact analysis was completed following the FTA Transit Noise and Vibration Impact Assessment Manual (FTA 2006) procedures for the preferred technologies APM and Monorail, as well as the LRT and BRT options.

The APM has rubber wheels and is on an elevated guideway. As shown in the project matrix, this technology will cause no severe noise impacts for schools, public parks, or residential area, and 2 moderate impacts to residential locations; and is one of the lesser intrusive rail technologies. Monorail is also rubber tire wheel technology and has no impacts. **Table 8** shows the residential and Institutional noise impacts for each alternative technology.

Table 8 - Noise Impacts for each Alternative Technology

	Residential Impact		Institutional Impact		
	Moderate	Severe	Moderate	Severe	Total
APM	2	0	0	0	2
Monorail	0	0	0	0	0
LRT	5	24	3	3	35
BRT (Option 1)	9	1	0	0	10
BRT (Option 2)	0	0	0	0	0

2. CONSTRUCTION IMPACTS

Construction Noise

Construction noise varies greatly depending on the construction process, type and condition of equipment used, and layout of the construction site. Many of these factors are subject to the contractor's discretion. Projections of potential construction noise levels may vary from actual noise experienced during construction due to these factors.

Overall, construction noise levels are governed primarily by the noisiest pieces of equipment. The engine, which is usually diesel, is the dominant noise source for most construction equipment.

Table 9 summarizes the available data on noise emission levels of construction equipment from FTA's Transit Noise and Vibration Impact Assessment and Parsons' recent experiences with major construction projects. It is worthwhile to note that actual noise levels experienced could vary significantly from the values provided; however, due to variation in manufacturer, manner of operation, or condition of equipment. Using typical sound emission levels in Table 9, and the estimated time duration of operation, an estimate of Leq can be calculated at various relevant distances for each stage of construction.

The calculation used to determine average construction noise exposure for each piece of equipment is based on the following equation:

Leq = Lmax + 10 Log(UF) – 20 Log(D/50)
Where;
Leq is the 8-hour average noise level in A-weighted decibels, dBA,
Lmax is the maximum noise level at 50 feet in A-weighted decibels, dBA,
UF is the Usage Factor or the ratio of time equipment is in operation each hour,
D is the distance from the geometric center of construction site, feet.

The estimated construction noise levels for various construction phases in Table 9 were compared to FTA's suggested construction noise limits to identify any potential noise-impacted areas. Although the construction process undoubtedly affects the noise environment at certain areas, the noise impact would be temporary. The subsequent paragraphs analyze the construction noise impacts by construction stage:

- **Clear and Grub**: For the construction of dedicated lane, repurposed lanes, elevated guideway, platforms, clearing and grubbing would be performed.

- **Pavement Removal**: For the construction of dedicated lane, resurfacing lanes, pedestrian access, elevated guideway, and platforms, saw cutting of the existing pavement for removal would be performed.

- **Resurfacing Pavement**: For the construction of dedicated lane, resurfacing lanes, and pedestrian access, saw cutting of the existing pavement for removal would be performed.

- **Utility Relocation Sewers**: For the construction of dedicated lane and resurfacing lanes, sewer drainage replacement where necessary would be performed.

- **Structure Columns and platforms**: For the construction of columns for elevated guideway and platforms, drill and cast in place columns erections would be performed.

Table 9 - Predicted Construction Equipment Noise Emission Levels

No. of Items	Equipment Type	Maximum Equipment Noise Level at 50 ft, dBA	Hourly Equivalent Noise Levels at 50 ft, dBA[1]	Houry Equivalent Noise Levels at 100 ft, dBA[1]
Clear and Grub				
1	Excavator	83	77	71
1	Backhoe	75	69	63
2	Medium Duty Dump Trucks	77	71	65
		Overall $L_{eq}(h)$	79	73
Pavement Removel				
1	Backhoe	75	69	63
1	Demo Saw	80	71	65
2	Medium Duty Dump Trucks	77	71	65
		Overall $L_{eq}(h)$	77	71
Resurfacing Pavement				
1	Grader	75	69	63
1	Roller	74	68	62
1	Ready Mix Trucks	81	70	69
1	Asphalt Paver	79	73	67
1	Asphalt Roller	78	72	66
2	Medium Duty Dump Trucks	77	71	65
		Overall $L_{eq}(h)$	79	74
Utility Relocation Sewer				
1	Backhoe	75	69	63
1	Front Loader	74	68	62
1	Trencher	80	72	66
2	Medium Duty Dump Trucks	77	71	65
		Overall $L_{eq}(h)$	77	71
Structures Columns and Platforms				
1	Backhoe	75	69	63
1	Crane	85	74	68
1	Concrete Pump	81	70	69
2	Medium Duty Dump Trucks	77	71	65
1	Ready Mix Trucks	81	70	64
		Overall $L_{eq}(h)$	79	74

Notes: Calculated construction noise levels assume that all equipment operates for four hours out of an eight hour day. Calculations also assume that all equipment are operated at full load no more than 50% of the time.

1 - Predicted noise levels are from the center of the construction activity.

Source: Parsons

VI. MITIGATION MEASURES

1. OPERATIONAL MITIGATION MEASURES

Noise Mitigation Measures

The APM and Monorail have rubber wheels and are on an elevated guideway. These design features would reduce noise compared to other mass transit systems, such as LRT. As a result, there are only two moderate impacts for APM and they are along the plotted moderate impact line between moderate impact and no impact, thus, noise from the project would be below existing noise levels. The FTA guidelines do not consider this to be a strong justification for mitigation and, therefore, no mitigation measures are proposed.

Since the LRT is at grade, noise barriers were not considered feasible along Miami Avenue, Washington Avenue, and 5th Street in this area of the Project because access openings for driveways would need to be provided for the residences and businesses, which would negate the effectiveness of the noise barrier. Furthermore, there are also safety concerns, especially related to sight distance requirements for pedestrians and vehicles, therefore no mitigation measures are proposed.

With the BRT(Option 1) being at grade, noise barriers were not considered feasible along Colins Avenue, Arthur Godfrey Road, and NW 8th Street in this area of the Project because access openings for driveways would need to be provided for the residences and businesses, which would negate the effectiveness of the noise barrier. Furthermore, there are also safety concerns, especially related to sight lines for pedestrians and vehicles, therefore no mitigation measures are proposed.

Since no impacts are anticipated for BRT (Option 2), no mitigation measures are necessary or proposed.

Vibration Mitigation Measures

No vibration impacts are projected; therefore, no vibration mitigation measures are necessary or proposed.

2. CONSTRUCTION MITIGATION MEASURES

To minimize noise and vibration impacts at nearby sensitive receptor sites, construction activities would be conducted during daytime hours to the extent feasible. Nighttime construction could be unobtrusive and therefore preferable in some locations (e.g., in commercial districts where most businesses do not operate at night). Nighttime construction may also be necessary to avoid unacceptable disruptions to roadway traffic during daytime hours.

There are many measures that can be considered to reduce intrusion without placing unreasonable constraints on the construction process or substantially increasing costs. These measures include noise and vibration monitoring to ensure that contractors take all reasonable steps to minimize impacts when operating near sensitive areas; noise testing and inspections of equipment to ensure that all equipment on the site is in good condition and effectively muffled; and an active community liaison program. The community liaison program should keep residents informed about construction plans so they can plan around noise or vibration impacts; it should also provide a conduit for residents to express any concerns or complaints.

The following is a listing of procedures that have been shown to effectively minimize noise disturbances at sensitive areas during construction:

1. Use newer equipment with improved noise muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and

operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding).

2. Perform all construction in a manner to minimize noise and vibration. Use construction methods or equipment that will provide the lowest level of noise and ground vibration impact near residences and consider alternative methods that are also suitable for the soil condition. The contractor should be required to select construction processes and techniques that create the lowest noise levels.
3. Perform noise monitoring during construction to demonstrate compliance with the noise limits. Independent monitoring should be performed to check compliance in particularly sensitive areas. Require contractors to modify and/or reschedule their construction activities if monitoring determines that maximum limits are exceeded at residential land uses.
4. Conduct truck loading, unloading, and hauling operations so that noise and vibration are kept to a minimum by carefully selecting routes to avoid going through residential neighborhoods to the greatest possible extent.
5. Design ingress and egress to and from the staging area to be on collector streets or higher street designations (preferred), and through routes for trucks will be designed to the extent feasible to minimize the potential for back-up alarm disturbances.
6. Turn off idling equipment.
7. Use temporary noise barriers, as necessary and practicable, to protect sensitive receptors against excessive noise from construction activities. Consider mitigation measures such as partial enclosures around continuously operating equipment or temporary barriers along construction boundaries.
8. Minimize construction activities within residential areas during evening, nighttime, weekend, and holiday periods. Note that permits may be required in some cities before construction can be performed in noise-sensitive areas.

The following is a listing of procedures that have been shown to minimize vibration disturbances at sensitive areas during construction:

1. When possible, limit the use of construction equipment that creates high vibration levels, such as vibratory rollers operating within 20 feet of commercial structures, within 26 feet of residential structures, and within 36 feet of sensitive land uses, such as historic properties, shall be limited.
2. Use alternative procedures of construction and select the proper combination of techniques that would generate the least overall vibration.
3. Require vibration monitoring during vibration-intensive activities.
4. Restrict the hours of vibration-intensive equipment usage such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when most residents are away from home).
5. Conduct vibration monitoring at the nearest buildings (within approximately 30 feet of activity) during vibration-intensive construction activities.

A combination of the mitigation techniques for equipment noise and vibration control, as well as administrative measures, when properly implemented, would provide the most effective means of minimizing the impacts of construction activities. Application of these mitigation measures will reduce construction impacts; however, temporary increases in noise and vibration would likely exceed applicable limits at some locations.

REFERENCES

City of Miami, City Ordinance Code, Chapter 36. March 2020.

City of Miami Beach . City Ordinance Code, Chapter 46, 2006.

FTA, 2006. Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidance Manual, FTA-VA-90-1003-06. May.

Appendix A
(FTA Spread Sheet Results)

FTA Spread Sheet Results

Category 2

APM 5th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT1
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Automated Guideway Transit /Rubber Tire
Daytime hrs	Avg. Number of vehicles/train	4
	Speed (mph)	25
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of vehicles/train	4
	Speed (mph)	25
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	67 dBA
Total Project Ldn:	52 dBA
Total Noise Exposure:	67 dBA
Increase:	0 dB
Impact?:	None

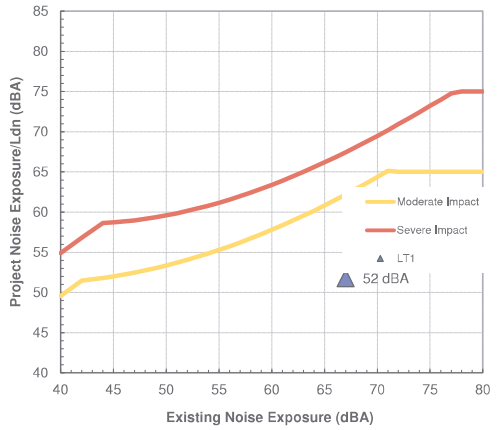
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	20 ft
Dist to Sev. Impact Contour (Source 1):	9 ft

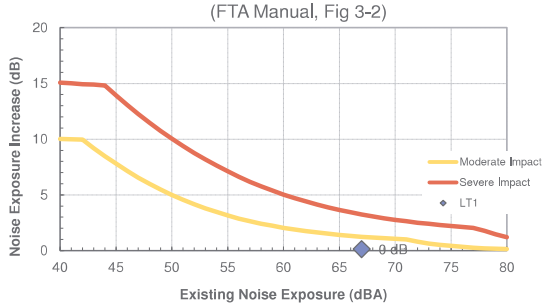
Source 1 Results

Leq(day):	49.7 dBA
Leq(night):	43.9 dBA
Ldn:	51.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



APM MacArthur Causeway

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	72 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Automated Guideway Transit /Rubber Tire
Daytime hrs	Avg. Number of vehicles/train	4
	Speed (mph)	45
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of vehicles/train	4
	Speed (mph)	45
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	72 dBA
Total Project Ldn:	57 dBA
Total Noise Exposure:	72 dBA
Increase:	0 dB
Impact?:	None

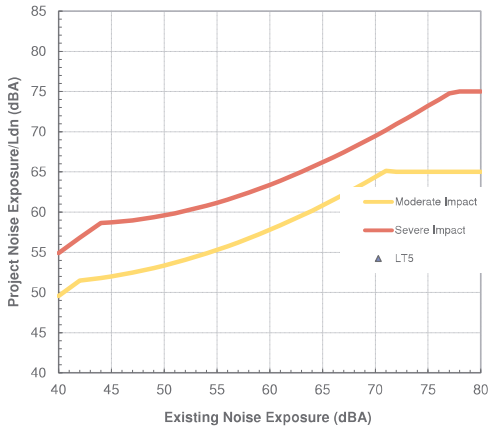
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	29 ft
Dist to Sev. Impact Contour (Source 1):	12 ft

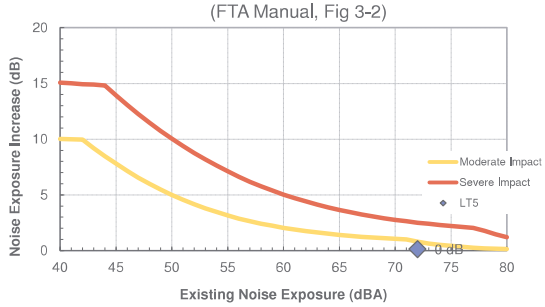
Source 1 Results

Leq(day):	54.8 dBA
Leq(night):	49.0 dBA
Ldn:	56.9 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



APM Miami Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST8
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Automated Guideway Transit /Rubber Tire
Daytime hrs	Avg. Number of vehicles/train	4
	Speed (mph)	35
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of vehicles/train	4
	Speed (mph)	35
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	67 dBA
Total Project Ldn:	55 dBA
Total Noise Exposure:	67 dBA
Increase:	0 dB
Impact?:	None

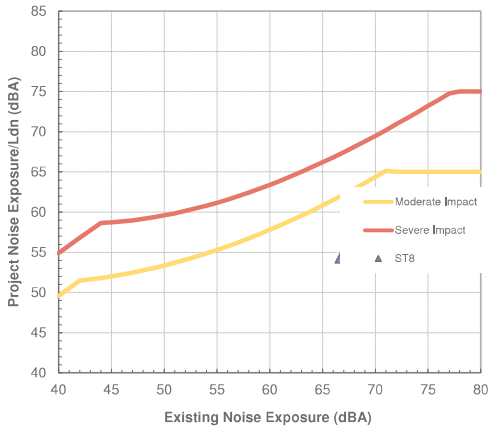
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	32 ft
Dist to Sev. Impact Contour (Source 1):	14 ft

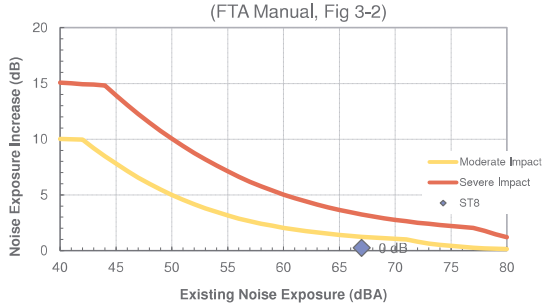
Source 1 Results

Leq(day):	52.6 dBA
Leq(night):	46.8 dBA
Ldn:	54.7 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



APM Washington Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT2
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	66 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Automated Guideway Transit /Rubber Tire
Daytime hrs	Avg. Number of vehicles/train	4
	Speed (mph)	15
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of vehicles/train	4
	Speed (mph)	15
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	66 dBA
Total Project Ldn:	47 dBA
Total Noise Exposure:	66 dBA
Increase:	0 dB
Impact?:	None

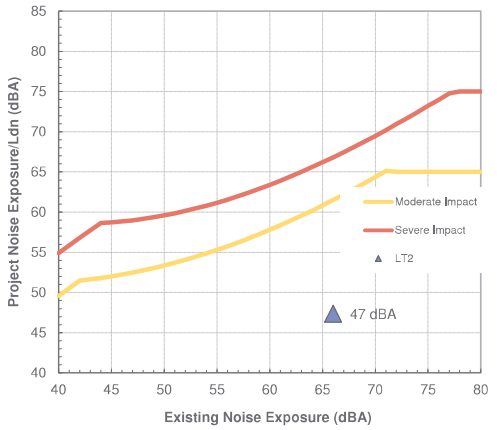
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	11 ft
Dist to Sev. Impact Contour (Source 1):	5 ft

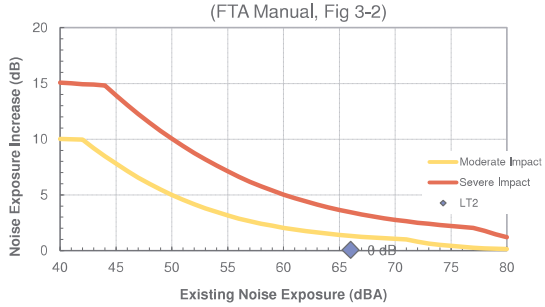
Source 1 Results

Leq(day):	45.3 dBA
Leq(night):	39.5 dBA
Ldn:	47.3 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT Arthur Godfry Road

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST9
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	59 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Daytime hrs		
	Speed (mph)	25
	Avg. Number of Events/hr	15.2
Nighttime hrs		
	Speed (mph)	25
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	59 dBA
Total Project Ldn:	50 dBA
Total Noise Exposure:	60 dBA
Increase:	1 dB
Impact?:	None

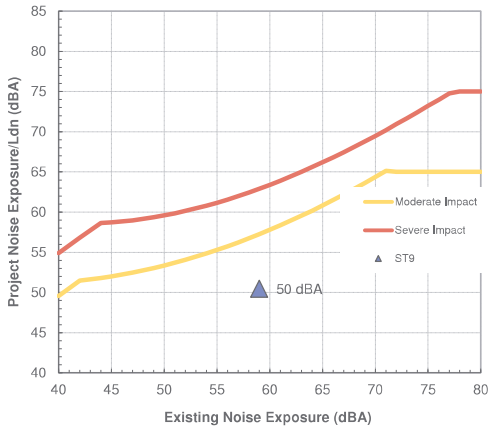
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	35 ft
Dist to Sev. Impact Contour (Source 1):	15 ft

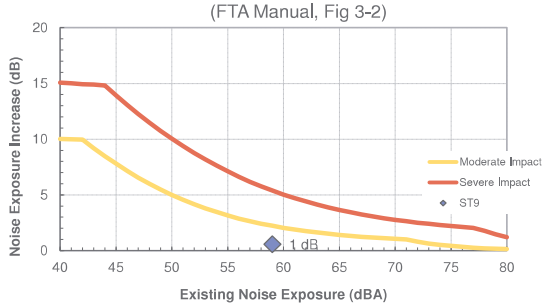
Source 1 Results

Leq(day):	48.4 dBA
Leq(night):	42.6 dBA
Ldn:	50.5 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT City Hall & Washington Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT2
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	66 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Daytime hrs		
	Speed (mph)	25
	Avg. Number of Events/hr	15.2
Nighttime hrs		
	Speed (mph)	25
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	66 dBA
Total Project Ldn:	50 dBA
Total Noise Exposure:	66 dBA
Increase:	0 dB
Impact?:	None

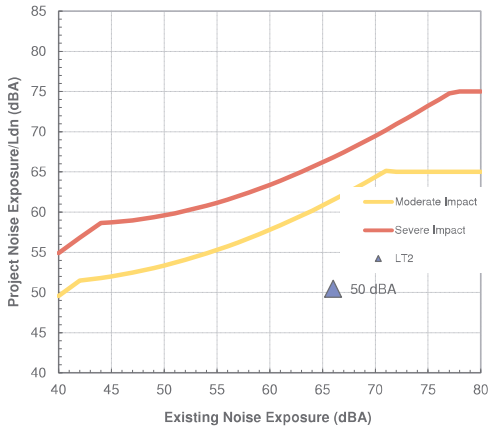
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	18 ft
Dist to Sev. Impact Contour (Source 1):	8 ft

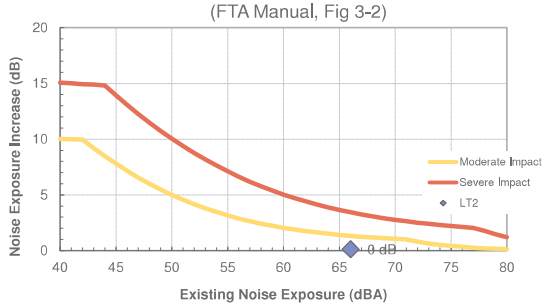
Source 1 Results

Leq(day):	48.4 dBA
Leq(night):	42.6 dBA
Ldn:	50.5 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT I-195

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST11
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	65 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Daytime hrs		
	Speed (mph)	45
	Avg. Number of Events/hr	15.2
Nighttime hrs		
	Speed (mph)	45
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	65 dBA
Total Project Ldn:	56 dBA
Total Noise Exposure:	65 dBA
Increase:	0 dB
Impact?:	None

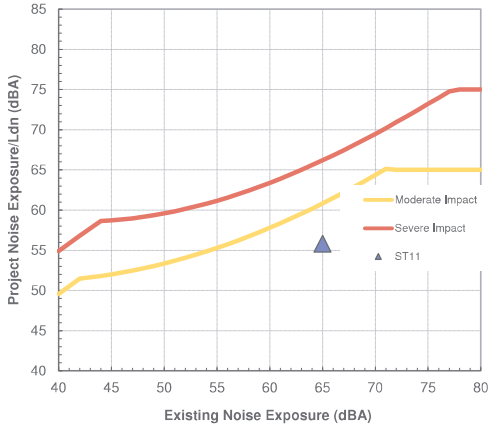
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	46 ft
Dist to Sev. Impact Contour (Source 1):	20 ft

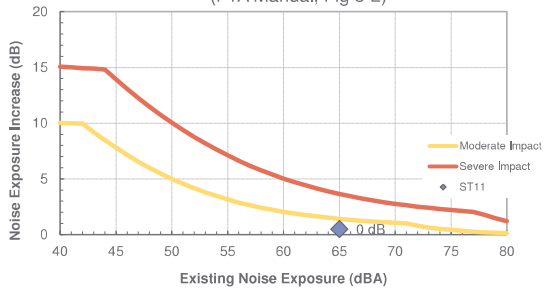
Source 1 Results

Leq(day):	53.7 dBA
Leq(night):	47.9 dBA
Ldn:	55.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT I-95

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	72 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Daytime hrs		
	Speed (mph)	45
	Avg. Number of Events/hr	15.2
Nighttime hrs		
	Speed (mph)	45
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	72 dBA
Total Project Ldn:	56 dBA
Total Noise Exposure:	72 dBA
Increase:	0 dB
Impact?:	None

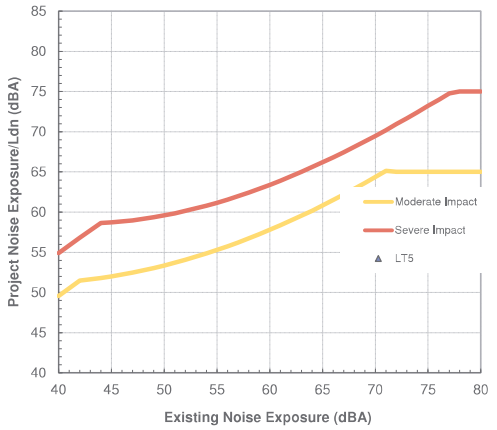
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	24 ft
Dist to Sev. Impact Contour (Source 1):	10 ft

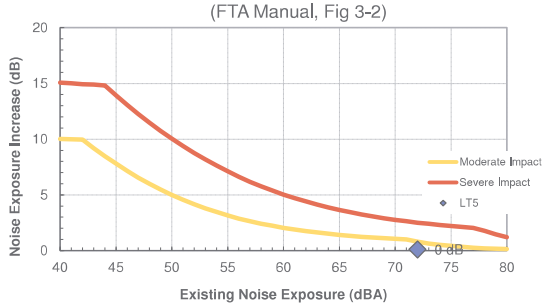
Source 1 Results

Leq(day):	53.7 dBA
Leq(night):	47.9 dBA
Ldn:	55.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT 5th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT1
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Daytime hrs		
	Speed (mph)	25
	Avg. Number of Events/hr	15.2
Nighttime hrs		
	Speed (mph)	25
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	67 dBA
Total Project Ldn:	50 dBA
Total Noise Exposure:	67 dBA
Increase:	0 dB
Impact?:	None

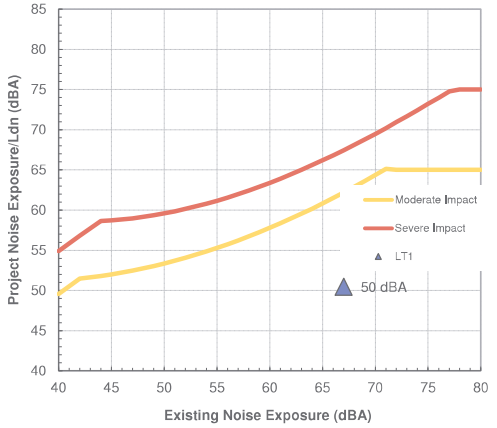
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	17 ft
Dist to Sev. Impact Contour (Source 1):	7 ft

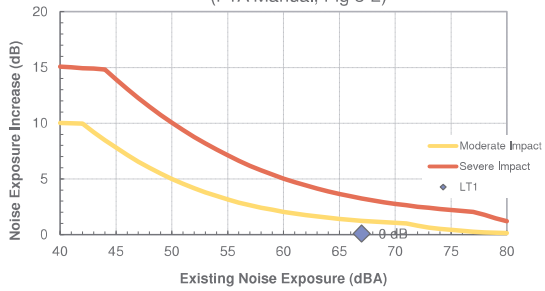
Source 1 Results

Leq(day):	48.4 dBA
Leq(night):	42.6 dBA
Ldn:	50.5 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT 8th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST8
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Daytime hrs		
	Speed (mph)	15
	Avg. Number of Events/hr	15.2
Nighttime hrs		
	Speed (mph)	15
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	67 dBA
Total Project Ldn:	46 dBA
Total Noise Exposure:	67 dBA
Increase:	0 dB
Impact?:	None

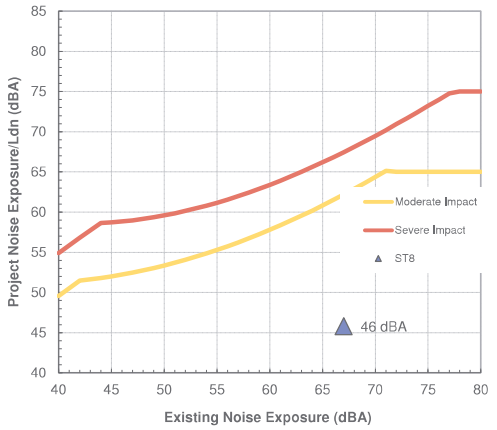
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	8 ft
Dist to Sev. Impact Contour (Source 1):	4 ft

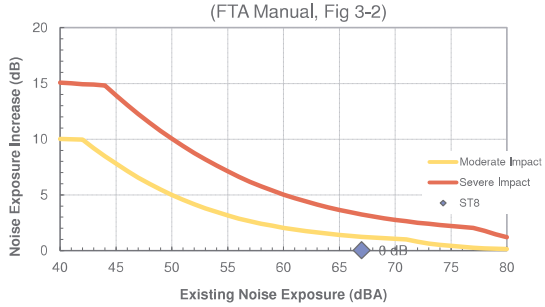
Source 1 Results

Leq(day):	43.7 dBA
Leq(night):	37.9 dBA
Ldn:	45.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT MacArthur Causeway

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	72 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Daytime hrs		
	Speed (mph)	45
	Avg. Number of Events/hr	15.2
Nighttime hrs		
	Speed (mph)	45
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	72 dBA
Total Project Ldn:	56 dBA
Total Noise Exposure:	72 dBA
Increase:	0 dB
Impact?:	None

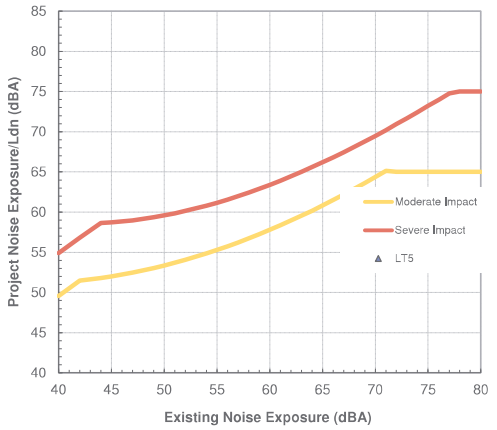
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	24 ft
Dist to Sev. Impact Contour (Source 1):	10 ft

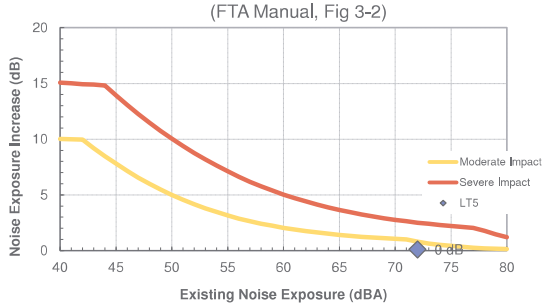
Source 1 Results

Leq(day):	53.7 dBA
Leq(night):	47.9 dBA
Ldn:	55.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



LRT 5th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT1
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Rail Transit Vehicle
Daytime hrs	Avg. Number of Transit Vehicles/train	4
	Speed (mph)	25
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of Transit Vehicles/train	4
	Speed (mph)	25
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	Yes
	Aerial Structure?	Yes

Project Results Summary

Existing Ldn:	67 dBA
Total Project Ldn:	63 dBA
Total Noise Exposure:	68 dBA
Increase:	1 dB
Impact?:	Moderate

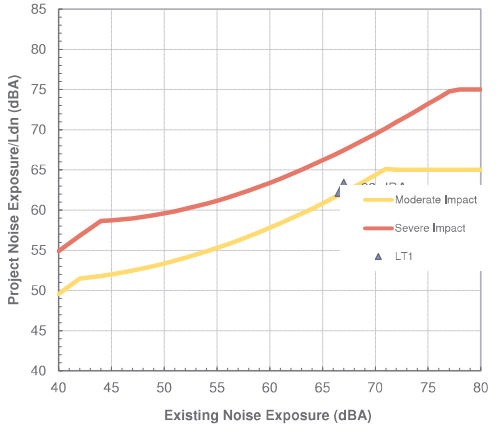
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	110 ft
Dist to Sev. Impact Contour (Source 1):	49 ft

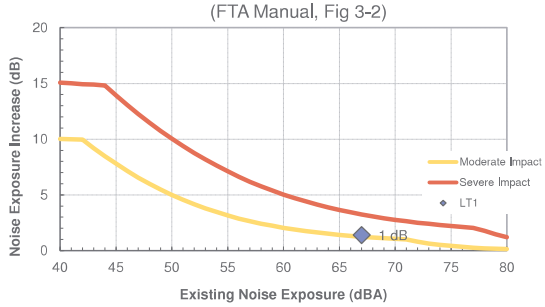
Source 1 Results

Leq(day):	60.7 dBA
Leq(night):	54.9 dBA
Ldn:	62.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



LRT MacArthur Causeway

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	72 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Rail Transit Vehicle
Daytime hrs	Avg. Number of Transit Vehicles/train	4
	Speed (mph)	45
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of Transit Vehicles/train	4
	Speed (mph)	45
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	Yes
	Aerial Structure?	Yes

Project Results Summary

Existing Ldn:	72 dBA
Total Project Ldn:	68 dBA
Total Noise Exposure:	73 dBA
Increase:	1 dB
Impact?:	Moderate

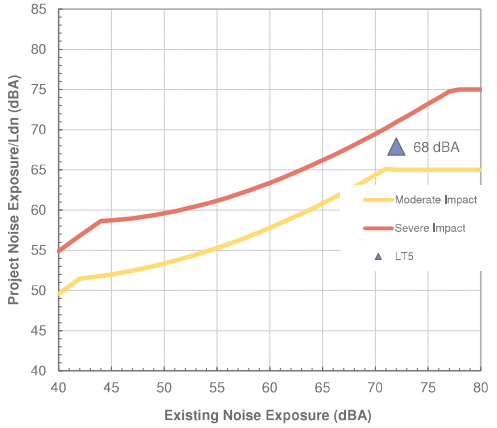
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	156 ft
Dist to Sev. Impact Contour (Source 1):	63 ft

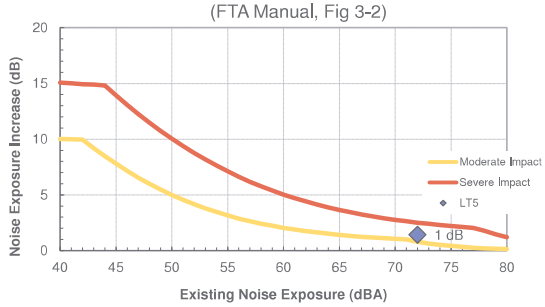
Source 1 Results

Leq(day):	65.8 dBA
Leq(night):	60.0 dBA
Ldn:	67.9 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



LRT Miami Avenue & 11th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST8
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Rail Transit Vehicle
Daytime hrs	Avg. Number of Transit Vehicles/train	4
	Speed (mph)	25
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of Transit Vehicles/train	4
	Speed (mph)	25
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	Yes
	Aerial Structure?	Yes

Project Results Summary

Existing Ldn:	67 dBA
Total Project Ldn:	63 dBA
Total Noise Exposure:	68 dBA
Increase:	1 dB
Impact?:	Moderate

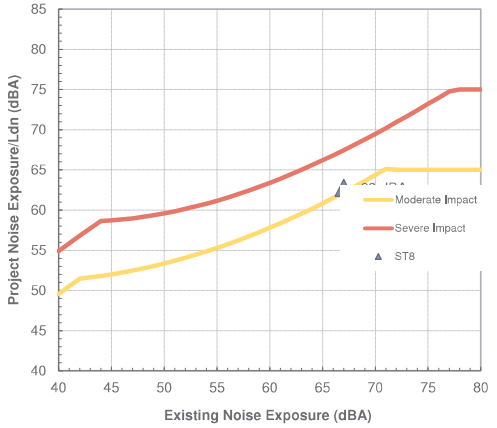
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	110 ft
Dist to Sev. Impact Contour (Source 1):	49 ft

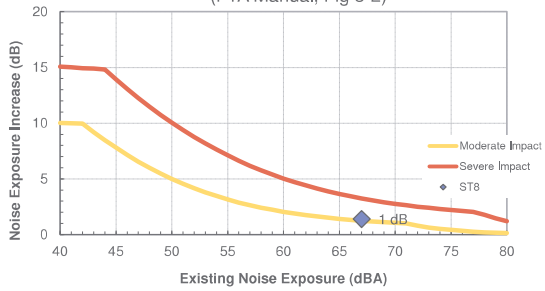
Source 1 Results

Leq(day):	60.7 dBA
Leq(night):	54.9 dBA
Ldn:	62.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



LRT Washington Avenue & Civic Center

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT2
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	66 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Rail Transit Vehicle
Daytime hrs	Avg. Number of Transit Vehicles/train	4
	Speed (mph)	25
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of Transit Vehicles/train	4
	Speed (mph)	25
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	Yes
	Aerial Structure?	Yes

Project Results Summary

Existing Ldn:	66 dBA
Total Project Ldn:	63 dBA
Total Noise Exposure:	68 dBA
Increase:	2 dB
Impact?:	Moderate

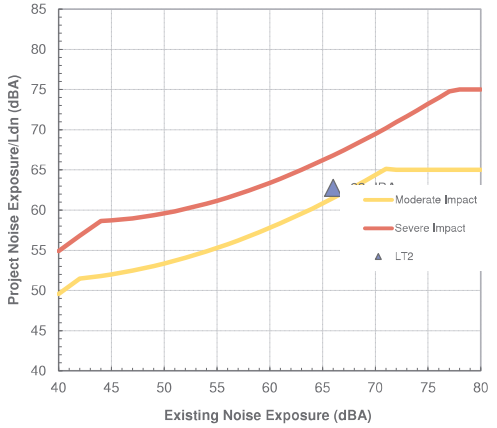
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	122 ft
Dist to Sev. Impact Contour (Source 1):	54 ft

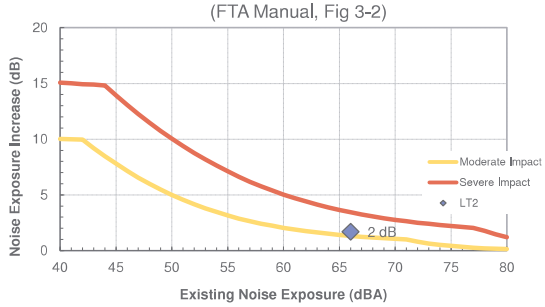
Source 1 Results

Leq(day):	60.7 dBA
Leq(night):	54.9 dBA
Ldn:	62.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



Monorail 5th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT1
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Monorail
Daytime hrs	Avg. Number of Vehicles/train	3
	Speed (mph)	25
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of Vehicles/train	3
	Speed (mph)	25
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	67 dBA
Total Project Ldn:	45 dBA
Total Noise Exposure:	67 dBA
Increase:	0 dB
Impact?:	None

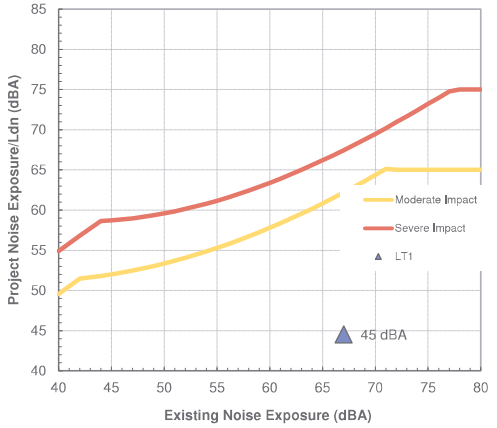
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	7 ft
Dist to Sev. Impact Contour (Source 1):	3 ft

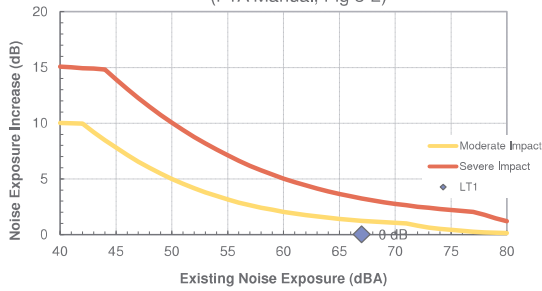
Source 1 Results

Leq(day):	42.5 dBA
Leq(night):	36.7 dBA
Ldn:	44.5 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



Monorail MacArthur Causeway

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	72 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Monorail
Daytime hrs	Avg. Number of Vehicles/train	3
	Speed (mph)	45
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of Vehicles/train	3
	Speed (mph)	45
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	72 dBA
Total Project Ldn:	50 dBA
Total Noise Exposure:	72 dBA
Increase:	0 dB
Impact?:	None

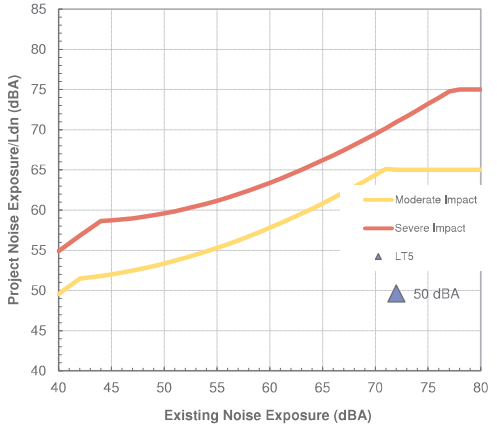
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	9 ft
Dist to Sev. Impact Contour (Source 1):	4 ft

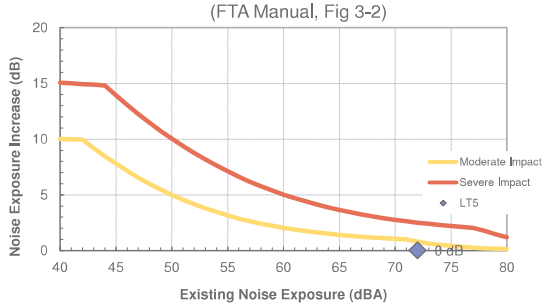
Source 1 Results

Leq(day):	47.6 dBA
Leq(night):	41.8 dBA
Ldn:	49.6 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



Monorail Washington Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT2
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	66 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Monorail
Daytime hrs	Avg. Number of Vehicles/train	3
	Speed (mph)	15
	Avg. Number of Events/hr	15.2
Nighttime hrs	Avg. Number of Vehicles/train	3
	Speed (mph)	15
	Avg. Number of Events/hr	4
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	66 dBA
Total Project Ldn:	40 dBA
Total Noise Exposure:	66 dBA
Increase:	0 dB
Impact?:	None

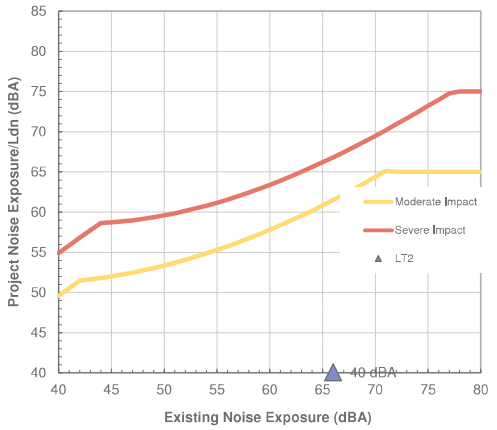
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	4 ft
Dist to Sev. Impact Contour (Source 1):	2 ft

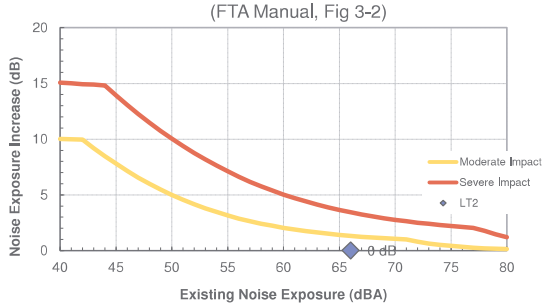
Source 1 Results

Leq(day):	38.0 dBA
Leq(night):	32.2 dBA
Ldn:	40.1 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



FTA Spread Sheet Results

Category 3

APM 5th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT1
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Automated Guideway Transit /Rubber Tire
Noisiest hr of Activity During Sensitive hrs	Number of vehicles/train	4
	Speed (mph)	25
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	67 dBA
Total Project Leqh:	52 dBA
Total Noise Exposure:	67 dBA
Increase:	0 dB
Impact?:	None

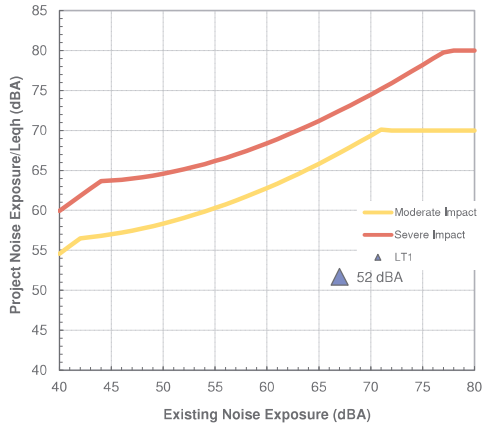
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	9 ft
Dist to Sev. Impact Contour (Source 1):	4 ft

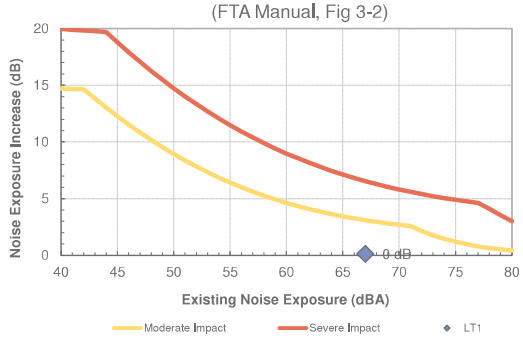
Source 1 Results

Leqh: 51.7 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



APM McArthur Causeway

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	71 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Automated Guideway Transit /Rubber Tire
Noisiest hr of Activity During Sensitive hrs	Number of vehicles/train	4
	Speed (mph)	45
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	71 dBA
Total Project Leqh:	57 dBA
Total Noise Exposure:	71 dBA
Increase:	0 dB
Impact?:	None

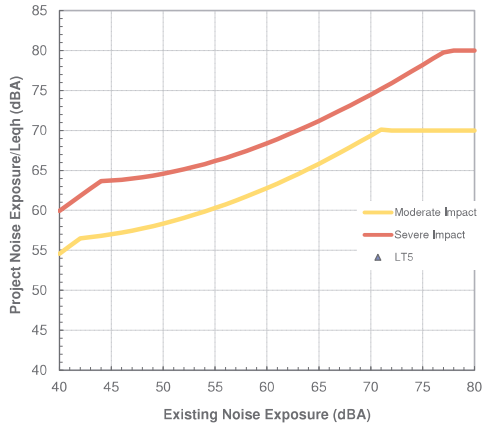
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	13 ft
Dist to Sev. Impact Contour (Source 1):	6 ft

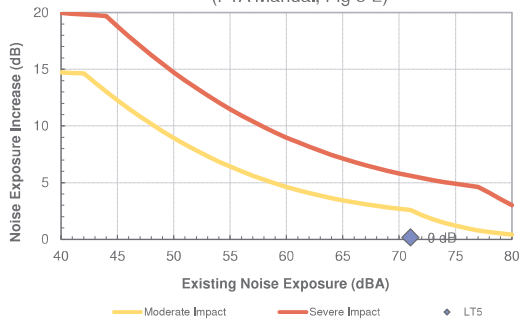
Source 1 Results

Leqh: 56.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



APM Miami Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST13
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	63 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Automated Guideway Transit /Rubber Tire
Noisiest hr of Activity During Sensitive hrs	Number of vehicles/train	4
	Speed (mph)	35
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	63 dBA
Total Project Leqh:	55 dBA
Total Noise Exposure:	64 dBA
Increase:	1 dB
Impact?:	None

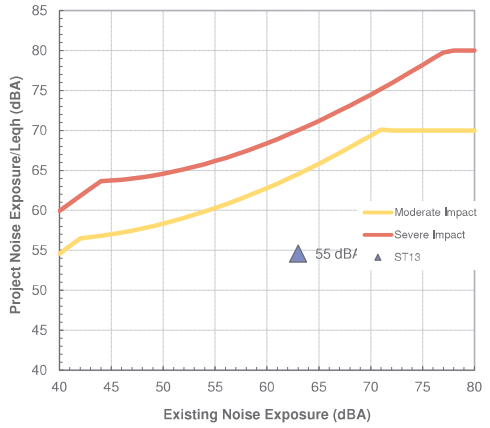
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	22 ft
Dist to Sev. Impact Contour (Source 1):	9 ft

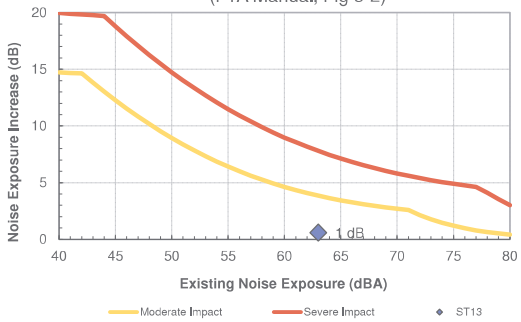
Source 1 Results

Leqh: 54.6 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



APM Washington Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT2
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	64 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Automated Guideway Transit /Rubber Tire
Noisiest hr of Activity During Sensitive hrs	Number of vehicles/train	4
	Speed (mph)	15
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	64 dBA
Total Project Leqh:	47 dBA
Total Noise Exposure:	64 dBA
Increase:	0 dB
Impact?:	None

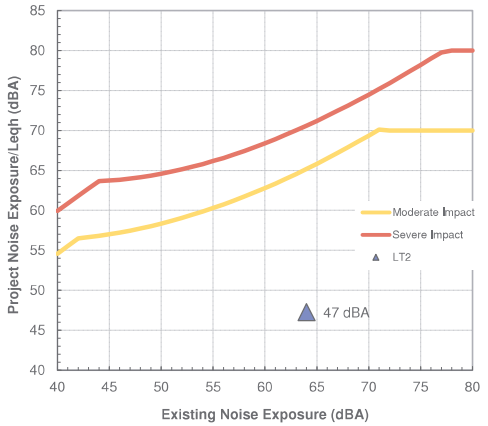
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	6 ft
Dist to Sev. Impact Contour (Source 1):	3 ft

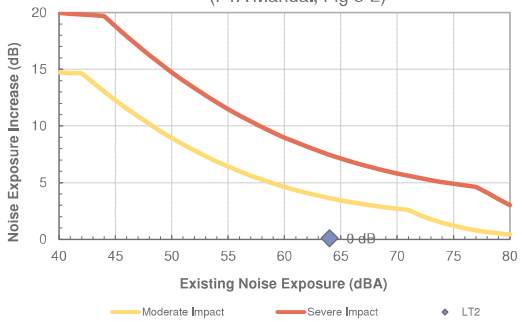
Source 1 Results

Leqh: 47.2 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT Arthur Godfry Road

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST9
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	59 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Noisiest hr of Activity During Sensitive hrs		
	Speed (mph)	25
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	59 dBA
Total Project Leqh:	50 dBA
Total Noise Exposure:	60 dBA
Increase:	1 dB
Impact?:	None

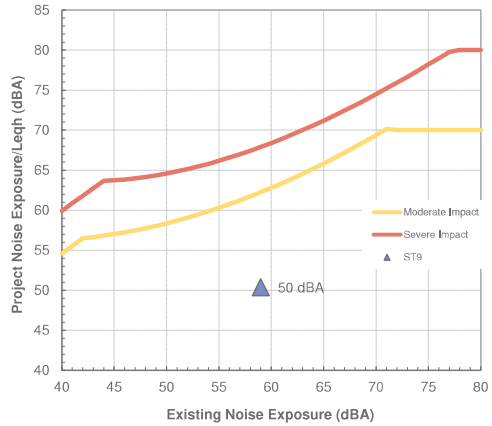
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	16 ft
Dist to Sev. Impact Contour (Source 1):	7 ft

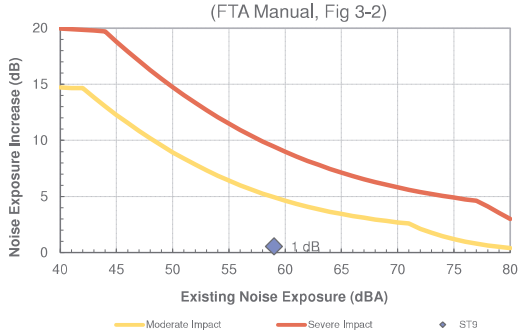
Source 1 Results

Leqh: 50.4 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT Collins Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST13
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	63 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Noisiest hr of Activity During Sensitive hrs		
	Speed (mph)	25
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	63 dBA
Total Project Leqh:	50 dBA
Total Noise Exposure:	63 dBA
Increase:	0 dB
Impact?:	None

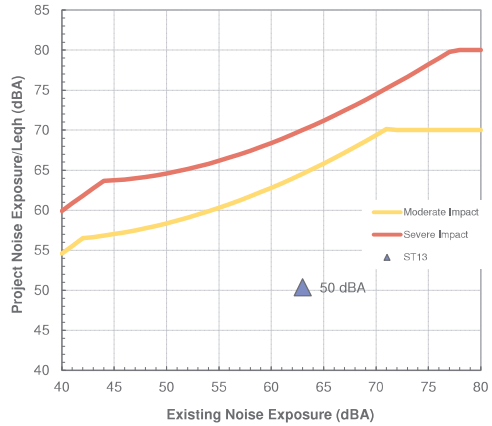
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	11 ft
Dist to Sev. Impact Contour (Source 1):	5 ft

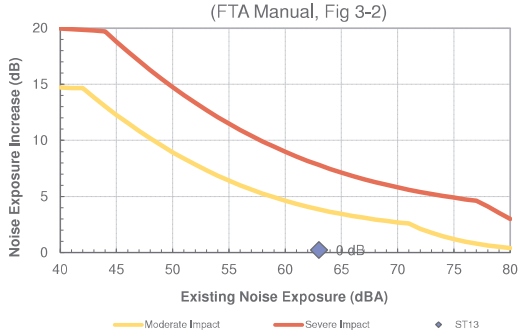
Source 1 Results

Leqh: 50.4 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT City Hall

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT2
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	64 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Noisiest hr of Activity During Sensitive hrs		
	Speed (mph)	25
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	64 dBA
Total Project Leqh:	50 dBA
Total Noise Exposure:	64 dBA
Increase:	0 dB
Impact?:	None

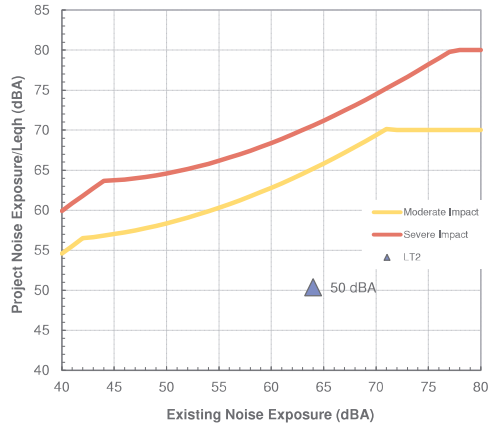
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	10 ft
Dist to Sev. Impact Contour (Source 1):	4 ft

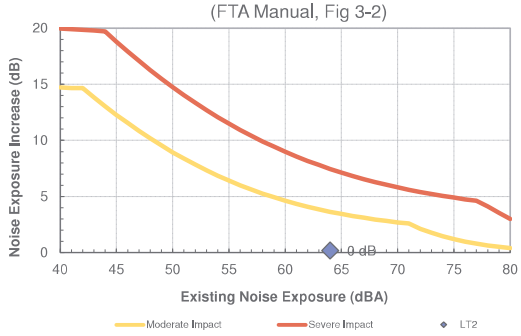
Source 1 Results

Leqh: 50.4 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT I-195

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST11
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	65 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Noisiest hr of Activity During Sensitive hrs		
	Speed (mph)	45
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	65 dBA
Total Project Leqh:	56 dBA
Total Noise Exposure:	65 dBA
Increase:	0 dB
Impact?:	None

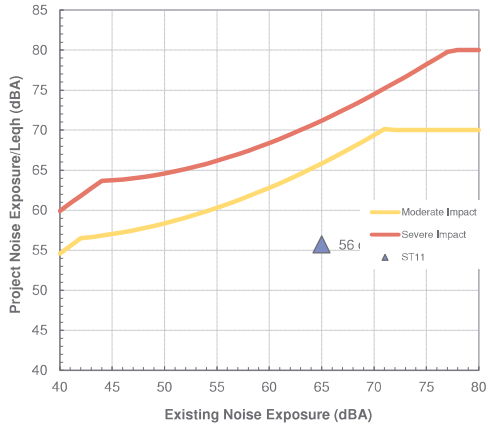
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	21 ft
Dist to Sev. Impact Contour (Source 1):	9 ft

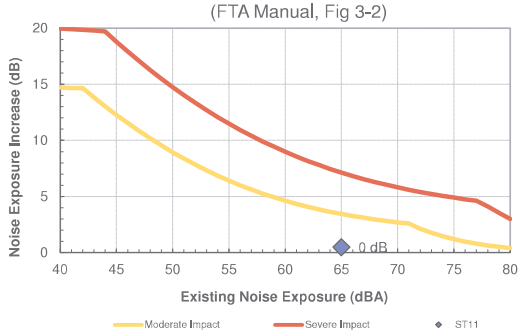
Source 1 Results

Leqh: 55.7 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT I-95

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	71 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Noisiest hr of Activity During Sensitive hrs	Speed (mph)	45
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	71 dBA
Total Project Leqh:	56 dBA
Total Noise Exposure:	71 dBA
Increase:	0 dB
Impact?:	None

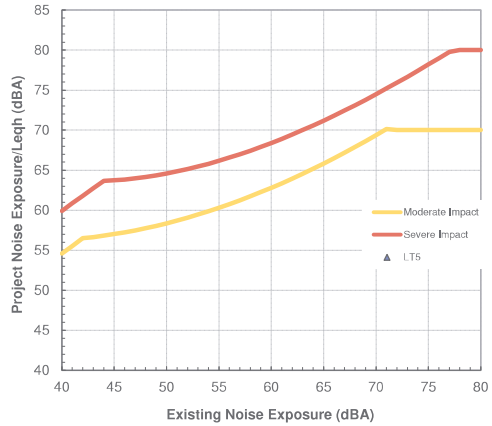
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	11 ft
Dist to Sev. Impact Contour (Source 1):	5 ft

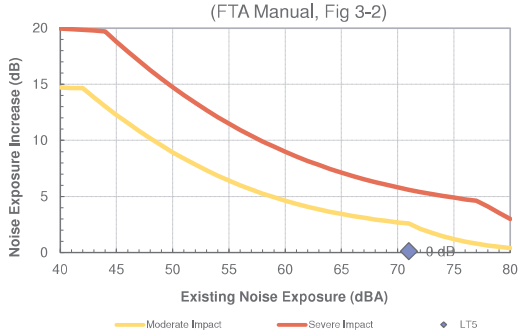
Source 1 Results

Leqh: 55.7 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT 5th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT1
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Noisiest hr of Activity During Sensitive hrs		
	Speed (mph)	25
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	67 dBA
Total Project Leqh:	50 dBA
Total Noise Exposure:	67 dBA
Increase:	0 dB
Impact?:	None

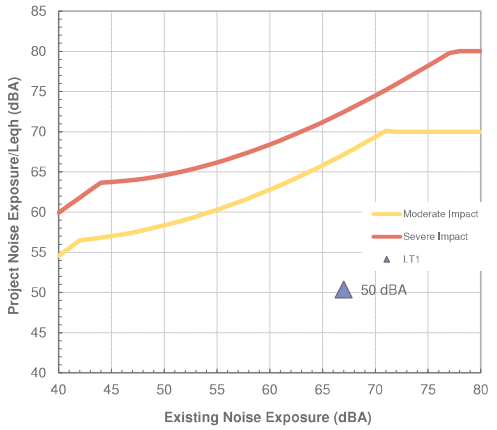
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	8 ft
Dist to Sev. Impact Contour (Source 1):	3 ft

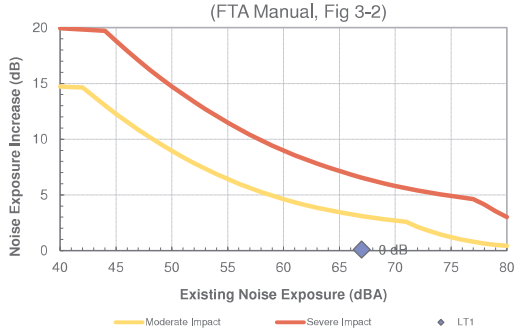
Source 1 Results

Leqh: 50.4 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT MacArthur Causeway

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	71 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Noisiest hr of Activity During Sensitive hrs		
	Speed (mph)	45
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	71 dBA
Total Project Leqh:	56 dBA
Total Noise Exposure:	71 dBA
Increase:	0 dB
Impact?:	None

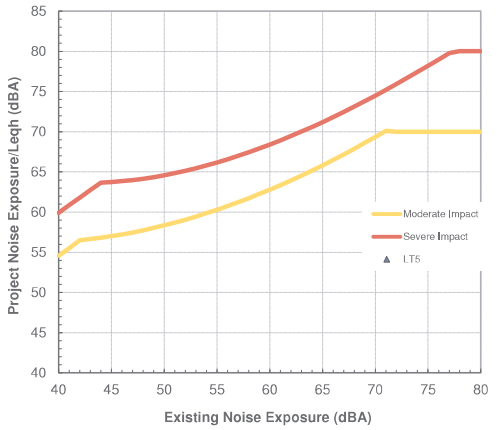
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	11 ft
Dist to Sev. Impact Contour (Source 1):	5 ft

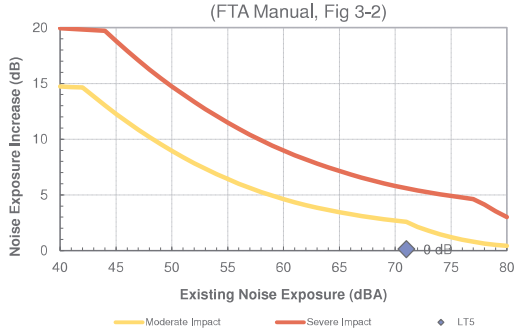
Source 1 Results

Leqh: 55.7 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



BRT 8th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST8
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	63 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (hybrid)
Noisiest hr of Activity During Sensitive hrs		
	Speed (mph)	15
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	63 dBA
Total Project Leqh:	46 dBA
Total Noise Exposure:	63 dBA
Increase:	0 dB
Impact?:	None

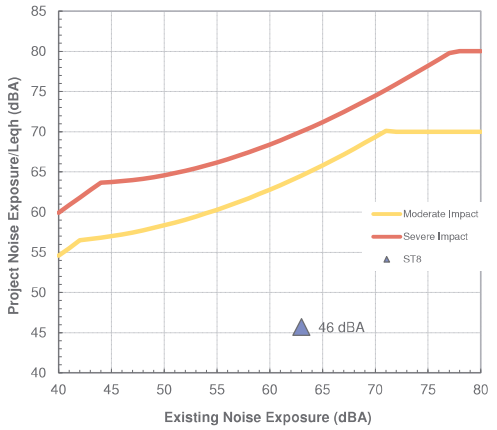
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	6 ft
Dist to Sev. Impact Contour (Source 1):	2 ft

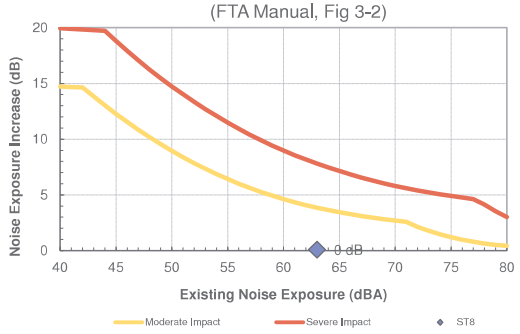
Source 1 Results

Leqh: 45.7 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



LRT 5th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT1
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Rail Transit Vehicle
Noisiest hr of Activity During Sensitive hrs	Number of Transit Vehicles/train	4
	Speed (mph)	25
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	Yes
	Aerial Structure?	Yes

Project Results Summary

Existing Leqh:	67 dBA
Total Project Leqh:	63 dBA
Total Noise Exposure:	68 dBA
Increase:	1 dB
Impact?:	None

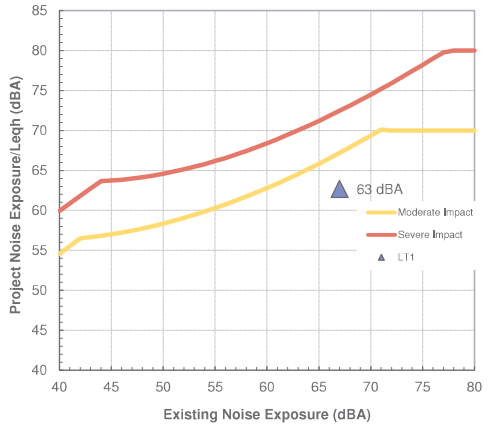
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	50 ft
Dist to Sev. Impact Contour (Source 1):	22 ft

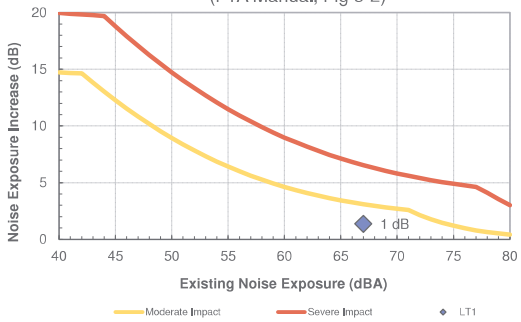
Source 1 Results

Leqh: 62.7 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



LRT MacArthur Causeway

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	71 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Rail Transit Vehicle
Noisiest hr of Activity During Sensitive hrs	Number of Transit Vehicles/train	4
	Speed (mph)	45
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	Yes
	Aerial Structure?	Yes

Project Results Summary

Existing Leqh:	71 dBA
Total Project Leqh:	68 dBA
Total Noise Exposure:	73 dBA
Increase:	2 dB
Impact?:	None

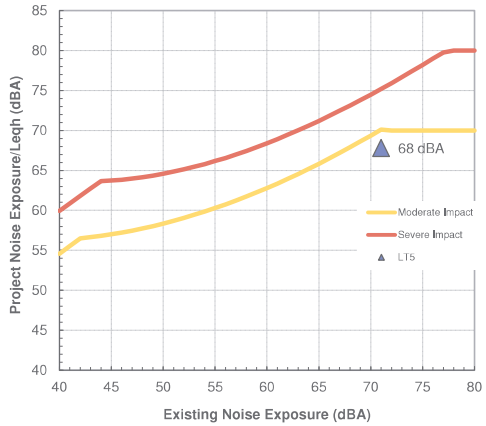
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	70 ft
Dist to Sev. Impact Contour (Source 1):	32 ft

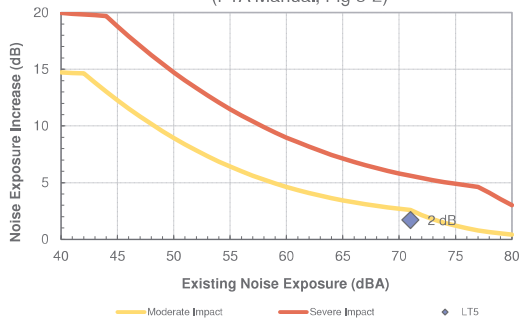
Source 1 Results

Leqh: 67.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



LRT Miami Avenue & 11th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	ST8
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	63 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Rail Transit Vehicle
Noisiest hr of Activity During Sensitive hrs	Number of Transit Vehicles/train	4
	Speed (mph)	25
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	Yes
	Aerial Structure?	Yes

Project Results Summary

Existing Leqh:	63 dBA
Total Project Leqh:	63 dBA
Total Noise Exposure:	66 dBA
Increase:	3 dB
Impact?:	None

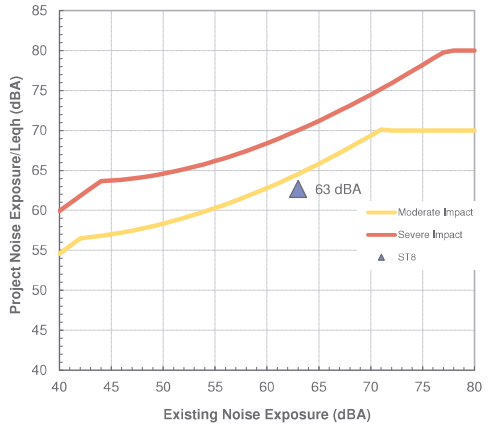
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	75 ft
Dist to Sev. Impact Contour (Source 1):	32 ft

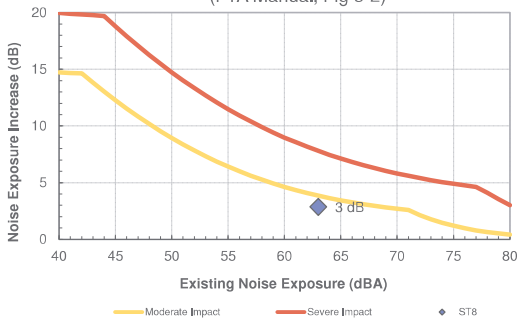
Source 1 Results

Leqh: 62.7 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



LRT Washington Avenue & Civic Center

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT2
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	64 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Rail Transit Vehicle
Noisiest hr of Activity During Sensitive hrs	Number of Transit Vehicles/train	4
	Speed (mph)	25
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	Yes
	Aerial Structure?	Yes

Project Results Summary

Existing Leqh:	64 dBA
Total Project Leqh:	63 dBA
Total Noise Exposure:	66 dBA
Increase:	2 dB
Impact?:	None

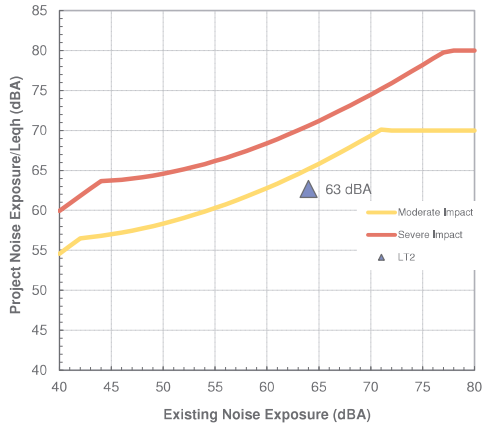
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	68 ft
Dist to Sev. Impact Contour (Source 1):	30 ft

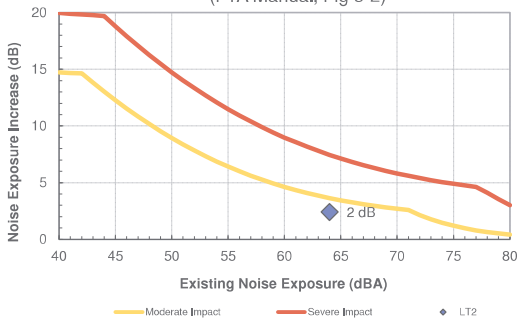
Source 1 Results

Leqh: 62.7 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



Monorail 5th Street

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT1
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Monorail
Noisiest hr of Activity During Sensitive hrs	Number of Vehicles/train	3
	Speed (mph)	35
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	67 dBA
Total Project Leqh:	47 dBA
Total Noise Exposure:	67 dBA
Increase:	0 dB
Impact?:	None

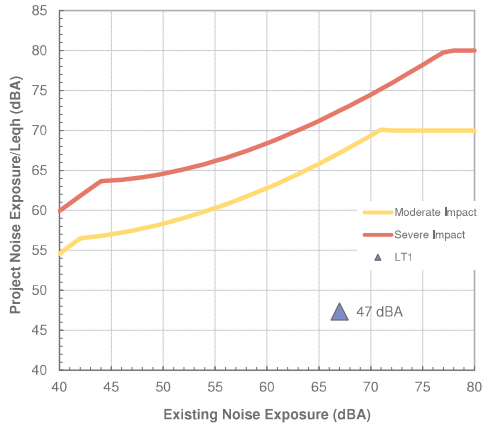
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	5 ft
Dist to Sev. Impact Contour (Source 1):	2 ft

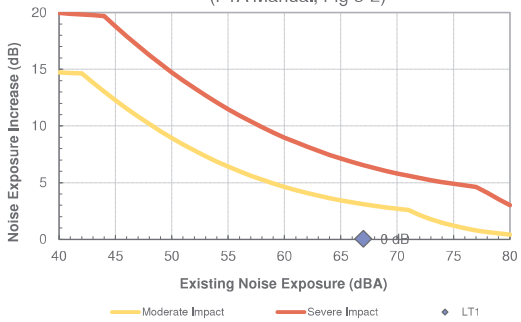
Source 1 Results

Leqh: 47.4 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



Monorail MacArthur Causeway

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT5
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	71 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Monorail
Noisiest hr of Activity During Sensitive hrs	Number of Vehicles/train	3
	Speed (mph)	45
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	71 dBA
Total Project Leqh:	50 dBA
Total Noise Exposure:	71 dBA
Increase:	0 dB
Impact?:	None

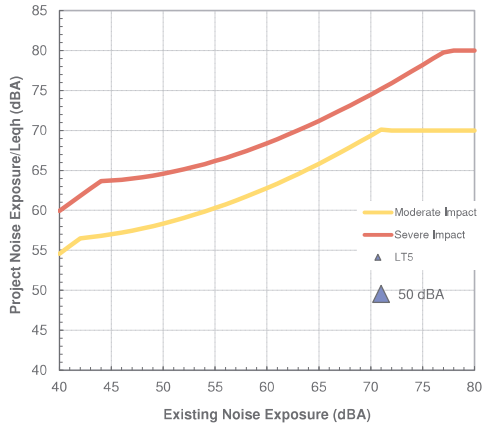
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	4 ft
Dist to Sev. Impact Contour (Source 1):	2 ft

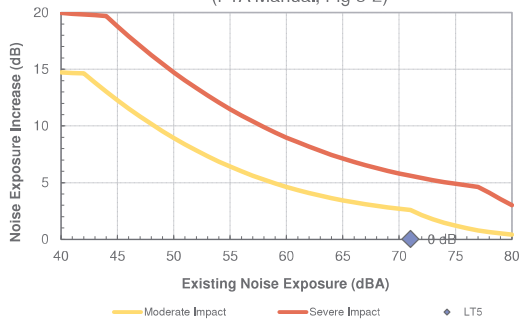
Source 1 Results

Leqh: 49.5 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



Monorail Washington Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 7/3/2007

Project:	Miami Corridor

Receiver Parameters	
Receiver:	LT2
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	64 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Monorail
Noisiest hr of Activity During Sensitive hrs	Number of Vehicles/train	3
	Speed (mph)	15
	Number of Events/hr	24
Distance	Distance from Source to Receiver (ft)	100
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Leqh:	64 dBA
Total Project Leqh:	40 dBA
Total Noise Exposure:	64 dBA
Increase:	0 dB
Impact?:	None

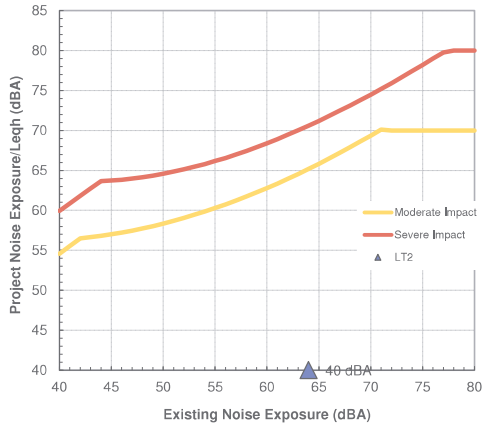
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	2 ft
Dist to Sev. Impact Contour (Source 1):	1 ft

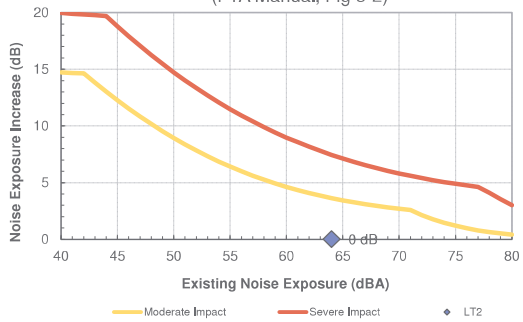
Source 1 Results

Leqh: 40.0 dBA

Noise Impact Criteria
(FTA Manual, Fig 3-1)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Fig 3-2)



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Noise and Vibration Assessment

Beach Corridor Rapid Transit Project
Miami-Dade County SMART Plan
August 2021

The Miami-Dade County Department of Public Works (DTPW) is conducting a Project Development and Environment (PD&E) study to evaluate alternatives for the development of a multi-modal transportation corridor known as the Beach Corridor Rapid Transit Project. The Beach Corridor is one of six corridors included in the Miami-Dade County Strategic Miami Area Rapid Transit (SMART) Plan. The project would connect the Design District/Midtown Miami, Downtown Miami, and Miami Beach. In advance of this noise and vibration assessment, SEARCH, a cultural resources management firm, conducted a desktop cultural resource analysis of four maintenance yard facility (MOF) locations proposed for the preferred technology alternatives. The MOF locations are shown in **Figure 1**. This noise and vibration assessment focuses on those proposed MOF locations.

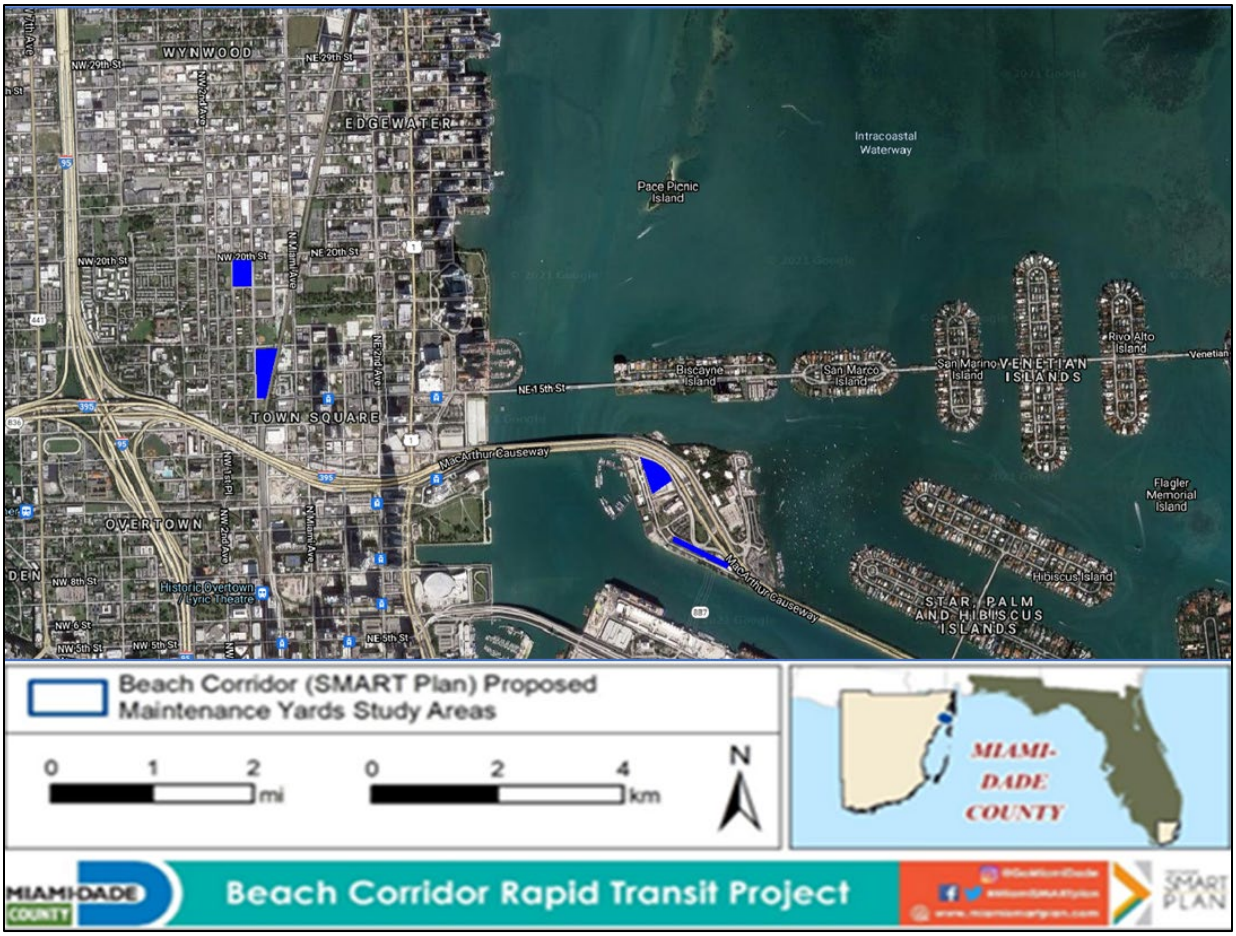

Figure 1 – MOF Locations

MOF LOCATIONS AND SETTINGS

Two of the four proposed maintenance yard locations are in the historic Overtown neighborhood in the City of Miami (**Figure 2**). Both locations consist of urban city blocks containing multiple lots of various sizes and of mixed use. The properties chosen for these proposed facilities are either vacant or with low occupancy; however, historically, the same blocks were subdivided into as many as 14 lots depicting a trend of lot consolidation and variable land use over time. Currently, these two proposed facility locations contain a total of five lots. Only one of the lots contains extant structures. The lots would be cleared of existing structures and redeveloped to meet the needs of the elevated transit corridor technology to include a spur of elevated railway, maintenance facility buildings, and parking.

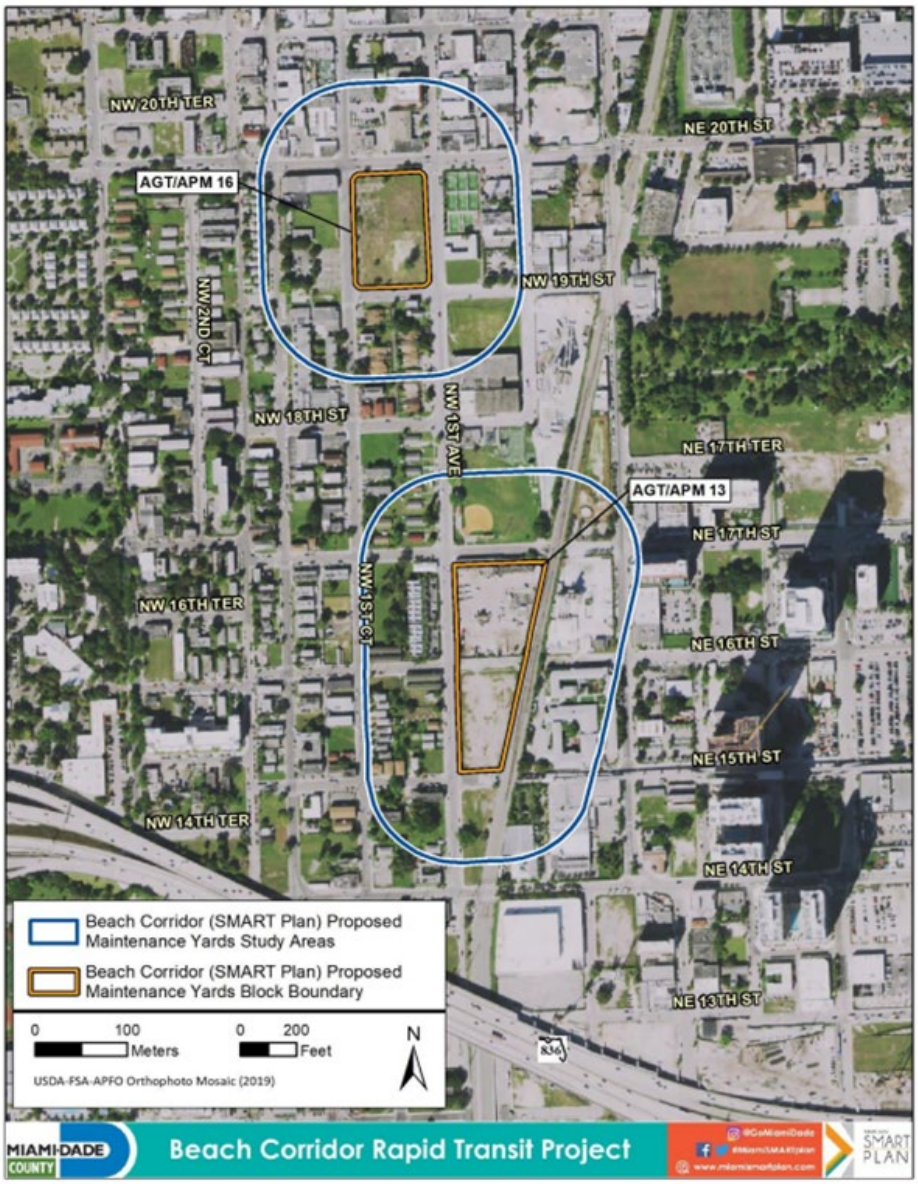

Figure 2 – Location of the proposed MOFs along North Miami Avenue

The other two proposed maintenance yard locations are on Watson Island in Biscayne Bay along the MacArthur Causeway between Miami and Miami Beach, although the island is actually within the jurisdictional boundaries of the City of Miami. Watson Island is bisected by I-395/SR A1A/MacArthur Causeway, and both potential maintenance yard locations are south of the highway (see **Figure 3**). The two parcels proposed for the maintenance yards are currently owned by the City of Miami, with the southernmost parcel containing the Miami Children's Museum and the northernmost parcel vacant aside from a large metal Quonset hut. Watson Island is man-made and was originally created by land reclamation in 1926 with material dredged from the ship channel to the Port of Miami and has expanded in size and development over time.

Figure 3 – Location of the proposed MOFs on Watson Island

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MAINTENANCE YARD FACILITIES - NOISE

A noise screening assessment was completed following the *FTA Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) procedures for the four proposed MOFs. As previously noted, the facility locations are shown in Figures 2 and 3. **Table 1** summarizes the train operations at all of the MOFs based on 3 service stalls per site, which were used to estimate the noise levels from each facility at nearby land uses. The train operations are based on data from the *Maintenance and Operation Facility Site Identification & Preferred Sites Evaluation Report*, prepared in conjunction with the Beach Corridor Rapid Transit project. The assessment was done for the perfered train technology AGT/APM (automated people mover/Metromover) as stated in the CulturalResource Desktop Analysis Report (Desktop 2021).

Table 1 – Summary of MOF Operational Data

AGT/APM PREFERRED TECHNOLOGY [1]	
Number of Trains per Hour- Day	3
Number of Trains per Hour– Night	2
Number of Peak Hour Trains	12

Notes: 1 – Daytime hours are 7:00 a.m. to 10:00 p.m.; nighttime hours are 10:00 p.m. to 7:00 a.m.

Table 2 summarizes the impacts for each MOF site. The level of impact at each site was determined based on whether the estimated project noise levels exceed criteria provided in the FTA guidance, which are based on existing noise levels. Existing noise levels in each respective area were taken from the noise measurements conducted for the *Beach Corridor Rapid Transit Project Noise and Vibration Study Report*.

Table 2 – Noise Impacts for each Maintenance Yard Location

MAINTENANCE FACILITY LOCATION	DISTANCE TO NEAREST LAND USE, FEET[1]	FTA LAND USE CATEGORY	FTA PROJECT NOISE IMPACT CRITERIA (MODERATE/SEVERE), dBA[2,3]	CALCULATED PROJECT NOISE LEVEL, dBA[3]	LEVEL OF IMPACT (NONE, MODERATE, SEVERE)
NW 20th Street & NW 1st Court	270	2 – Residential	62/67	61	None
NW 20th Street & NW 1st Court	330	3 – Institutional	66 /71	60	None
NW 17th Street & NW 1st Avenue	195	2 – Residential	62 /67	64	Moderate
NW 17th Street & NW 1st Avenue	220	3 – Institutional	66 /71	64	None
980 MacArthur Causeway	460	3 – Institutional	70 /75	56	None
850 MacArthur Causeway	780	3 – Institutional	70 /75	50	None

Notes: 1 – Distance measured to center of the maintenance yards per FTA guidelines.
2 – FTA impact thresholds based on estimated existing noise levels, following FTA guidelines.
3 – Noise levels are day-night sound levels (Ldn) for Cat 2 and hourly sound levels (L_{eq}) for Cat 3.

The increase in noise levels from MOF operations are anticipated to be less than the criteria for "Moderate Impact" per the Federal Transit Administration's (FTA) guidelines, except for the MOF located at NW 17th Street & NW 1st

Avenue, which will have two moderate impact residences. FTA does not require mitigation for moderate impacts. Therefore, consideration of mitigation for MOF operations would not be required.

MAINTENANCE YARD FACILITIES - VIBRATION

The FTA Vibration Impact Criteria were used to identify locations where potential impact may occur based on existing land use activities. The FTA vibration impact criteria are not based upon the existing vibration levels measured at adjacent structures to the proposed alignment. Instead, they are based on the frequency of the proposed transit service and the type of proposed transit vehicle only.

Also, as noted in the FTA manual's vibration screening section, rubber wheels APM's are unlikely to cause vibration impacts and no further analysis is required.

CONCLUSIONS

The proposed MOFs are not expected to generate any operational "severe impact" noise levels, based on FTA guidelines, since the MOF operations will be located in areas with high existing noise levels and are farther than 190 feet from noise sensitive land uses. In addition, noise levels estimated at three of the four MOFs are well below the threshold for "Moderate Impact" per the FTA guidelines. The proposed MOFs are also not anticipated to generate any vibration impacts, since AGT/APM rubber-tire traffic typically does not produce perceptible vibration. Furthermore, there are no high-sensitivity land uses adjacent to the proposed MOFs (such as research facilities with electron microscopes, etc.). Therefore, The MOFs for the Beach Corridor Rapid Transit Project are not expected to generate noise and vibration levels that would trigger the need for consideration of mitigation measures.

FTA Spread Sheet Results

Category 2

APM

NW 20th Street & NW 1st Court

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 1/29/2019

Project:	Miami MOF

Receiver Parameters	
Receiver:	Receiver 1
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Stationary Source
	Specific Source:	Rail Yard & Shops
Daytime hrs	Avg. Number of Trains/hr	3
Nighttime hrs	Avg. Number of Trains/hr	2
Distance	Distance from Source to Receiver (ft)	270
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

	Noise Barrier?	No

Project Results Summary

Existing Ldn:	67 dBA
Total Project Ldn:	61 dBA
Total Noise Exposure:	68 dBA
Increase:	1 dB
Impact?:	None

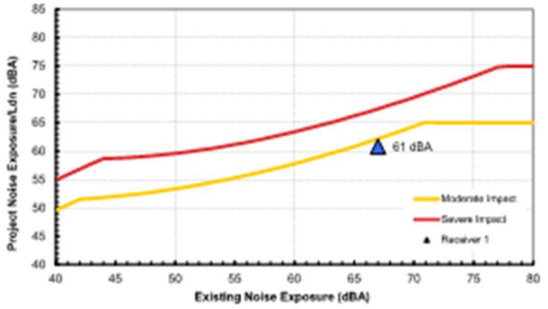
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	238 ft
Dist to Sev. Impact Contour (Source 1):	146 ft

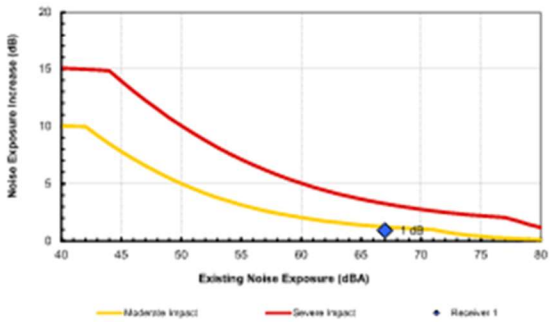
Source 1 Results

Leq(day):	55.9 dBA
Leq(night):	54.1 dBA
Ldn:	60.8 dBA

Noise Impact Criteria
(FTA Manual, Fig 4-2)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Figs 4-3 and 4-4)



APM

NW 17th Street & NW 1st Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 1/29/2019

Project:	Miami MOF

Receiver Parameters	
Receiver:	Receiver 1
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	67 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Stationary Source
	Specific Source:	Rail Yard & Shops
Daytime hrs	Avg. Number of Trains/hr	3
Nighttime hrs	Avg. Number of Trains/hr	2
Distance	Distance from Source to Receiver (ft)	195
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

	Noise Barrier?	No

Project Results Summary

Existing Ldn:	67 dBA
Total Project Ldn:	64 dBA
Total Noise Exposure:	69 dBA
Increase:	2 dB
Impact?:	Moderate

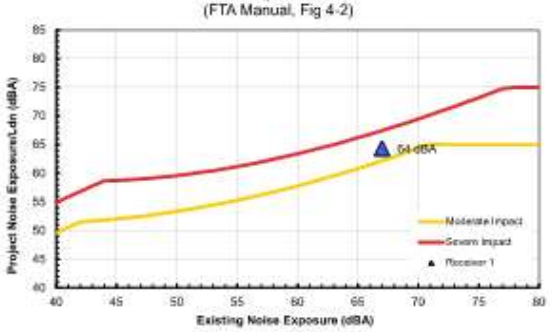
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	238 ft
Dist to Sev. Impact Contour (Source 1):	146 ft

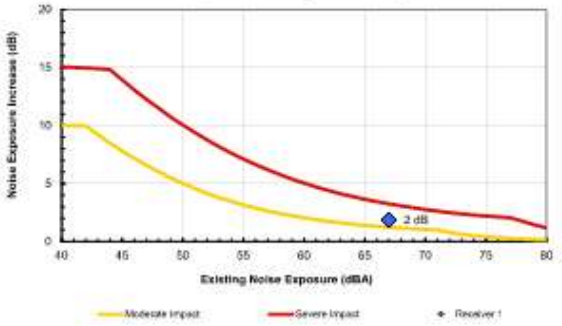
Source 1 Results

Leq(day):	59.4 dBA
Leq(night):	57.6 dBA
Ldn:	64.3 dBA

Noise Impact Criteria
(FTA Manual, Fig 4-2)



Increase in Cumulative Noise Levels Allowed
(FTA Manual, Figs 4-3 and 4-4)



FTA Spread Sheet Results

Category 3

APM

NW 20th Street & NW 1st Court

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 1/29/2019

Project:	Miami MOF

Receiver Parameters	
Receiver:	Receiver 1
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	65 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Stationary Source
	Specific Source:	Rail Yard & Shops
Noisiest hr of Activity During Sensitive hrs	Number of Trains/hr	12
Distance	Distance from Source to Receiver (ft)	330
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

	Noise Barrier?	No

Project Results Summary

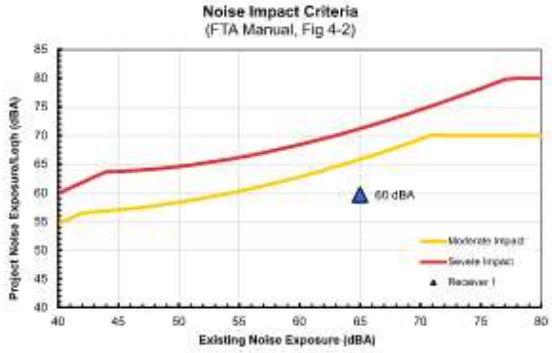
Existing Leqh:	65 dBA
Total Project Leqh:	60 dBA
Total Noise Exposure:	66 dBA
Increase:	1 dB
Impact?:	None

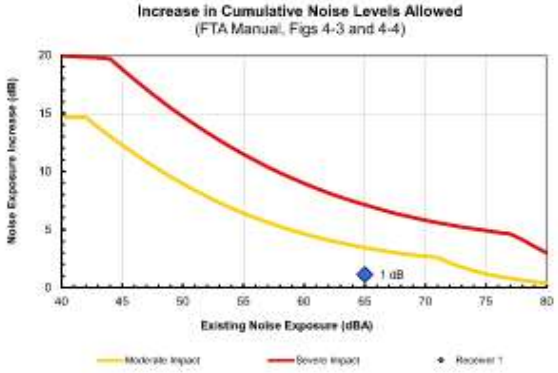
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	188 ft
Dist to Sev. Impact Contour (Source 1):	114 ft

Source 1 Results

Leqh:	59.7 dBA





APM

NW 17th Street & NW 1st Avenue

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 1/29/2019

Project:	Miami MOF

Receiver Parameters	
Receiver:	Receiver 1
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	65 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Stationary Source
	Specific Source:	Rail Yard & Shops
Noisiest hr of Activity During Sensitive hrs	Number of Trains/hr	12
Distance	Distance from Source to Receiver (ft)	220
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

	Noise Barrier?	No

Project Results Summary

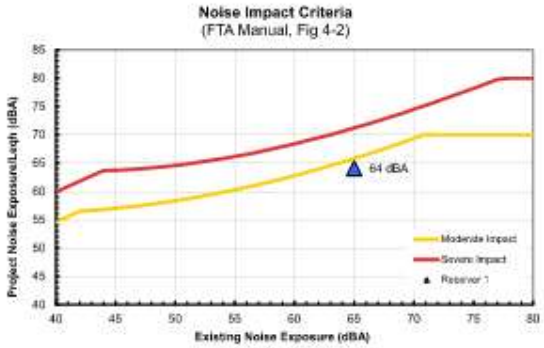
Existing Leqh:	65 dBA
Total Project Leqh:	64 dBA
Total Noise Exposure:	68 dBA
Increase:	3 dB
Impact?:	None

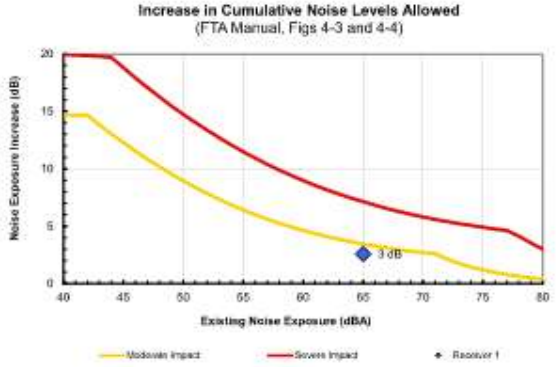
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	188 ft
Dist to Sev. Impact Contour (Source 1):	114 ft

Source 1 Results

Leqh:	64.1 dBA





APM

980 MacArthur Causeway, Watson Island

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 1/29/2019

Project:	

Receiver Parameters	
Receiver:	Receiver 1
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	71 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Stationary Source
	Specific Source:	Rail Yard & Shops
Noisiest hr of Activity During Sensitive hrs	Number of Trains/hr	12
Distance	Distance from Source to Receiver (ft)	460
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

	Noise Barrier?	No

Project Results Summary

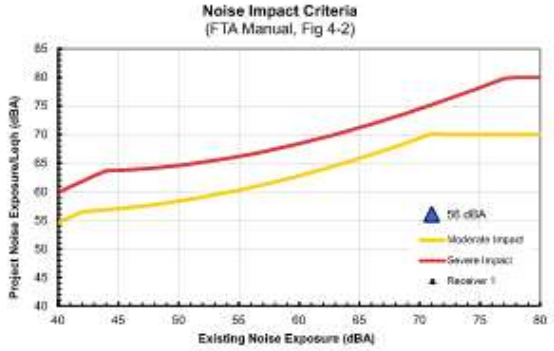
Existing Leqh:	71 dBA
Total Project Leqh:	56 dBA
Total Noise Exposure:	71 dBA
Increase:	0 dB
Impact?:	None

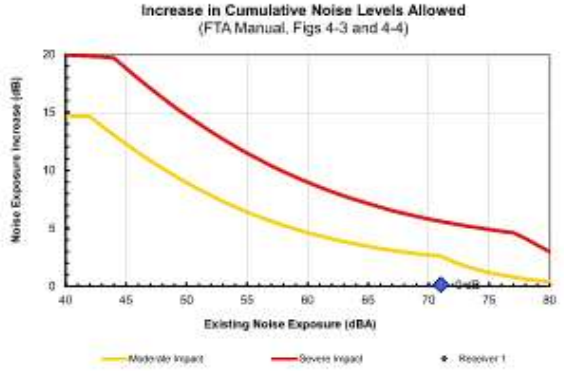
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	126 ft
Dist to Sev. Impact Contour (Source 1):	79 ft

Source 1 Results

Leqh:	56.1 dBA





APM

850 MacArthur Causeway, Watson Island

Federal Transit Administration
Noise Impact Assessment Spreadsheet

version: 1/29/2019

Project:	

Receiver Parameters	
Receiver:	Receiver 1
Land Use Category:	3. Institutional
Existing Noise (Measured or Generic Value):	71 dBA

Noise Source Parameters	
Number of Noise Sources:	1

Noise Source Parameters		Source 1
	Source Type:	Stationary Source
	Specific Source:	Rail Yard & Shops
Noisiest hr of Activity During Sensitive hrs	Number of Trains/hr	12
Distance	Distance from Source to Receiver (ft)	780
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

	Noise Barrier?	No

Project Results Summary

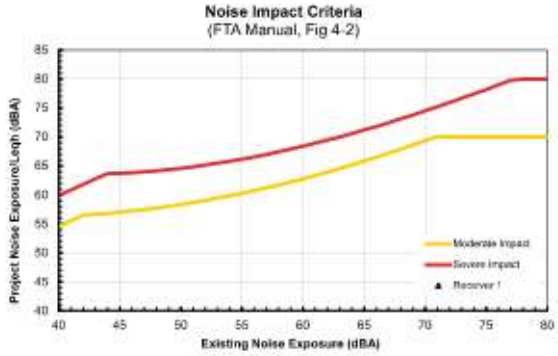
Existing Leqh:	71 dBA
Total Project Leqh:	50 dBA
Total Noise Exposure:	71 dBA
Increase:	0 dB
Impact?:	None

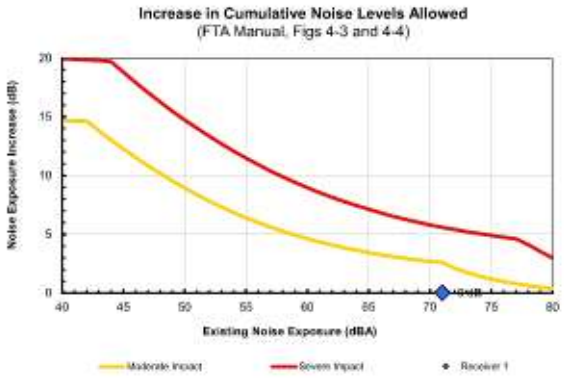
Distance to Impact Contours

Dist to Mod. Impact Contour (Source 1):	126 ft
Dist to Sev. Impact Contour (Source 1):	79 ft

Source 1 Results

Leqh:	50.4 dBA





ATTACHMENT C

- **Sole Source Aquifer Review/Concurrence**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-3104

Ms. Jie Bian
Chief, Planning and System Development
Miami-Dade County Department of Transportation and Public Works
701 NW 1st Court, 15th Floor
Miami, Florida 33136

Subject: Sole Source Aquifer Review/Concurrence for Beach Corridor Rapid Transit Project.

Dear Ms. Bian:

The U.S. Environmental Protection Agency, Region 4 received the Miami-Dade County Department of Transportation and Public Works request dated February 7th, 2020 and the additional information provided on April 9th, 2020 to review the above referenced project pursuant to Section 1424(e) of the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300h-3. The objective of the EPA's review is to determine if the project lies within the boundaries, including recharge and streamflow source zones, of an EPA designated Sole Source Aquifer (SSA), and to determine if the project poses potential adverse health or environmental impacts. A SSA is the sole or principal water source for a designated area.

Beach Corridor Rapid Transit Project (Project) has been determined to lie inside the designated boundaries of the Biscayne Sole Source Aquifer and based on the information provided, may cause a significant impact to the aquifer system when the Project's bridge foundations are installed and/or construction dewatering is undertaken. However, with proper implementation of best management practices (BMPs), these potential impacts can be adequately reduced or properly mitigated. To that effect, when installing bridge foundations, the FDOT must adhere to the list of BMPs provided as items 1 and 2 below. The dewatering operation BMPs are listed in item 3 below:

1. FDOT Design Manual Chapter 320 Stormwater Pollution Prevention Plan (SWPPP)
2. FDOT Standard Specification for Road and Bridge Construction
   a. Section 6 – Control of Materials
   b. Section 104 – Prevention, Control, And Abatement of Erosion and Water Pollution
   c. Section 455 – Structures Foundations
3. U.S. Bureau of Reclamation Engineering Geology Field Manual – Chapter 20 Water Control. https://www.usbr.gov/tsc/techreferences/mands/geologyfieldmanual-vol2/Chapter20.pdf

Furthermore, all debris from any demolition of the existing structures must be properly contained and removed from the site prior to construction of the new structure. If applicable, all county flood plain management plans and public notification processes must be followed. During construction, it is the EPA's understanding and expectation that those responsible for the project will strictly adhere to all Federal, State, and local government permits, ordinances, planning designs, construction codes,

operation, maintenance, and engineering requirements, and any contaminant mitigation recommendations outlined by federal and state agency reviews. All best management practices for erosion and sedimentation control must also be followed and State and local environmental offices must be contacted to address proper drainage and storm water designs. Additionally, the project manager should contact State and local environmental officials to obtain a copy of any local Wellhead Protection Plans. The following website provides information regarding the Florida Department of Environmental Protection's Source Water Assessment and Protection Program.
http://www.dep.state.fl.us/swapp/Default.htm

The EPA finds that, if the conditions outlined above are adhered to, this Project should have no significant impact to the aquifer system. Please note that this "no significant impact" finding has been determined based on compliance with all requirements outlined above and, on the information provided. Further, this finding only relates to Section 1424(e) of the SDWA, 42 U.S.C. § 300h-3. If there are any significant changes to the project, the EPA Region 4 office should be notified for further review. Other regulatory groups within the EPA responsible for administering other programs may, at their own discretion and under separate cover, provide additional comments.

Thank you for your concern with the environmental impacts of this project. If you have any questions, please contact Mr. Khurram Rafi at 404-562-9283 or Rafi.Khurram@epa.gov or Mr. Larry Cole at 404-562-9474 or Cole.Larry@epa.gov.

Sincerely,

6/5/2020

X Alanna Conley

Signed by: ALANNA CONLEY

Alanna Conley, Chief
Groundwater, UIC and GIS Section
EPA, Region 4, Atlanta, GA

ATTACHMENT D

- **Florida State Clearinghouse Staff Project Review**

From:	Bian, Jie (DTPW)
To:	Delgado, Odalys; Nadia Locke; Gayle Stone
Subject:	FW: State Clearance Letter for FL202002278856C- Federal Transit Administration (FTA) -Environmental Assessment For The Beach Corridor Rapid Transit Project – Bay Crossing, Miami-Dade County, Florida.
Date:	Friday, April 17, 2020 12:09:13 PM
Attachments:	Beach Corridor Rapid Transit EA_41244_03262020.pdf
Importance:	High

FYI.
What does this mean?
Jie

Jie Bian, Ph.D., Chief, Planning and System Development
Miami-Dade County Department of Transportation and Public Works
701 NW 1st Court, 15th Floor, Miami, Florida 33136
786-469-5245 Phone 305-299-2574 Mobile 786-469-5572 Fax
www.miamidade.gov/transit
Connect With Us on Twitter | Facebook | Instagram

From: Stahl, Chris <Chris.Stahl@dep.state.fl.us>
Sent: Friday, April 17, 2020 11:58 AM
To: Bian, Jie (DTPW) <Jie.Bian@miamidade.gov>
Cc: State_Clearinghouse <State.Clearinghouse@dep.state.fl.us>
Subject: State Clearance Letter for FL202002278856C- Federal Transit Administration (FTA) - Environmental Assessment For The Beach Corridor Rapid Transit Project – Bay Crossing, Miami-Dade County, Florida.

April 17, 2020

Jie Bian
Principal Planner
Miami-Dade County Department of Transportation and Public Works
701 NW 1st Court, 15th Floor
Miami, Florida 33136

RE: Department of Transportation, Federal Transit Administration (FTA) -Environmental Assessment for the Beach Corridor Rapid Transit Project – Bay Crossing, Miami-Dade County, Florida.
SAI # FL202002278856C

Dear Jie:

Florida State Clearinghouse staff has reviewed the proposal under the following authorities: Presidential Executive Order 12372; § 403.061(42), Florida Statutes; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The project will require an Environmental Resource Permit from the South Florida Water Management District (SFWMD) in accordance with Rule 62-330.054, Florida Administrative Code (FAC). Please contact the SFWMD West Palm Beach at (561) 682-6856 or email erpreapp@sfwmd.gov to schedule a pre-application meeting with staff.

The Department of Environmental Protection's Southeast District has the following comments on the project: 1. The proposed activities may require an Environmental Resource Permitting (ERP) pursuant to Chapter 373, Florida Statutes and Chapter 62-330, F.A.C.. Based on the Operating Agreement between the South Florida Water Management District (SFWMD) and Florida Department of Environmental Protection (FDEP), ERP jurisdiction falls to the SFWMD. Issuance of an ERP in coastal counties constitutes a finding of consistency under Florida's federally approved Coastal Zone Management Program under Section 307 (Coastal Zone Management Act). 2. Construction activities that will result in the disturbance of 1 or more acres of land are required to obtain coverage under the Construction General Permit, if stormwater from the activity has the potential to enter a surface water of the State or a municipal separate storm sewer system. [Construction GP Permit Rule 62-621.300(4)(a), Florida Administrative Code]. 3. Soil or ground water contamination may be present or in close proximity of the project area. Construction will need to be closely coordinated with Miami-Dade DERM to identify potential contamination area(s). All activity within or in close proximity of the contaminated areas shall obtain approval from DERM. 4. Construction dewatering in close proximity of ground water contamination zones may require SFWMD and/or FDEP approval to demonstrate no impact or movement of any groundwater contamination plume

The Florida Fish and Wildlife Conservation Commission has reviewed the proposed action and submitted comments. As a courtesy, these have been attached to this letter and are incorporated hereto.

If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section at (850)-245-6333. Project activities shall not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes. If you have any questions, please contact Mercedes Harrold, Historic Preservationist, by email at

Mercedes.Harrold@dos.myflorida.com, or by telephone at 850.245.6342 or 800.847.7278.

Based on the information submitted and minimal project impacts, the state has no objections to allocation of federal funds for the subject project and, therefore, the funding award is consistent with the Florida Coastal Management Program (FCMP). The state's final concurrence of the project's consistency with the FCMP will be determined during any environmental permitting processes, in accordance with Section 373.428, Florida Statutes, if applicable.

Thank you for the opportunity to review the proposed plan. If you have any questions or need further assistance, please don't hesitate to contact me at (850) 717-9076.

Sincerely,

Chris Stahl

Chris Stahl, Coordinator
Florida State Clearinghouse
Florida Department of Environmental Protection
3800 Commonwealth Blvd., M.S. 47
Tallahassee, FL 32399-2400
ph. (850) 717-9076
State.Clearinghouse@floridadep.gov

ATTACHMENT E

- **USFWS Concurrence Letter**

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Seventh District

909 S. E. First Avenue (Rm 432)
Miami, Fl 33131
Staff Symbol: (dpb)
Phone: (305) 415-6736
Fax: (305) 415-6763
Email: randall.d.overton@uscg.mil

U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960
772-562-3909 Fax 772-562-4288

FWS Log No. 04EP2000-2019-I-0492

The U.S. Fish and Wildlife Service has reviewed the information provided and finds that the proposed action is not likely to adversely affect any federally listed species or designated critical habitat protected by the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et. seq.). A record of this consultation is on file at the South Florida Ecological Service Office.

This fulfills the requirements of section 7 of the Act and further action is not required. If modifications are made to the project, if additional information involving potential effects to listed species becomes available, or if a new species is listed, reinitiation of consultation may be necessary.

Roxanna Hinzman, Field Supervisor — 10/23/2020 Date

Ms. Roxanna Hinzman, Field Supervisor
South Florida Ecological Services Office
US Fish and Wildlife Service
1339 20th Street
Vero Beach, FL 32960
Via Email: verobeach@fws.gov

Subject: ESA Section 7 Informal Consultation/Concurrence Re
Project Name: Beach Corridor Rapid Transit Project
ETDM No.: 14257
County: Miami-Dade

Dear Ms. Hinzman:

The U.S. Coast Guard (USCG) has received bridge permit applications for the Miami-Dade County - Beach Corridor Rapid Transit Project. The project includes a proposed transit bridge over the Atlantic Intracoastal Waterway, Biscayne Bay (approximate latitude/longitude: 25.786905, -80.185382 to 25.787204, -80.179320) and a proposed transit bridge over Meloy Channel (25.772239, -80.147434 to 25.774229, -80.141876) adjacent to MacArthur Causeway in Biscayne Bay, Miami-Dade County, Florida. The applicant for the project is the Miami-Dade County Department of Transportation and Public Works (DTPW). The Coast Guard, as the Lead Federal Agency (LFA) for a proposed project, would like to initiate Section 7 Informal Consultation under the provisions of the Endangered Species Act (ESA).

This project is part of the Strategic Miami Area Rapid Transit (SMART) Plan, adopted by the Miami-Dade County Transportation Planning Organization (TPO) in 2016 as the blueprint for developing premium transit services throughout Miami-Dade County. The Beach Corridor Rapid Transit Project proposes new rapid transit in three sub-areas, described as follows:

1. The Beach Corridor Trunkline (Bay Crossing) extends east from the existing Downtown Metromover Omni Extension along the south side of MacArthur Causeway to 5th Street near Washington Avenue in Miami Beach. The selected technology for the Bay Crossing sub-area is an elevated transit guideway with rubber tire vehicles [Monorail or Automated People Mover (APM)].
2. The Miami Design District Extension extends north on N. Miami Avenue from 15th Street to NW 41st Street in the Design District of Miami. The selected technology for the Miami Design District Extension sub-area is an extension of the existing Metromover, an APM.

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Seventh District

909 S. E. First Avenue (Rm 432)
Miami, Fl 33131
Staff Symbol: (dpb)
Phone: (305) 415-6736
Fax: (305) 415-6763
Email: randall.d.overton@uscg.mil

16450/3944/3945
September 1, 2020

Ms. Roxanna Hinzman, Field Supervisor
South Florida Ecological Services Office
US Fish and Wildlife Service
1339 20th Street
Vero Beach, FL 32960
Via Email: verobeach@fws.gov

Subject: ESA Section 7 Informal Consultation/Concurrence Request
Project Name: Beach Corridor Rapid Transit Project
ETDM No.: 14257
County: Miami-Dade

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1. The Beach Corridor Trunkline (Bay Crossing) extends east from the existing Downtown Metromover Omni Extension along the south side of MacArthur Causeway to 5th Street near Washington Avenue in Miami Beach. The selected technology for the Bay Crossing sub-area is an elevated transit guideway with rubber tire vehicles [Monorail or Automated People Mover (APM)].
2. The Miami Design District Extension extends north on N. Miami Avenue from 15th Street to NW 41st Street in the Design District of Miami. The selected technology for the Miami Design District Extension sub-area is an extension of the existing Metromover, an APM.

3. The Miami Beach Convention Center Extension extends north on Washington Avenue from 5th Street to the Miami Beach Convention Center. The selected technology for the Miami Beach Convention Center sub-area is dedicated lanes for bus or trolley.

The Locally Preferred Alternative, as described above, was selected by the TPO with Resolution #03-2020 on January 30, 2020. The purpose of the project is to increase the person-throughput to the Beach Corridor's major origins and destinations via rapid transit technology. The need for the project is based upon the extensive population growth throughout the study area resulting in increasing traffic congestion and demand for enhanced access to the area's many facilities and services.

This project was screened through the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) by Florida Department of Transportation (FDOT) District 6 on behalf of DTPW. A Planning Screen Summary Report was published on April 28, 2019 (ETDM #14257).

DTPW is conducting a Project Development and Environment (PD&E) Study for the project and a Natural Resources Evaluation (NRE) was prepared for the PD&E Study. At the same time, DTPW is submitting permit applications to the environmental regulatory agencies for the Bay Crossing portion of the project. As part of this advance permitting effort, a more detailed analysis of impacts to benthic resources and plans for compensatory mitigation were conducted and included in an Environmental Permit Report. The Environmental Permit Report will be transmitted via DOD SAFE file transfer site due to large file size. Both reports are included with this initiation package; however, it is noted that the Protected Species and Habitat sections are identical in both reports.

Protected Species

Eight federally listed species under the purview of the USFWS were evaluated to determine if the proposed project would adversely affect these species. Based on review of available data, in conjunction with field reconnaissance, the following effects determinations have been made.

Species	Status	Effects Determination
Calidris canutus rufa (Rufa red knot)	T	No Effect
*Charadrius melodus** (Piping plover)	T	No Effect
Mycteria americana (Wood stork)	T	No Effect
*Eumops floridanus** (Florida bonneted bat)	E	MANLAA
*Trichechus manatus** (West Indian manatee)	T, CH	MANLAA
Alligator mississippiensis (American alligator)	SAT	MANLAA

Species	Status	Effects Determination
*Crocodylus acutus** (American crocodile)	T	MANLAA
Drymarchon couperi (Eastern indigo snake)	T	MANLAA

Notes: Species: * = Project falls within USFWS Consultation Area for this specie.
Status: E = Endangered, T = Threatened, SAT = Threatened due to Similarity of Appearance to a listed species, CH = Critical Habitat.
Effects Determination: MANLAA = May affect, not likely to adversely affect

Avoidance and minimization of impacts to protected species will occur through implementation of the Standard Manatee Conditions for In-Water Work (2011) and the Standard Protection Measures for the Eastern Indigo Snake (2013) as specified in the effects determinations for these species. Other species with a "May affect, not likely to adversely affect" determination include the Florida bonneted bat and American crocodile. A follow-up survey for the Florida bonneted bat will occur prior to construction following the latest Florida Bonneted Bat Consultation Guidelines as the survey for Florida bonneted bat occurred before the 2019 guidelines were issued.

Thank you for your assistance with this project. Please contact me at (305) 415-6736 or at randall.d.overton@uscg.mil if you have any questions or need additional information.

Sincerely,

RANDALL D. OVERTON
Director, District Bridge Program
Coast Guard Seventh District

Enclosures:
a. Natural Resources Evaluation (NRE) dated June 2020
b. Environmental Permit Report dated June 2020 (transmitted via DOD SAFE file transfer site due to large file size)

Copy: CGHQ-BRG-2 via email: HQS-DG-lst-CG-BRG-2@uscg.mil
John Wrublik, USFWS: john_wrublik@fws.gov
E-Sciences Inc. via email: gstone@esciencesinc.com nlocke@esciencesinc.com
Jie Bian, Miami-Dade Transportation and Public Works: Jie.Bian@miamidade.gov