

**Environmental Assessment
Determinations and Compliance Findings
for HUD-assisted Projects
24 CFR Part 58**

Project Information

Project Name: Henry-Street-Redevelopment

HEROS Number: 900000010277842

Responsible Entity (RE): DETROIT, PLANNING AND DEVELOPMENT DEPARTMENT
DETROIT MI, 48226

RE Preparer: Kim Seigel

State / Local Identifier: Detroit, Michigan

Certifying Officer: Julie Schneider

Grant Recipient (if different than Responsible Entity):

Point of Contact:

Consultant (if applicable): PM Environmental, a Pinchin Company

Point of Contact: Carey Kratz

Project Location: Multiple, Detroit, MI

Additional Location Information:

427-489 Henry Street 412-434 West Fisher Avenue 2445-2467 Cass Avenue The Property is generally bounded by Henry Street to the north, Cass Avenue to the east, Interstate-75 Service Road to the south, and Second Avenue to the west. More

specifically, the subject site is located on the far southeastern side of the Cass Park Village neighborhood of District Detroit at 439 to 459 Henry Street.

Direct Comments to: Penny Dwoinen, Environmental Review Officer, City of Detroit
Email: dwoinenp@detroitmi.gov

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:

The approximate 2.5-acre Property is generally bounded by Henry Street to the north, Cass Avenue to the east, Interstate-75 Service Road to the south, and Second Avenue to the west. More specifically, the subject site is located on the far southeastern side of the Cass Park Village neighborhood of District Detroit at 427-489 Henry Street, 412-434 West Fisher Avenue, and 2445-2467 Cass Avenue. A Site Location Map is provided as Attachment 1. The Henry Street Redevelopment will rehabilitate seven existing buildings within the Cass-Henry Historic District to provide 170 multi-family residential units in the form of both market rate and affordable housing. The Project will also include the redevelopment of a one-story building at 447 Henry Street that is situated between the residential buildings that is planned to contain the community spaces proposing to serve the residents of the development as well as a planned retail component. Additional spaces include a playground, a large park along Cass Avenue, and utilization of the two alleys along Henry Street. Project Sponsors consist of Cinniare Solutions and Olympia Development of Michigan. The exterior facades will be completely rehabilitated in accordance with state and local historic standards. The six residential buildings will provide modern finishes and offer many amenities. Each of the buildings will be updated with more modern mechanical, electrical, and plumbing. Renovations include the following: wood floors will be sanded and sealed, new wood floors will be installed in select buildings, plaster walls and ceilings will be painted, new doors and hardware, new windows, new roofing, new interior and exterior lighting, new bathroom tiles, new fiberglass surround showers, new sinks, new kitchen cabinetry and appliances, and new HVAC systems. Parking will be available solely for the affordable buildings in 34 spaces between 459 and 489 Henry Street. Additional parking will be available in two onsite surface lots in the western portion and in a large surface lot on the northern portion of Henry Street. Onsite parking lots will all be resurfaced. Landscaping upgrades include the use of concrete planter curbs and hedge plantings, low ornamental garden fencing, trees, flowering shrubs, and evergreen groundcover. All landscape beds and lawns areas will be irrigated by an automatic underground system utilizing municipal water. New 4-inch water pipes for fire suppression and new 2-inch water pipes for domestic water will be installed at the residential buildings and new 2-inch water pipes will be installed at the commercial building. Additionally, new sewer lines will be installed with connection into the existing combined city system. Upon completion, the affordable portion (427, 439, 447, 459, and 481 Henry Street) will consist of the rehabilitation of two, 4 1/2-story walk-up buildings consisting of 64 studio/one-bathroom units (346-420 square feet) and 20 one bedroom/one-bathroom units (618-680 square feet) for a total of 84 rental units. In addition, The Developer proposes to set aside all of the units for residents earning 30, 40, 60, or 80 percent or less of the Wayne County Area Median Income ("AMI") using the MSHDA LIHTC Program targeting residents

under the age of 65. This review is for \$500,000 in HOME 2020. This review is valid for five years. Proposed development plans are provided as Attachment 2.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:

ODM Real Estate Ventures, LLC seeks to enrich the lives of the current and future residents and provide a strong and diverse neighborhood context for the City of Detroit. They remain focused on the underlying need to create a vibrant, equitable, and inclusive mixed use income neighborhood. Given the level of current and predicted future investment, the area will certainly see increase in rents and a decrease in the number of affordable housing units. Henry Street Redevelopment is uniquely positioned to meet this demand for quality, affordable housing. The Project is ideally located to provide needed amenities and services to lower income residents. Many of these residents often do not have private car access so access to public transit, nearby food, and employment opportunities is key. The outcome of the Project will be the revitalization and rebirth of this historic neighborhood.

Existing Conditions and Trends [24 CFR 58.40(a)]:

Based on the information gathered from the US Census Bureau, the City of Detroit has issued permits for a total of 7,421 residential units over the nineteen+ year period ending in 2019 for an average of 391 residential units being constructed per year. Wayne County has issued permits for 46,178 residential units over the 19+ year period ending in 2019 for an average of 2,430 residential units being constructed per year. The Project is feasible from a market perspective and a market exists for the development as proposed. The prospect for long-term performance of the Property is positive given the housing, demographic trends, and economic factors. The overall population is projected to increase by approximately 366 people per year for the five years ending in 2025, resulting in an overall gain of 5.3 percent. The number of households is projected to increase at a rate of about 282 per year for a gain of 8.0 percent. A greater increase is projected in renter occupied units than in owner occupied units. A strong and stable employment base is typically reflected in a low vacancy rate for the multifamily housing market. This relationship has held true for the primary market area (PMA) during the past few years, which has experienced a stable and growing employment base, resulting in a consistent demand for multifamily housing.

Maps, photographs, and other documentation of project location and description:

[2D Overall Development Plan Market Rate and Affordable Split.pdf](#)

[2C Overall Development Plan.pdf](#)

[2B Market Rate and Affordable Rate Summary.pdf](#)

[2A Aerial View.pdf](#)

[1 Site Location Map.pdf](#)

Determination:

✓	Finding of No Significant Impact [24 CFR 58.40(g)(1); 40 CFR 1508.13] The project will not result in a significant impact on the quality of human environment
	Finding of Significant Impact

Approval Documents:

7015.15 certified by Certifying Officer on:

7015.16 certified by Authorizing Officer on:

Funding Information

Grant / Project Identification Number	HUD Program	Program Name	Funding Amount
M1001	Public Housing	Project-Based Voucher Program	\$0.00
M20MC260202	Community Planning and Development (CPD)	HOME Program	\$500,000.00

Estimated Total HUD Funded, Assisted or Insured Amount: \$500,000.00

This project anticipates the use of funds or assistance from another federal agency in addition to HUD in the form of:

Estimated Total Project Cost [24 CFR 58.2 (a) (5)]: \$81,999,335.00

Compliance with 24 CFR §50.4, §58.5 and §58.6 Laws and Authorities

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §50.4, §58.5, and §58.6	Are formal compliance steps or mitigation required?	Compliance determination (See Appendix A for source determinations)
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STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR §50.4 & § 58.6		
<p>Airport Hazards Clear Zones and Accident Potential Zones; 24 CFR Part 51 Subpart D</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Coleman A. Young is located approximately 6.6 miles northeast of the Property. Windsor Airport is located approximately eight miles southeast of the Property. No military airfields are in Wayne County/and or the nearby vicinity. The Project site is not within an Airport Runway Clear Zone. The Project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport and is in compliance with Airport Hazards requirements. Attachment 3</p>
<p>Coastal Barrier Resources Act Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Review of the U.S. Fish and Wildlife Service online Coastal Barrier Resources System Mapper and the John H. Chafee Coastal Barrier Resource System Michigan Map indicates that the Property is not located within a designated coastal zone boundary. Therefore, this Project has no potential to impact a CBRS Unit and is in compliance with the Coastal Barrier Resources Act. Attachment 4</p>
<p>Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>The Property is located in FEMA Flood Map 26163C0285F dated 10/21/2022 and is within Zone X (unshaded), defined as an area of minimal risk outside the 100-year (1% annual chance) and 500-year (0.2% annual chance) floodplain. The Project is in compliance with flood insurance requirements. Attachment 5</p>
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR §50.4 & § 58.5		
<p>Air Quality Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>The entire State of Michigan is designated as "attainment for carbon monoxide, lead, nitrogen dioxide, and particulate matter (PM10). Wayne County is within a larger area in southeast Michigan for ozone attainment/maintenance and is not within a sulfur dioxide nonattainment area. The Project was reviewed by Michigan Environment, Great Lakes, and</p>

		<p>Energy (EGLE) for conformance with the State Implementation Plan (SIP). EGLE determined the Project should not exceed the de minimis levels included in the federal general conformity requirements and therefore, does not require a detailed conformity analysis. This Project does not exceed de minimis emissions levels or the screening level established by the state or air quality management district for the pollutant(s) identified above. The Project is in compliance with the Clean Air Act. Measures to control fugitive dust will be utilized to ensure that construction projects do not result in erosion and formation of dust. The Best Management Practices (BMPs) employed will comply with the City's site plan approval process and will be effective in controlling construction related fugitive dust. Attachment 6</p>
<p>Coastal Zone Management Act Coastal Zone Management Act, sections 307(c) & (d)</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Review of the Wayne County Coastal Zone Management Boundary and Coastal Zone Management Area Map documents the Property is not located within a designated Coastal Zone Management area. The Project is in compliance with the Coastal Zone Management Act. Attachment 7</p>
<p>Contamination and Toxic Substances 24 CFR 50.3(i) & 58.5(i)(2)]</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Based on the analytical results, Response Activity Plans (RAPs) were completed for 2445 and 2457 Cass Avenue and 467 and 481 Henry Street dated January 2023 and approved by EGLE in letters dated February 2, 2023 and for 459 Henry Street dated March 2023 and approved by EGLE in a letter dated March 20, 2023. The adverse environmental impacts can be mitigated through excavation and placement of clean fill with barriers including parking lots, sidewalks, clean soil and landscaping, concrete, crushed aggregate and institutional controls including lock gates to prevent access to</p>

		<p>the private alley. Additionally, an active vapor mitigation system will be installed at 459 Henry Street. The subject property is located in Wayne County, which is within the EPA Radon Zone 3, low risk. The subject property is not located within one of the 24 counties designated by the EGLE, (formerly DEQ) as a county where 25% or more homes tested equal to or above 4.0 picocuries/liter (pCi/L) of radon exposure. Therefore, no additional radon testing or mitigation is required. Hazardous Materials Surveys were completed for the subject buildings dated June 29-30, 2021. Asbestos-containing materials (ACMs) identified included thermal systems insulations, various vinyl floor tiles and/or mastics, window caulks, ceiling tiles, and various surfacing materials. Lead-based paint (LBP) was also identified on numerous painted components. Abatement of ACMs and LBP will be completed with all local, state, and federal regulations and safe practices with clearance testing completed following the renovations. Operations and Maintenance Plans will be completed for any ACMs and/or LBP that may remain in place. Attachments 8 and 22. See the Contamination Summary - HEROS attachment for detailed information.</p>
<p>Endangered Species Act Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>The U.S. Fish and Wildlife Service provided information on locations of threatened and endangered species for the Project. Species listed for Wayne County include Indiana Bat, Northern Long-eared Bat, Piping Plover, Red Knot, Eastern Massasauga, Northern Riffleshell, Monarch Butterfly, and Eastern Prairie Fringed Orchid. None of the state-listed threatened or endangered species were observed at the Property. No federally listed threatened or endangered species or</p>

		<p>unique features are present at the Project and no Critical Habitats are present. The Property and/or general area have been developed since at least the 1900s. Given this, this Project will have No Effect on listed species due to the nature of the activities involved in the Project. This Project is in compliance with the Endangered Species Act. Attachment 9</p>
<p>Explosive and Flammable Hazards Above-Ground Tanks)[24 CFR Part 51 Subpart C</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Review of reasonably ascertainable standard and other historical sources, and site observations, have not identified the current and historical presence of ASTs/55-gallon drum storage on the property. Based on the Project description, the Project includes no activities that would require further evaluation under this section. However, in accordance with HUD's Guidebook entitled "Siting of HUD-Assisted Projects Near Hazardous Facilities" (hereafter "Guidebook"), PM searched a one-mile radius around the Property for ASTs containing flammable materials. PM did not identify any sites within a one-mile radius of the Property. The Project is in compliance with explosive and flammable hazard requirements. Attachment 10</p>
<p>Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Review of the USDA Web Soil Survey indicates this Project does not affect any prime or unique farmland. The Property is located within an "urbanized" area. Therefore, the Project is not subject to the statutory or regulatory requirements. This Project does not include any activities that could potentially convert agricultural land to a non-agricultural use. The project is in compliance with the Farmland Protection Policy Act. Attachment 11</p>
<p>Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>According to the Federal Emergency Management Agency (FEMA) floodplain map, dated October 21, 2021 (Panel</p>

		Number 26163C0285F), the Property is not located within the 100-year flood zone. Furthermore, topographical features present in the Property area are not representative of a flood plain. Furthermore, topographical features present in the Property area are not representative of a flood plain. The proposed Project is not located in a FEMA-designated Special Flood Hazard Area. The Project is in compliance with Executive Order 11988. Attachment 5
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Based on Section 106 consultation the project will have No Adverse Effect on historic properties as long as the approved scope of work is followed.
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A Noise Assessment was conducted for the proposed affordable housing buildings at 439 and 459 Henry Street and for the proposed community building at 447 Henry Street. The noise levels for the two affordable buildings were determined to be normally unacceptable: 73.0 to 74.0 db while the noise levels for the community building were determined to be acceptable: 63.0 dB. Additionally, utilizing the data obtained from the affordable and community building assessments, noise projects were also determined for the market rate buildings. Appropriate construction materials will be incorporated in the buildings with normally unacceptable exterior noise (427, 439, and 459 Henry Street and 2447 and 2467 Cass Avenue) to mitigate interior noise levels within the acceptable range. Materials to be utilized include windows with specified glazing types and door upgrades. Attachments 13 and 22
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	There are no sole source aquifers in the City of Detroit or Wayne County. The Project is in compliance with Sole

		Source Aquifer requirements. Attachment 14
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Areas potentially associated with wetlands were not observed on the Property during the site reconnaissance. In addition, review of the National Wetlands Inventory (NWI) Map from the U.S. Fish and Wildlife Service and the EGLE Wetlands Map Viewer did not identify any wetlands on the Property. The Project is in compliance with Executive Order 11990. Attachment 15
Wild and Scenic Rivers Act Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	The National Wild and Scenic Rivers System map (maintained and managed by the Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, and U.S. Forest Service) were reviewed to determine if the Property is within a designated wild and scenic river area. There are no wild and scenic rivers located within the City of Detroit or Wayne County. This Project is not within proximity of a NWSRS river. The project is in compliance with the Wild and Scenic Rivers Act. Attachment 16
HUD HOUSING ENVIRONMENTAL STANDARDS		
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	This Project will not have a disproportionately high adverse effect on human health or environment of minority populations and/or low-income populations. The buildings will serve low-income and homeless residents. The development is in the City of Detroit, which is made up of 87% ethnic minorities. New facilities and residences are intended to enhance the quality of life for new and existing residents and the community. No persons will be displaced due to this Project. No adverse environmental impacts were identified in the project's total environmental review. The project

		is in compliance with Executive Order 12898. Attachment 17
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Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27]

Impact Codes: An impact code from the following list has been used to make the determination of impact for each factor.

- (1) Minor beneficial impact
- (2) No impact anticipated
- (3) Minor Adverse Impact – May require mitigation
- (4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement.

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
LAND DEVELOPMENT			
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	1	The Project is proposed as part of master planned site. In keeping with the existing historic neighborhood character, the Project and landscape design provides distinction between the public and private spaces, while maintaining a consistent design theme throughout the neighborhood. The Project is not anticipated to impact urban design and will be compatible with surrounding land uses. This development is compatible with the City's goals for residential development and will have a positive impact on the area within which it exists. The proposed development activities are anticipated to help revitalize the area immediately surrounding the Project.	
Soil Suitability / Slope/ Erosion / Drainage and Storm Water Runoff	2	According to the NRCS website, site soils consist of urban land-Riverfront-type soils with minimal slopes. The soil is suitable for new construction based on the Wayne County Soil Survey. (Attachment 11) The Property is located at an elevation of 607 feet above mean sea level. The Property is relatively flat, and no drainage or slope issues are anticipated. There are no slides or slumps on the Property. The Project is not located near an erosion sensitive area and will not create slopes. The buildings are	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		already connected to the municipal storm water service. The sanitary and storm sewers in the Project area are combined. No significant increase in storm water flow is expected.	
Hazards and Nuisances including Site Safety and Site-Generated Noise	1	Noise intensive construction activities will be limited to the days and hours specified under the City's noise ordinance. These days and hours shall also apply to any servicing of equipment and to the delivery and removal of materials to and from the site. All construction equipment shall be equipped with mufflers and sound control devices (i.e., intake silencers and noise shrouds) no less effective than those provided on the original equipment and no equipment shall have an un-muffled exhaust. Stationary equipment shall be placed to maintain the greatest possible distance from sensitive uses. The Property is located within Wayne County, which is within Zone 3 of the EPA Radon Map with low potential risk of indoor radon levels. The Property is not located within one of the 24 counties designated by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) as a county where 25% or more homes tested equal to or above 4 picocuries/liter (pCi/L) of radon exposure.(Attachment 12A and 12B). There will be sufficient and improved on-site parking and lighting for residents and visitors.	
SOCIOECONOMIC			
Employment and Income Patterns	1	There will be a temporary increase in jobs related to the construction of the Project. Other than construction related changes, the Project will not result in a change to employment and income patterns in the area. The Project could be beneficial to local businesses though because there will be an increase in households requiring goods and services.	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
Demographic Character Changes / Displacement	2	The Project will not change the demographics of the general area. Extremely strong market indicators show a positive demographic growth for the this area. Residents occupy 439 and 489 Henry Street. At the commencement of construction, these residents will be relocated at no cost to the existing and partially occupied building owned by an affiliated entity of Olympia Development of Michigan at 2714 Second Street. This is approximately two blocks from the Project. All existing buildings and tenants are currently free from existing subsidy or regulatory agreements. Upon completion of 439 Henry, residents that were relocated from 2714 Second Street and the remaining, existing residents at 489 Henry will then be relocated into the newly renovated 439 Henry building at rents similar to their current rates.	
Environmental Justice EA Factor	1	The Project is not likely to negatively effect a community with potential EJ concerns. The community has been meaningfully informed and involved in the Project planning via the means of public outreach. The Project will not expose the community to disproportionate adverse environmental or human health conditions. The Project is located within a mixed-income area known as Midtown Detroit. The Project will not adversely affect areas of local or cultural significance. Based on the Project's location, climate change will have not altar the impact the Project has on marginalized community. There will be now secondary affect or future implications that would have environmental just ramifications.(Attachment 17)	
COMMUNITY FACILITIES AND SERVICES			
Educational and Cultural Facilities (Access and Capacity)	2	The area is served by the Detroit Public Schools Community District. The district has a little over 50,000 students and 2,000 teachers. There are approximately 106 schools located within the district. The	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		<p>neighborhood is supported by one elementary, one middle, and one high school - located just blocks from the project. Various schools (private and public) and churches are located throughout this submarket. Educational facilities such as the Burton International Academy (elementary and middle schools) and the Detroit Collegiate Preparatory High School at Northwestern are all located in the Project area. The Skillman Detroit Public Library is also located one mile to the southeast. The Project is not expected to have any negative impact on educational facilities in the area. Several museums and cultural attractions can be found within one mile of the Property including the Detroit Institute of Arts, Detroit Science Center, and the Charles Wright Museum of African-American History. The Project is not expected to have any negative impact on cultural facilities in the area. (Attachments 18 and 19) The Project is not expected to have any impact on cultural facilities in the area. Several cultural facilities including the Fox Theater, The Fillmore Detroit, Y-Arts Detroit, Detroit Opera House, Detroit Main Public Library, the Detroit Institute of Art, Michigan Science Center, Museum of Contemporary Art Detroit, Charles H Wright Museum and Detroit Historical Museum are located within the city. Detroit Public Schools Community District, (313) 240-4377</p>	
Commercial Facilities (Access and Proximity)	2	<p>A diverse variety of retail and commercial opportunities can be found a relatively short distance of the Property. Two grocery stores, two gasoline dispensing stations, two pharmacies, two banks, several restaurants, and additional commercial facilities are located within one mile or less of the Project. The Project received a walk score of 78 out of 100 and is considered very walkable. No commercial facilities will be</p>	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		negatively affected because of the Project activities. (Attachment 18)	
Health Care / Social Services (Access and Capacity)	2	Numerous medical facilities can be found within close proximity to the Property. Henry Ford Medical Campus - Capital Park at 45 West Grand River Avenue is 0.7 miles north of the Property. The main campus for the Detroit Medical Center (DMC) is situated roughly 1.5 mile northeast of the Property just east of Woodward Avenue along the north side of Mack Avenue - the DMC complex contains Detroit Receiving Hospital, Harper University Hospital, Children's Hospital of Michigan, Hutzel Women's Hospital, and DMC Heart Hospital. Several medical buildings and offices are situated surrounding the DMC medical complex as well as throughout the area - many of which are less than one mile of the Property. No health care facilities will be negatively affected. Social services throughout Detroit are available to residents through a variety of non-profits, government agencies, and other entities throughout Wayne County. There is also a variety of youth programs that are available to residents in the Project area. Nearby centers include Cass Community Social Services, Michigan Alliance for Families, Family Empowerment Institute, and Matrix. No social services will be negatively affected. (Attachment 18)	
Solid Waste Disposal and Recycling (Feasibility and Capacity)	2	Solid waste generated during construction activities will be removed by a private contractor. Solid waste generated by occupants of the development will be removed by the municipal waste hauler. Trash removal will be included in the rent. The Project will not significantly impact solid waste management facilities and services.	
Waste Water and Sanitary Sewers (Feasibility and Capacity)	2	The Project buildings are connected to the City of Detroit Water and Sewerage Department (DWSD) for sanitary sewer service. Sewer service will be included in the	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		rent. A minor increase in wastewater flow is expected due to increased occupancy of the buildings. New sewer lines will be installed connecting to an existing 15" by 20" combined sewer in the alley. The existing municipal wastewater system will meet the increased demand. City of Detroit, Water and Sewerage Department	
Water Supply (Feasibility and Capacity)	2	The Project buildings are connected to the City of Detroit water system. Hot water will be included in the rent. Water mains were likely installed sometime in the late 1800s. The Sponsor is working with the City of Detroit Water & Sewerage Department to upgrade the water lines along Cass Avenue and Henry Street, which is anticipated to occur next fall. The current 6-inch line in Henry Street will be upgraded to a 12-inch line and the current 10-inch line in Cass Avenue will be upgraded to a 16-inch line. The Project will not adversely impact the current capacity of the city water system. There will be sufficient water capacity for the Project.	
Public Safety - Police, Fire and Emergency Medical	2	The Project will have no adverse effect in the need for police, fire, or emergency medical services due to the additional inhabitants. The Detroit Police Department covers 139 square miles of Detroit and has 2,200 officers. The Property is located approximately 1.3 miles east of the Detroit Police Station. The Detroit Fire Department's average response time is approximately 6 minutes and 59 seconds to anywhere in the coverage area. There are currently 46 firehouses in the City of Detroit. Detroit Fire Engine 1 at 111 West Montcalm Street is 0.3 miles to the southeast. Ladder 20 Squad 2 Medic 6 is located 0.10 mile north. The Project will have no adverse effect in the need for police, fire or medical emergency medical services due to the Project.	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		Attachment 19 City of Detroit Fire Department (313) 596-2920	
Parks, Open Space and Recreation (Access and Capacity)	2	The Detroit Parks and Recreation Department maintains 309 parks and 11 recreation centers. Many classes are offered at the recreation's centers and outdoor plazas for youth, seniors, and adults. Cass Park, Grand Circus Park, Beacon Park, Brush Adelaide Park, and John R Watson Part are located within one mile of the Project. Two community centers are located within two miles of the Project area. Additional parks and playgrounds are in the general vicinity. (Attachment 18)	
Transportation and Accessibility (Access and Capacity)	2	Ride Smart Routes #18 and #23 have stops at the subject site, providing access to Downtown Detroit and the surrounding area. The Property is located approximately 0.3 miles southwest of the Sproat or Adelaide Street QLine Stops, providing access to Downtown Detroit to the south and New Center to the north. The Property offers excellent vehicular linkages with its proximity to Cass Avenue, Grand River Avenue, and Interstate 75. (Attachments 18 and 20)	
NATURAL FEATURES			
Unique Natural Features /Water Resources	2	The City of Detroit is a highly urbanized area. Construction activities will be limited to the Property and none of the surrounding properties will be affected. Additionally, there are no unique natural features on the Property. The Project will not have an adverse effect on any unique natural features within Detroit.	
Vegetation / Wildlife (Introduction, Modification, Removal, Disruption, etc.)	2	The Project is not anticipated to impact unique natural habitats, ecosystems, or any threatened and endangered wildlife. The location of the Project does not support any critical habitats and is within a highly urbanized location. (Attachment 9)	
Other Factors 1	2	The entire State of Michigan is designated as "attainment for carbon monoxide, lead,	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		nitrogen dioxide, and particulate matter (PM10). Wayne County is within a larger area in southeast Michigan for ozone nonattainment and is not within a sulfur dioxide nonattainment area. The Project will incorporate energy efficient appliances, building/construction materials, and lighting/fixtures. The Project will be certified in accordance with Enterprise Green Environmental Criteria and will not significantly contribute to community air pollutions levels. (Attachment 6)	
Other Factors 2			
CLIMATE AND ENERGY			
Climate Change	2	Given the scope and location of the Project, the Project is not likely to have an adverse effect regarding climate impact on resident's safety, wellbeing and Property. The Project is not within a floodplain or coastal area where hurricanes, rising sea levels, extreme heat or drought, wildfires, or landslides are a significant factor. The Project area does occasionally have periods of extreme cold, but these a short-term and sufficient heating will be provided utilizing energy efficient systems to reduce the carbon footprint.	
Energy Efficiency	2	The area is already served by electrical and gas utilities provided by DTE Energy. There is adequate capacity to serve the buildings. The Project site will incorporate energy efficient appliances, building/construction materials, and lighting/fixtures and the Developer will apply for a Enterprise Green Communities certification The Project will meet current state and local codes concerning energy consumption.	

Supporting documentation

[19B Fire EMS and Police Maps.pdf](#)

[19A School Map.pdf](#)

[12B MI Radon Zones Map.pdf](#)

[12A EGLE Radon Map.pdf](#)

[20 Transportation.pdf](#)

- [18 Linkage Map and Guide.pdf](#)
- [11 Soil Survey Farmland Protection\(1\).pdf](#)
- [9 Threatened and Endangered Species\(1\).pdf](#)
- [6B General Conformity Henry Street SIP Compliance\(1\).pdf](#)
- [6A Air Quality\(1\).pdf](#)

Additional Studies Performed:

Henry Street Redevelopment LIHTC Multifamily MSHDA Compliant Full Market Analysis, Bakertilly, December 2020

- [21 Market Study December 2020.pdf](#)

Field Inspection [Optional]: Date and completed

by:

Mr. David Balash

5/5/2022 12:00:00 AM

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]:

<https://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1> 2. U.S. Fish & Wildlife Service, National Wetlands Inventory, Wetlands Mapper. 3. <http://www.fws.gov/wetlands/data/mapper.html> 4. U.S. Fish & Wildlife Service, Endangered Species, Michigan County Distribution of Federally Listed Threatened, Endangered, Proposed, and Candidate Species, 5. <http://www.fws.gov/midwest/endangered/lists/michigan-cty.html> 6. Michigan Department of Environmental Quality, Michigan Coastal Zone Boundary Maps, http://www.michigan.gov/deq/0,4561,7-135-3313_3677_3696-90802--,00.html 7. Michigan Department of Environmental Quality, Air Quality Division, http://www.michigan.gov/deq/0,1607,7-135-3310_30151_31129---,00.html 8. US EPA Map of Radon Zones, Wayne County, Michigan, <http://www.epa.gov/radon/states/michigan.html> 9. Detroit Public Schools Community District, <https://www.detroitk12.org/domain/167>. 10. Detroit Police Department, Precincts and Neighborhood Police Officers, <https://detroitmi.gov/departments/police-department/precincts-and-neighborhood-police-officers>. 11. Detroit Fire Department, <https://detroitmi.gov/departments/detroit-fire-department>. 12. Detroit EMS, <https://detroitmi.gov/departments/detroit-fire-department/emergency-medical-services>. 13. Detroit Parks & Recreation, <https://detroitmi.gov/departments/parks-recreation>. 14. Detroit Social Services, <https://detroitmi.gov/government/mayors-office/office-immigrant-affairs/social-services>. 15. Michigan Department of Environment, Great Lakes, and Energy

List of Permits Obtained:

Public Outreach [24 CFR 58.43]:

A collective of Olympia Development of Michigan and Cinnaire Solutions team members held a series of engagement sessions with local stakeholders in which we shared details of the proposed Henry Street project and the numerous neighborhood benefits which would be brought to the city through this important redevelopment. The Project partners also used this time to document first impressions, feedback, and answer questions in these inaugural discussions. Guests who participated in the discussions came from various sectors including public education, non-profits, supportive services, private business owners, and community development corporations. Stakeholder Engagement Dates: Wednesday, January 27, 2021 (Microsoft Teams meeting) Tuesday, January 26, 2021 (Microsoft Teams meeting) Monday, January 25, 2021 (Microsoft Teams meeting) Friday, January 22, 2021 (Microsoft Teams meeting) Stakeholder Engagement Participants: * Lisa Phillips, Principal, Cass Technical Highschool (DPSCD school adjacent to development site) * Dominic Hanna, Owner ZZ Market and Grill (convenience store adjacent to development site) * Steve Genther, General Manager, Masonic Temple - Former Neighborhood Advisory Council (NAC) member * David Sampson, CEO, Mariners Inn (Supportive services housing provider and low-income housing developer) * Carina Jackson, COO, Mariners Inn * Cheryl Johnson, CEO, Coalition on Temporary Shelter (COTS) * Delphia Simmons, Chief Impact Officer, Coalition on Temporary Shelter (COTS) - Former NAC member and affordable housing specialist * Pat Dorn, Cass Corridor Neighborhood Development Corporation * Rev. Paschal Eze, VP Communications, Detroit Rescue Mission Ministries (DRMM) * Jamie McMillen, Volunteer Coordinator, Detroit Rescue Mission Ministries (DRMM) * Kisha Woods, Director of Community Engagement, Detroit Rescue Mission * Elise Fields, COO, Midtown Detroit Inc.,

Cumulative Impact Analysis [24 CFR 58.32]:

This Project is compatible with the City's goals for residential development and will have a positive impact on the area within which it exists. The Project activities are anticipated to help revitalize the area immediately surrounding the Project. The EA process determined that there are no adverse effects to human health or the environment once proposed mitigation measures are complete. The Project will have an overall positive impact in providing affordable housing in the City of Detroit.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

A Sponsor partner (ODM) already owns this Property. Preserving the historic campus and maintaining affordability was Sponsor's priority, therefore, this Property was the only location selected for use. No alternative sites were considered.

No Action Alternative [24 CFR 58.40(e)]

The No Action Alternative is to not complete the proposed Project. This alternative is not preferred as it fails to provide additional affordable housing.

Summary of Findings and Conclusions:

The Project will not adversely impact the City of Detroit or neighborhoods surrounding the site. The activity is compatible with the existing uses of the area and will have minimal impact on existing resources or services in the area.

Mitigation Measures and Conditions [CFR 1505.2(c)]:

Summarized below are all mitigation measures adopted by the Responsible Entity to reduce, avoid or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measure or Condition	Comments on Completed Measures	Mitigation Plan	Complete
Contamination and Toxic Substances	Site contamination was evaluated as follows: ASTM Phase I ESAs, Phase II ESAs, BEAs, and EGLE-approved Response Activity Plans. The adverse environmental impacts can be mitigated through excavation and placement of clean fill with barriers including parking lots, sidewalks, clean soil and landscaping, concrete, crushed aggregate. Institutional controls including lock gates to prevent access to the private alley will be installed. Additionally, an active vapor mitigation system will be installed at 459 Henry Street. With mitigation, identified in the mitigation section of this review,	N/A	Please refer to the Summary of Mitigation Measures - Attachment 22	

	the project will be in compliance with contamination and toxic substances requirements. Attachments 8 and 22			
Noise Abatement and Control	Appropriate construction materials will be incorporated in the buildings with normally unacceptable exterior noise (427, 439, and 459 Henry Street and 2447 and 2467 Cass Avenue) to mitigate interior noise levels within the acceptable range. Materials to be utilized include windows with specified glazing types and door upgrades.	N/A	Please refer to the Summary of Mitigation Measures - Attachment 22	
Historic Preservation	A copy of the final tax credit certification will be provided to the City of Detroit Preservation Specialist. Once construction has started, the SHPO approved Unanticipated Discoveries Plan shall be followed for the duration of the project.	N/A	Please refer to the Summary of Mitigation Measures - Attachment 22	

Project Mitigation Plan

Please refer to the Summary of Mitigation Measures - Attachment 22

[22 Summary of Mitigation Measures\(3\).pdf](#)

Supporting documentation on completed measures

APPENDIX A: Related Federal Laws and Authorities

Airport Hazards

General policy	Legislation	Regulation
It is HUD's policy to apply standards to prevent incompatible development around civil airports and military airfields.		24 CFR Part 51 Subpart D

1. To ensure compatible land use development, you must determine your site's proximity to civil and military airports. Is your project within 15,000 feet of a military airport or 2,500 feet of a civilian airport?

No

Based on the response, the review is in compliance with this section. Document and upload the map showing that the site is not within the applicable distances to a military or civilian airport below

Yes

Screen Summary

Compliance Determination

Coleman A. Young is located approximately 6.6 miles northeast of the Property. Windsor Airport is located approximately eight miles southeast of the Property. No military airfields are in Wayne County/and or the nearby vicinity. The Project site is not within an Airport Runway Clear Zone. The Project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport and is in compliance with Airport Hazards requirements. Attachment 3

Supporting documentation

[3 Airport Map.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Coastal Barrier Resources

General requirements	Legislation	Regulation
HUD financial assistance may not be used for most activities in units of the Coastal Barrier Resources System (CBRS). See 16 USC 3504 for limitations on federal expenditures affecting the CBRS.	Coastal Barrier Resources Act (CBRA) of 1982, as amended by the Coastal Barrier Improvement Act of 1990 (16 USC 3501)	

1. Is the project located in a CBRS Unit?

No

Document and upload map and documentation below.

Yes

Compliance Determination

Review of the U.S. Fish and Wildlife Service online Coastal Barrier Resources System Mapper and the John H. Chafee Coastal Barrier Resource System Michigan Map indicates that the Property is not located within a designated coastal zone boundary. Therefore, this Project has no potential to impact a CBRS Unit and is in compliance with the Coastal Barrier Resources Act. Attachment 4

Supporting documentation

[4B John H Chafee CBRS Map.pdf](#)

[4A Coastal Barriers.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Flood Insurance

General requirements	Legislation	Regulation
Certain types of federal financial assistance may not be used in floodplains unless the community participates in National Flood Insurance Program and flood insurance is both obtained and maintained.	Flood Disaster Protection Act of 1973 as amended (42 USC 4001-4128)	24 CFR 50.4(b)(1) and 24 CFR 58.6(a) and (b); 24 CFR 55.1(b).

1. Does this project involve financial assistance for construction, rehabilitation, or acquisition of a mobile home, building, or insurable personal property?

- No. This project does not require flood insurance or is excepted from flood insurance.

Based on the response, the review is in compliance with this section.

Yes

4. While flood insurance is not mandatory for this project, HUD strongly recommends that all insurable structures maintain flood insurance under the National Flood Insurance Program (NFIP). Will flood insurance be required as a mitigation measure or condition?

Yes

- No

Screen Summary

Compliance Determination

The Property is located in FEMA Flood Map 26163C0285F dated 10/21/2022 and is within Zone X (unshaded), defined as an area of minimal risk outside the 100-year (1% annual chance) and 500-year (0.2% annual chance) floodplain. The Project is in compliance with flood insurance requirements. Attachment 5

Supporting documentation

[5 FEMA FIRMETTE.pdf](#)

Are formal compliance steps or mitigation required?

Yes

- No

Air Quality

General requirements	Legislation	Regulation
The Clean Air Act is administered by the U.S. Environmental Protection Agency (EPA), which sets national standards on ambient pollutants. In addition, the Clean Air Act is administered by States, which must develop State Implementation Plans (SIPs) to regulate their state air quality. Projects funded by HUD must demonstrate that they conform to the appropriate SIP.	Clean Air Act (42 USC 7401 et seq.) as amended particularly Section 176(c) and (d) (42 USC 7506(c) and (d))	40 CFR Parts 6, 51 and 93

1. Does your project include new construction or conversion of land use facilitating the development of public, commercial, or industrial facilities OR five or more dwelling units?

Yes

No

Based on the response, the review is in compliance with this section.

Screen Summary

Compliance Determination

The entire State of Michigan is designated as "attainment for carbon monoxide, lead, nitrogen dioxide, and particulate matter (PM10). Wayne County is within a larger area in southeast Michigan for ozone attainment/maintenance and is not within a sulfur dioxide nonattainment area. The Project was reviewed by Michigan Environment, Great Lakes, and Energy (EGLE) for conformance with the State Implementation Plan (SIP). EGLE determined the Project should not exceed the de minimis levels included in the federal general conformity requirements and therefore, does not require a detailed conformity analysis. This Project does not exceed de minimis emissions levels or the screening level established by the state or air quality management district for the pollutant(s) identified above. The Project is in compliance with the Clean Air Act. Measures to control fugitive dust will be utilized to ensure that construction projects do not result in erosion and formation of dust. The Best Management Practices (BMPs) employed will comply with the City's site plan approval process and will be effective in controlling construction related fugitive dust. Attachment 6

Supporting documentation

[6A Air Quality Map.pdf](#)

[6B General Conformity Henry Street SIP Compliance.pdf](#)

Are formal compliance steps or mitigation required?

Yes

✓ No

Coastal Zone Management Act

General requirements	Legislation	Regulation
Federal assistance to applicant agencies for activities affecting any coastal use or resource is granted only when such activities are consistent with federally approved State Coastal Zone Management Act Plans.	Coastal Zone Management Act (16 USC 1451-1464), particularly section 307(c) and (d) (16 USC 1456(c) and (d))	15 CFR Part 930

1. Is the project located in, or does it affect, a Coastal Zone as defined in your state Coastal Management Plan?

Yes

No

Based on the response, the review is in compliance with this section. Document and upload all documents used to make your determination below.

Screen Summary

Compliance Determination

Review of the Wayne County Coastal Zone Management Boundary and Coastal Zone Management Area Map documents the Property is not located within a designated Coastal Zone Management area. The Project is in compliance with the Coastal Zone Management Act. Attachment 7

Supporting documentation

[7 Coastal Zone Management.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Contamination and Toxic Substances

General requirements	Legislation	Regulations
It is HUD policy that all properties that are being proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of the occupants or conflict with the intended utilization of the property.		24 CFR 58.5(i)(2) 24 CFR 50.3(i)

1. How was site contamination evaluated? Select all that apply. Document and upload documentation and reports and evaluation explanation of site contamination below.

- American Society for Testing and Materials (ASTM) Phase I Environmental Site Assessment (ESA)
- ASTM Phase II ESA
- Remediation or clean-up plan
- ASTM Vapor Encroachment Screening
- None of the Above

2. Were any on-site or nearby toxic, hazardous, or radioactive substances found that could affect the health and safety of project occupants or conflict with the intended use of the property? (Were any recognized environmental conditions or RECs identified in a Phase I ESA and confirmed in a Phase II ESA?)

No

- Yes

3. Mitigation

Document and upload the mitigation needed according to the requirements of the appropriate federal, state, tribal, or local oversight agency. If the adverse environmental effects cannot be mitigated, then HUD assistance may not be used for the project at this site.

Can adverse environmental impacts be mitigated?

Adverse environmental impacts cannot feasibly be mitigated.

- ✓ Yes, adverse environmental impacts can be eliminated through mitigation. Document and upload all mitigation requirements below.

4. Describe how compliance was achieved in the text box below. Include any of the following that apply: State Voluntary Clean-up Program, a No Further Action letter, use of engineering controls, or use of institutional controls.

Site contamination was evaluated as follows: ASTM Phase I ESAs, Phase II ESAs, BEAs, and EGLE-approved Response Activity Plans. The adverse environmental impacts can be mitigated through excavation and placement of clean fill with barriers including parking lots, sidewalks, clean soil and landscaping, concrete, crushed aggregate. Institutional controls including lock gates to prevent access to the private alley will be installed. Additionally, an active vapor mitigation system will be installed at 459 Henry Street. With mitigation, identified in the mitigation section of this review, the project will be in compliance with contamination and toxic substances requirements. Attachments 8 and 22

If a remediation plan or clean-up program was necessary, which standard does it follow?

Complete removal

- ✓ Risk-based corrective action (RBCA)

Screen Summary

Compliance Determination

Based on the analytical results, Response Activity Plans (RAPs) were completed for 2445 and 2457 Cass Avenue and 467 and 481 Henry Street dated January 2023 and approved by EGLE in letters dated February 2, 2023 and for 459 Henry Street dated March 2023 and approved by EGLE in a letter dated March 20, 2023. The adverse environmental impacts can be mitigated through excavation and placement of clean fill with barriers including parking lots, sidewalks, clean soil and landscaping, concrete, crushed aggregate and institutional controls including lock gates to prevent access to the private alley. Additionally, an active vapor mitigation system will be installed at 459 Henry Street. The subject property is located in Wayne County, which is within the EPA Radon

Zone 3, low risk. The subject property is not located within one of the 24 counties designated by the EGLE, (formerly DEQ) as a county where 25% or more homes tested equal to or above 4.0 picocuries/liter (pCi/L) of radon exposure. Therefore, no additional radon testing or mitigation is required. Hazardous Materials Surveys were completed for the subject buildings dated June 29-30, 2021. Asbestos-containing materials (ACMs) identified included thermal systems insulations, various vinyl floor tiles and/or mastics, window caulks, ceiling tiles, and various surfacing materials. Lead-based paint (LBP) was also identified on numerous painted components. Abatement of ACMs and LBP will be completed with all local, state, and federal regulations and safe practices with clearance testing completed following the renovations. Operations and Maintenance Plans will be completed for any ACMs and/or LBP that may remain in place. Attachments 8 and 22. See the Contamination Summary - HEROS attachment for detailed information.

Supporting documentation

[Contamination Summary HEROS.pdf](#)
[22 Summary of Mitigation Measures.pdf](#)
[8s 427 Henry and 2447 and 2467 Cass - HMVS.pdf](#)
[8r 489-HMS-RPT.pdf](#)
[8q 459-HMS-RPT.pdf](#)
[8p 439 and 447 HMS RPT.pdf](#)
[8o EGLE Radon Map.pdf](#)
[8n EPA Radon Zone Map.pdf](#)
[8m EGLE Response Activity Plan Approved 459 Henry Street March 2023.pdf](#)
[8l Final ResAP 459 Henry March 2023.pdf](#)
[8k EGLE Response Activity Plan Approved 2457 Cass Avenue Feb 2023.pdf](#)
[8j EGLE Response Activity Plan Approved 467 and 481 Henry Street Feb 2023.pdf](#)
[8i EGLE Response Activity Plan Approved 2445 Cass Avenue Feb 2023.pdf](#)
[8h Final ResAP 2445 and 2457 Cass and 467 and 481 Henry Jan 2023.pdf](#)
[8g Phase II ESA Entire Site for Respons Activities April 2022.pdf](#)
[8f BEA 2445 Cass March 2017.pdf](#)
[8e 5 Henry and Fisher Parcels BEA November 2016.pdf](#)
[8d Phase I ESA Market Rate Parcels July 2021.pdf](#)
[8c Phase I ESA Fisher Parcels June 2021.pdf](#)
[8b Phase I ESA Affordable Housing Parcels January 2021.pdf](#)
[8a BEA 427 Henry and 2467 Cass May 2010.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Endangered Species

General requirements	ESA Legislation	Regulations
Section 7 of the Endangered Species Act (ESA) mandates that federal agencies ensure that actions that they authorize, fund, or carry out shall not jeopardize the continued existence of federally listed plants and animals or result in the adverse modification or destruction of designated critical habitat. Where their actions may affect resources protected by the ESA, agencies must consult with the Fish and Wildlife Service and/or the National Marine Fisheries Service (“FWS” and “NMFS” or “the Services”).	The Endangered Species Act of 1973 (16 U.S.C. 1531 <i>et seq.</i>); particularly section 7 (16 USC 1536).	50 CFR Part 402

1. Does the project involve any activities that have the potential to affect species or habitats?

No, the project will have No Effect due to the nature of the activities involved in the project.

- ✓ No, the project will have No Effect based on a letter of understanding, memorandum of agreement, programmatic agreement, or checklist provided by local HUD office

Explain your determination:

The U.S. Fish and Wildlife Service provided information on locations of threatened and endangered species for the Project. Species listed for Wayne County include Indiana Bat, Northern Long-eared Bat, Piping Plover, Red Knot, Eastern Massasauga, Northern Riffleshell, Monarch Butterfly, and Eastern Prairie Fringed Orchid. None of the state-listed threatened or endangered species were observed at the Property. No federally listed threatened or endangered species or unique features are present at the Project and no Critical Habitats are present. The Property and/or general area have been developed since at least the 1900s. Given this, this Project will have No Effect on listed species due to the nature of the activities involved in the Project. This Project is in compliance with the Endangered Species Act. Attachment 9

Based on the response, the review is in compliance with this section. Document and upload all documents used to make your determination below.

Yes, the activities involved in the project have the potential to affect species and/or habitats.

Screen Summary

Compliance Determination

The U.S. Fish and Wildlife Service provided information on locations of threatened and endangered species for the Project. Species listed for Wayne County include Indiana Bat, Northern Long-eared Bat, Piping Plover, Red Knot, Eastern Massasauga, Northern Riffleshell, Monarch Butterfly, and Eastern Prairie Fringed Orchid. None of the state-listed threatened or endangered species were observed at the Property. No federally listed threatened or endangered species or unique features are present at the Project and no Critical Habitats are present. The Property and/or general area have been developed since at least the 1900s. Given this, this Project will have No Effect on listed species due to the nature of the activities involved in the Project. This Project is in compliance with the Endangered Species Act. Attachment 9

Supporting documentation

[9 Threatened and Endangered Species.pdf](#)

Are formal compliance steps or mitigation required?

Yes

✓ No

Explosive and Flammable Hazards

General requirements	Legislation	Regulation
HUD-assisted projects must meet Acceptable Separation Distance (ASD) requirements to protect them from explosive and flammable hazards.	N/A	24 CFR Part 51 Subpart C

1. Is the proposed HUD-assisted project itself the development of a hazardous facility (a facility that mainly stores, handles or processes flammable or combustible chemicals such as bulk fuel storage facilities and refineries)?

No

Yes

2. Does this project include any of the following activities: development, construction, rehabilitation that will increase residential densities, or conversion?

No

Yes

3. Within 1 mile of the project site, are there any current or planned stationary aboveground storage containers that are covered by 24 CFR 51C? Containers that are NOT covered under the regulation include:

- Containers 100 gallons or less in capacity, containing common liquid industrial fuels OR

- Containers of liquified petroleum gas (LPG) or propane with a water volume capacity of 1,000 gallons or less that meet the requirements of the 2017 or later version of National Fire Protection Association (NFPA) Code 58.

If all containers within the search area fit the above criteria, answer "No." For any other type of aboveground storage container within the search area that holds one of the flammable or explosive materials listed in Appendix I of 24 CFR part 51 subpart C, answer "Yes."

No

Based on the response, the review is in compliance with this section. Document and upload all documents used to make your determination below.

Yes

Screen Summary

Compliance Determination

Review of reasonably ascertainable standard and other historical sources, and site observations, have not identified the current and historical presence of ASTs/55-gallon drum storage on the property. Based on the Project description, the Project includes no activities that would require further evaluation under this section.

However, in accordance with HUD's Guidebook entitled "Siting of HUD-Assisted Projects Near Hazardous Facilities" (hereafter "Guidebook"), PM searched a one-mile radius around the Property for ASTs containing flammable materials. PM did not identify any sites within a one-mile radius of the Property. The Project is in compliance with explosive and flammable hazard requirements. Attachment 10

Supporting documentation

[10 AST and Blast Map.pdf](#)

Are formal compliance steps or mitigation required?

Yes

✓ No

Farmlands Protection

General requirements	Legislation	Regulation
The Farmland Protection Policy Act (FPPA) discourages federal activities that would convert farmland to nonagricultural purposes.	Farmland Protection Policy Act of 1981 (7 U.S.C. 4201 et seq.)	7 CFR Part 658

1. Does your project include any activities, including new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use?

Yes

No

If your project includes new construction, acquisition of undeveloped land or conversion, explain how you determined that agricultural land would not be converted:

Based on the response, the review is in compliance with this section. Document and upload all documents used to make your determination below.

Screen Summary

Compliance Determination

Review of the USDA Web Soil Survey indicates this Project does not affect any prime or unique farmland. The Property is located within an "urbanized" area. Therefore, the Project is not subject to the statutory or regulatory requirements. This Project does not include any activities that could potentially convert agricultural land to a non-agricultural use. The project is in compliance with the Farmland Protection Policy Act. Attachment 11

Supporting documentation

[11 Soil Survey Farmland Protection.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Floodplain Management

General Requirements	Legislation	Regulation
Executive Order 11988, Floodplain Management, requires federal activities to avoid impacts to floodplains and to avoid direct and indirect support of floodplain development to the extent practicable.	Executive Order 11988	24 CFR 55

1. Do any of the following exemptions apply? Select the applicable citation? [only one selection possible]

- 55.12(c)(3)
- 55.12(c)(4)
- 55.12(c)(5)
- 55.12(c)(6)
- 55.12(c)(7)
- 55.12(c)(8)
- 55.12(c)(9)
- 55.12(c)(10)
- 55.12(c)(11)

None of the above

2. Upload a FEMA/FIRM map showing the site here:

[5 FEMA FIRMETTE\(1\).pdf](#)

The Federal Emergency Management Agency (FEMA) designates floodplains. The FEMA Map Service Center provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs). For projects in areas not mapped by FEMA, use **the best available information** to determine floodplain information. Include documentation, including a discussion of why this is the best available information for the site.

Does your project occur in a floodplain?

No

Based on the response, the review is in compliance with this section.

Yes

Screen Summary

Compliance Determination

According to the Federal Emergency Management Agency (FEMA) floodplain map, dated October 21, 2021 (Panel Number 26163C0285F), the Property is not located within the 100-year flood zone. Furthermore, topographical features present in the Property area are not representative of a flood plain. Furthermore, topographical features present in the Property area are not representative of a flood plain. The proposed Project is not located in a FEMA-designated Special Flood Hazard Area. The Project is in compliance with Executive Order 11988. Attachment 5

Supporting documentation

[5 FEMA FIRMETTE\(2\).pdf](#)

Are formal compliance steps or mitigation required?

Yes

✓ No

Historic Preservation

General requirements	Legislation	Regulation
Regulations under Section 106 of the National Historic Preservation Act (NHPA) require a consultative process to identify historic properties, assess project impacts on them, and avoid, minimize, or mitigate adverse effects	Section 106 of the National Historic Preservation Act (16 U.S.C. 470f)	36 CFR 800 "Protection of Historic Properties" https://www.govinfo.gov/content/pkg/CFR-2012-title36-vol3/pdf/CFR-2012-title36-vol3-part800.pdf

Threshold

Is Section 106 review required for your project?

No, because the project consists solely of activities listed as exempt in a Programmatic Agreement (PA). (See the PA Database to find applicable PAs.)

No, because the project consists solely of activities included in a No Potential to Cause Effects memo or other determination [36 CFR 800.3(a)(1)].

- ✓ Yes, because the project includes activities with potential to cause effects (direct or indirect).

Step 1 – Initiate Consultation

Select all consulting parties below (check all that apply):

✓ State Historic Preservation Offer (SHPO) Completed

✓ Advisory Council on Historic Preservation Not Required

✓ Indian Tribes, including Tribal Historic Preservation Officers (THPOs) or Native Hawaiian Organizations (NHOs)

✓ Bay Mills Indian Community Completed

✓ Forest County Potawatomi Community of Wisconsin	Completed
✓ Grand Traverse Band of Ottawa & Chippewa Indians	Completed
✓ Gun Lake Band of Pottawatomi Indians	Completed
✓ Hannahville Indian Community	Completed
✓ Ketegitigaaning Ojibwe Nation	Completed
✓ Keweenaw Bay Indian Community of Lake Superior Band	Completed
✓ Lac du Flambeau of Lake Superior Chippewa Indians	Completed
✓ Little River Band of Ottawa Indians	Completed
✓ Little Traverse Bay Bands of Odawa Indians	Completed
✓ Menominee Indian Tribe of Wisconsin	Completed
✓ Miami Tribe of Oklahoma	Completed
✓ Michigan ACP and R A	Completed
✓ Nottaweseppi Huron Band of the Potawatomi	Completed
✓ Pokagon Band of Potawatomi Indians, MI and IN	Completed
✓ Saginaw Chippewa Indian Tribe of Michigan	Completed
✓ Sault Ste. Marie Tribe of Chippewa Indians	Completed
✓ Seneca Cayuga Nation	Completed

Other Consulting Parties

Describe the process of selecting consulting parties and initiating consultation here:

The Project was reviewed under a Programmatic Agreement between the City of Detroit, ACHP, and the Michigan SHPO. A Section 106 application was provided to determine if the Project will adversely impact the subject property area or area of potential effect (APE).

Document and upload all correspondence, notices and notes (including comments and objections received below).

Was the Section 106 Lender Delegation Memo used for Section 106 consultation?

Yes

No

Step 2 – Identify and Evaluate Historic Properties

- 1. Define the Area of Potential Effect (APE), either by entering the address(es) or uploading a map depicting the APE below:**

The APE starts at the corner of Clifford Street and the West Fisher Service Drive and runs north along Clifford Street, continuing along the western lot line of 210 Henry Street then cutting west along the northern lot line of 210 Henry Street, then turning north at Cass Avenue. The boundary of the APE then runs north on Cass Avenue until turning west at Ledyard Street and runs along Ledyard Street until turning south at 2nd Avenue and running south along 2nd Avenue until turning east at the West Fisher Service Drive. The APE boundary then runs east along the West Fisher Service Drive until it terminates at the origination point at the corner of Clifford Street and the West Fisher Service Drive.

In the chart below, list historic properties identified and evaluated in the APE. Every historic property that may be affected by the project should be included in the chart.

Upload the documentation (survey forms, Register nominations, concurrence(s) and/or objection(s), notes, and photos) that justify your National Register Status determination below.

Address / Location / District	National Register Status	SHPO Concurrence	Sensitive Information
-------------------------------	--------------------------	------------------	-----------------------

Additional Notes:

The buildings at The buildings at 2447 Cass Avenue, 2467 Cass Avenue, 427 Henry Street, 439 Henry Street, 447 Henry Street, 459 Henry Street, 489 Henry Street are listed on the National Register of Historic Places as part of the Cass Park Local Historic District. The buildings listed on the National Register of Historic Places must follow the approved scope of work and provide copies of historic tax credit certifications and photos of completed work in order to confirm no adverse effects were undertaken during rehabilitation.

- 2. Was a survey of historic buildings and/or archeological sites done as part of the project?**

✓ Yes

Document and upload surveys and report(s) below.
For Archeological surveys, refer to HP Fact Sheet #6, Guidance on Archeological

Investigations in HUD Projects.

Additional Notes:

A Section 106 application was submitted with survey information on above ground resources as well as a recommendation for further archaeology survey. A Phase I archaeological trench excavation was performed by Misty M. Jackson on April 11-13, 2022. One archaeological site was found and interpreted as an intact trash deposit dating to the late nineteenth to early twentieth centuries. The materials recovered from the fill and the midden context were determined to not likely to yield additional information important to history or prehistory by any further investigation. In a letter dated August 26, 2022, the SHPO concurred with no further investigation needed.

No

Step 3 – Assess Effects of the Project on Historic Properties

Only properties that are listed on or eligible for the National Register of Historic Places receive further consideration under Section 106. Assess the effect(s) of the project by applying the Criteria of Adverse Effect. (36 CFR 800.5)] Consider direct and indirect effects as applicable as per guidance on direct and indirect effects.

Choose one of the findings below - No Historic Properties Affected, No Adverse Effect, or Adverse Effect; and seek concurrence from consulting parties.

No Historic Properties Affected

✓ No Adverse Effect

Based on the response, the review is in compliance with this section.

Document reason for finding:

The Project received a Conditional No Adverse Effect determination from Ms. Tiffany Ciavattone, Preservation Specialist with the City of Detroit in a letter dated March 21, 2023 following review of the Section 106 application and consultation with SHPO regarding the findings of the Phase I archeological

trench excavation.

Does the No Adverse Effect finding contain conditions?

✓ Yes (check all that apply)

Avoidance

Modification of project

✓ Other

Describe conditions here:

No

Adverse Effect

Screen Summary

Compliance Determination

Based on Section 106 consultation the project will have No Adverse Effect on historic properties as long as the approved scope of work is followed.

Supporting documentation

[HENRYS~2.PDF](#)

[Cass Henry Historic District Section 106 Maps.pdf](#)

[Cass Park HD Survey Form.pdf](#)

[Cass Henry Section 106 Application.pdf](#)

[Cass Henry Section 106 Photo Doc.pdf](#)

[Cass Above-Ground Sites.pdf](#)

[2450 Cass Avenue Survey Form.pdf](#)

[200-210 Henry Street Survey Form.pdf](#)

[CITYOF~3.PDF](#)

[HENRYS~1.PDF](#)

[City of Detroit 4 projects_MBPI Response 012023.pdf](#)

[POKAGO~1.DOC](#)

[22 Summary of Mitigation Measures\(1\).pdf](#)

[12D Cass Henry Section 106 Letter March 2023.pdf](#)

[12B Cass Henry Section 106 Letter October 2021.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Noise Abatement and Control

General requirements	Legislation	Regulation
HUD's noise regulations protect residential properties from excessive noise exposure. HUD encourages mitigation as appropriate.	Noise Control Act of 1972 General Services Administration Federal Management Circular 75-2: "Compatible Land Uses at Federal Airfields"	Title 24 CFR 51 Subpart B

1. What activities does your project involve? Check all that apply:

New construction for residential use

Rehabilitation of an existing residential property

NOTE: For major or substantial rehabilitation in Normally Unacceptable zones, HUD encourages mitigation to reduce levels to acceptable compliance standards. For major rehabilitation in Unacceptable zones, HUD strongly encourages mitigation to reduce levels to acceptable compliance standards. See 24 CFR 51 Subpart B for further details.

A research demonstration project which does not result in new construction or reconstruction

An interstate land sales registration

Any timely emergency assistance under disaster assistance provision or appropriations which are provided to save lives, protect property, protect public health and safety, remove debris and wreckage, or assistance that has the effect of restoring facilities substantially as they existed prior to the disaster
None of the above

4. Complete the Preliminary Screening to identify potential noise generators in the vicinity (1000' from a major road, 3000' from a railroad, or 15 miles from an airport).

Indicate the findings of the Preliminary Screening below:

There are no noise generators found within the threshold distances above.

- ✓ Noise generators were found within the threshold distances.

5. **Complete the Preliminary Screening to identify potential noise generators in the**

Acceptable: (65 decibels or less; the ceiling may be shifted to 70 decibels in circumstances described in §24 CFR 51.105(a))

- ✓ Normally Unacceptable: (Above 65 decibels but not exceeding 75 decibels; the floor may be shifted to 70 decibels in circumstances described in §24 CFR 51.105(a))

Indicate noise level here: 74

Document and upload noise analysis, including noise level and data used to complete the analysis below.

Unacceptable: (Above 75 decibels)

HUD strongly encourages conversion of noise-exposed sites to land uses compatible with high noise levels.

Check here to affirm that you have considered converting this property to a non-residential use compatible with high noise levels.

Indicate noise level here: 74

Document and upload noise analysis, including noise level and data used to complete the analysis below.

6. **HUD strongly encourages mitigation be used to eliminate adverse noise impacts. Explain in detail the exact measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation. This information will be automatically included in the Mitigation summary for the environmental review.**

- ✓ Mitigation as follows will be implemented:

Appropriate construction materials will be incorporated in the buildings with normally unacceptable exterior noise (427, 439, and 459 Henry Street and 2447 and 2467 Cass Avenue) to mitigate interior noise levels within the acceptable range. Materials to be utilized include windows with specified glazing types and door upgrades.

Based on the response, the review is in compliance with this section. Document and upload drawings, specifications, and other materials as needed to describe the project's noise mitigation measures below.

No mitigation is necessary.

Screen Summary

Compliance Determination

A Noise Assessment was conducted for the proposed affordable housing buildings at 439 and 459 Henry Street and for the proposed community building at 447 Henry Street. The noise levels for the two affordable buildings were determined to be normally unacceptable: 73.0 to 74.0 db while the noise levels for the community building were determined to be acceptable: 63.0 dB. Additionally, utilizing the data obtained from the affordable and community building assessments, noise projects were also determined for the market rate buildings. Appropriate construction materials will be incorporated in the buildings with normally unacceptable exterior noise (427, 439, and 459 Henry Street and 2447 and 2467 Cass Avenue) to mitigate interior noise levels within the acceptable range. Materials to be utilized include windows with specified glazing types and door upgrades. Attachments 13 and 22

Supporting documentation

[22 Summary of Mitigation Measures\(2\).pdf](#)

[13C Sound Isolation Report for Market Rate March 2022.pdf](#)

[13B Noise for Community Room Building 447 January 2022.pdf](#)

[13A HUD Noise Assessment January 2022.pdf](#)

Are formal compliance steps or mitigation required?

✓ Yes

No

Sole Source Aquifers

General requirements	Legislation	Regulation
The Safe Drinking Water Act of 1974 protects drinking water systems which are the sole or principal drinking water source for an area and which, if contaminated, would create a significant hazard to public health.	Safe Drinking Water Act of 1974 (42 U.S.C. 201, 300f et seq., and 21 U.S.C. 349)	40 CFR Part 149

1. Does the project consist solely of acquisition, leasing, or rehabilitation of an existing building(s)?

Yes

Based on the response, the review is in compliance with this section.

No

Screen Summary

Compliance Determination

There are no sole source aquifers in the City of Detroit or Wayne County. The Project is in compliance with Sole Source Aquifer requirements. Attachment 14

Supporting documentation

[14 Sole Source Aquifer.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Wetlands Protection

General requirements	Legislation	Regulation
Executive Order 11990 discourages direct or indirect support of new construction impacting wetlands wherever there is a practicable alternative. The Fish and Wildlife Service's National Wetlands Inventory can be used as a primary screening tool, but observed or known wetlands not indicated on NWI maps must also be processed. Off-site impacts that result in draining, impounding, or destroying wetlands must also be processed.	Executive Order 11990	24 CFR 55.20 can be used for general guidance regarding the 8 Step Process.

1. Does this project involve new construction as defined in Executive Order 11990, expansion of a building's footprint, or ground disturbance? The term "new construction" shall include draining, dredging, channelizing, filling, diking, impounding, and related activities and any structures or facilities begun or authorized after the effective date of the Order

✓ No

Based on the response, the review is in compliance with this section.

Yes

Screen Summary

Compliance Determination

Areas potentially associated with wetlands were not observed on the Property during the site reconnaissance. In addition, review of the National Wetlands Inventory (NWI) Map from the U.S. Fish and Wildlife Service and the EGLE Wetlands Map Viewer did not identify any wetlands on the Property. The Project is in compliance with Executive Order 11990. Attachment 15

Supporting documentation

[15B Wetlands Map NWI.pdf](#)

[15A Wetlands Map EGLE.pdf](#)

Are formal compliance steps or mitigation required?

Yes

✓ No

Wild and Scenic Rivers Act

General requirements	Legislation	Regulation
The Wild and Scenic Rivers Act provides federal protection for certain free-flowing, wild, scenic and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System (NWSRS) from the effects of construction or development.	The Wild and Scenic Rivers Act (16 U.S.C. 1271-1287), particularly section 7(b) and (c) (16 U.S.C. 1278(b) and (c))	36 CFR Part 297

1. Is your project within proximity of a NWSRS river?

No

Yes, the project is in proximity of a Designated Wild and Scenic River or Study Wild and Scenic River.

Yes, the project is in proximity of a Nationwide Rivers Inventory (NRI) River.

Screen Summary

Compliance Determination

The National Wild and Scenic Rivers System map (maintained and managed by the Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, and U.S. Forest Service) were reviewed to determine if the Property is within a designated wild and scenic river area. There are no wild and scenic rivers located within the City of Detroit or Wayne County. This Project is not within proximity of a NWSRS river. The project is in compliance with the Wild and Scenic Rivers Act. Attachment 16

Supporting documentation

[16 Wild and Scenic Rivers.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Environmental Justice

General requirements	Legislation	Regulation
Determine if the project creates adverse environmental impacts upon a low-income or minority community. If it does, engage the community in meaningful participation about mitigating the impacts or move the project.	Executive Order 12898	

HUD strongly encourages starting the Environmental Justice analysis only after all other laws and authorities, including Environmental Assessment factors if necessary, have been completed.

1. Were any adverse environmental impacts identified in any other compliance review portion of this project’s total environmental review?

Yes

No

Based on the response, the review is in compliance with this section.

Screen Summary

Compliance Determination

This Project will not have a disproportionately high adverse effect on human health or environment of minority populations and/or low-income populations. The buildings will serve low-income and homeless residents. The development is in the City of Detroit, which is made up of 87% ethnic minorities. New facilities and residences are intended to enhance the quality of life for new and existing residents and the community. No persons will be displaced due to this Project. No adverse environmental impacts were identified in the project's total environmental review. The project is in compliance with Executive Order 12898. Attachment 17

Supporting documentation

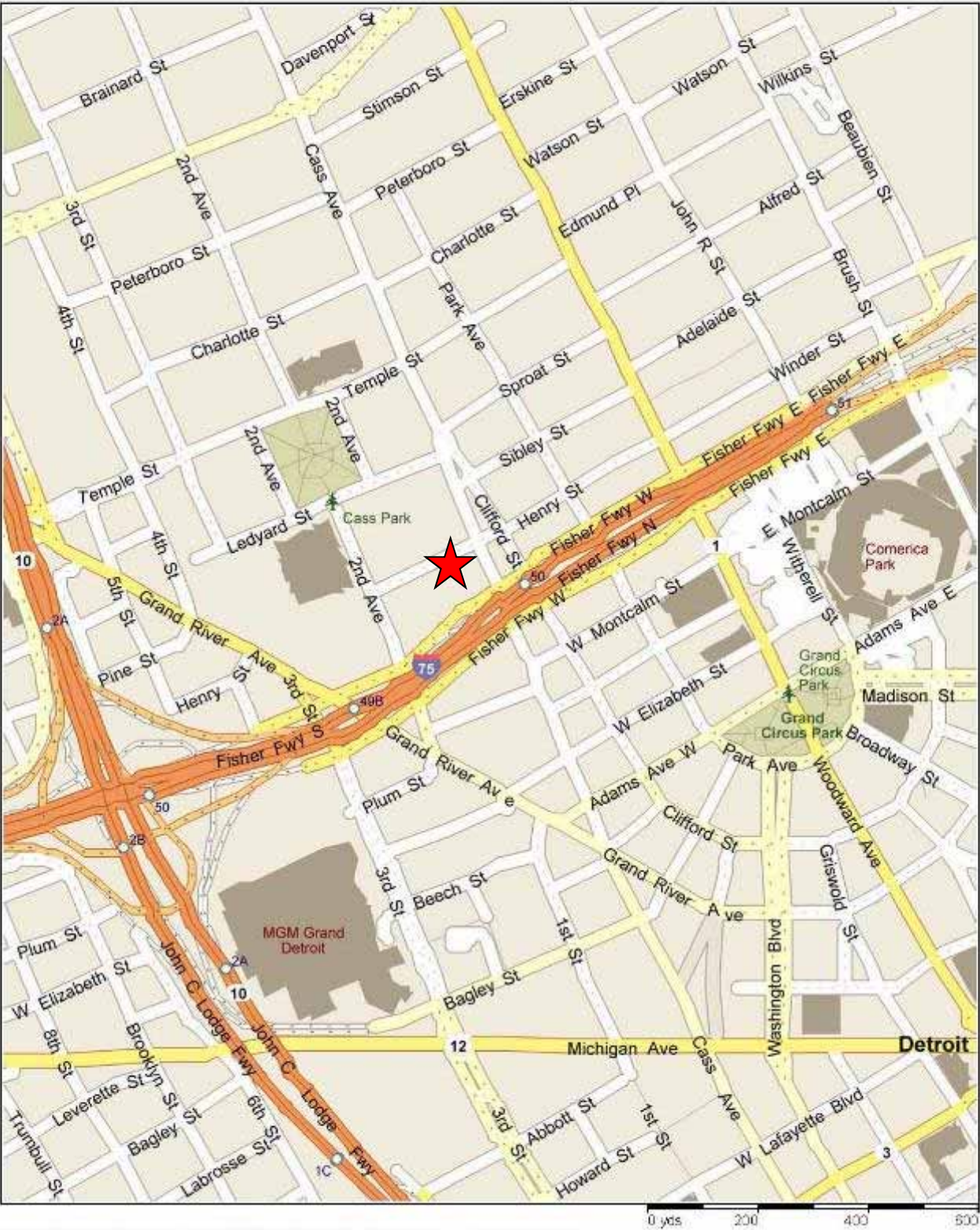
[17 ejscreen_report.pdf](#)

Are formal compliance steps or mitigation required?

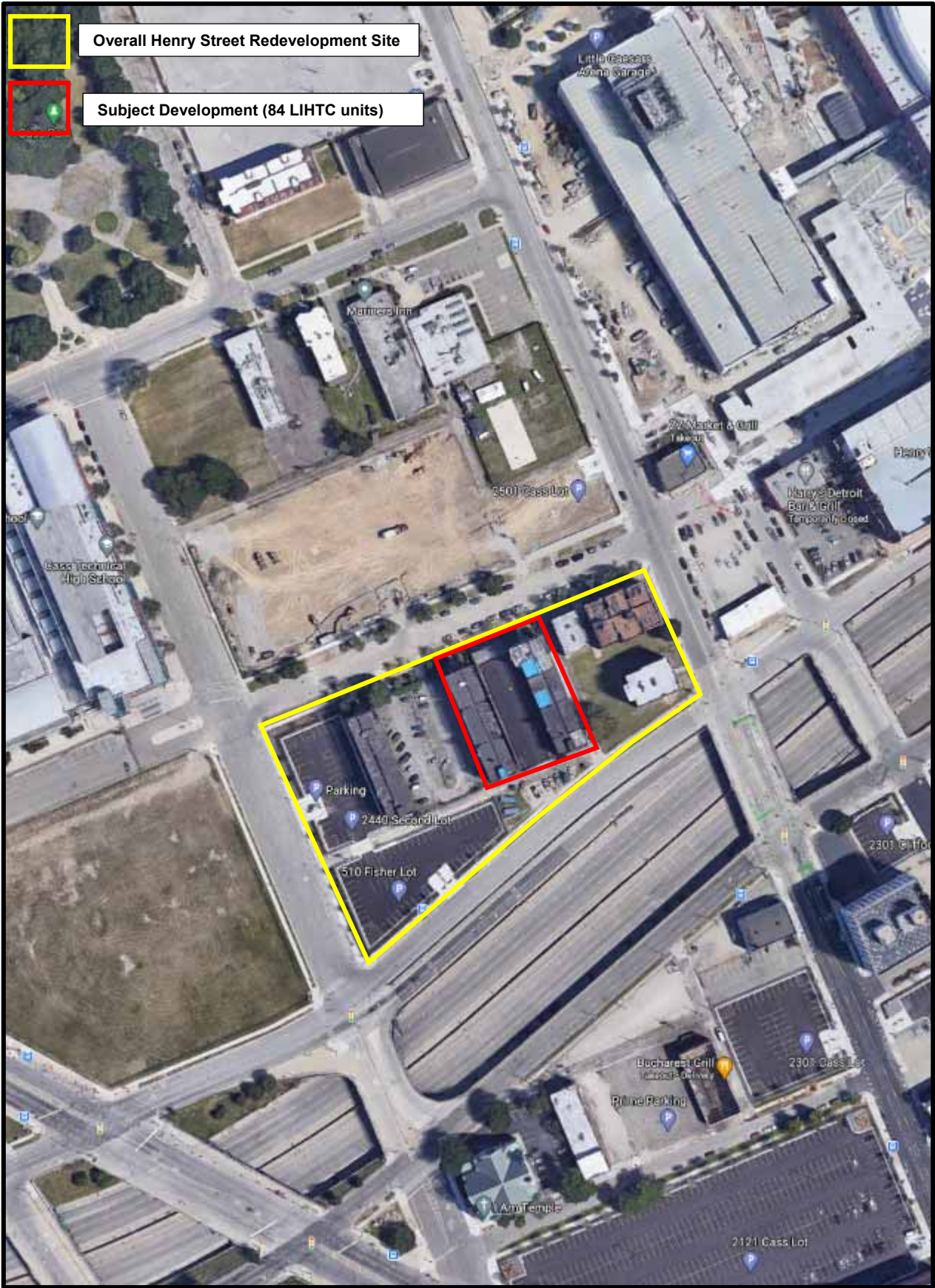
Yes

✓ No

Site Location Map



Aerial View



MARKET RATE SUMMARY

	STUDIO	1 BED / 1 BATH	1 BED + DEN/ 1 BATH
489 HENRY	24	16	NA
427 HENRY	N/A	4	2
2467 CASS	N/A	16	8
2447 CASS	5	11	N/A
	29	47	10

86 - MARKET RATE

AFFORDABLE RATE SUMMARY

	STUDIO	1 BED / 1 BATH	1 BED + DEN/ 1 BATH
459 HENRY	40	4	N/A
439 HENRY	24	16	N/A
	64	20	0

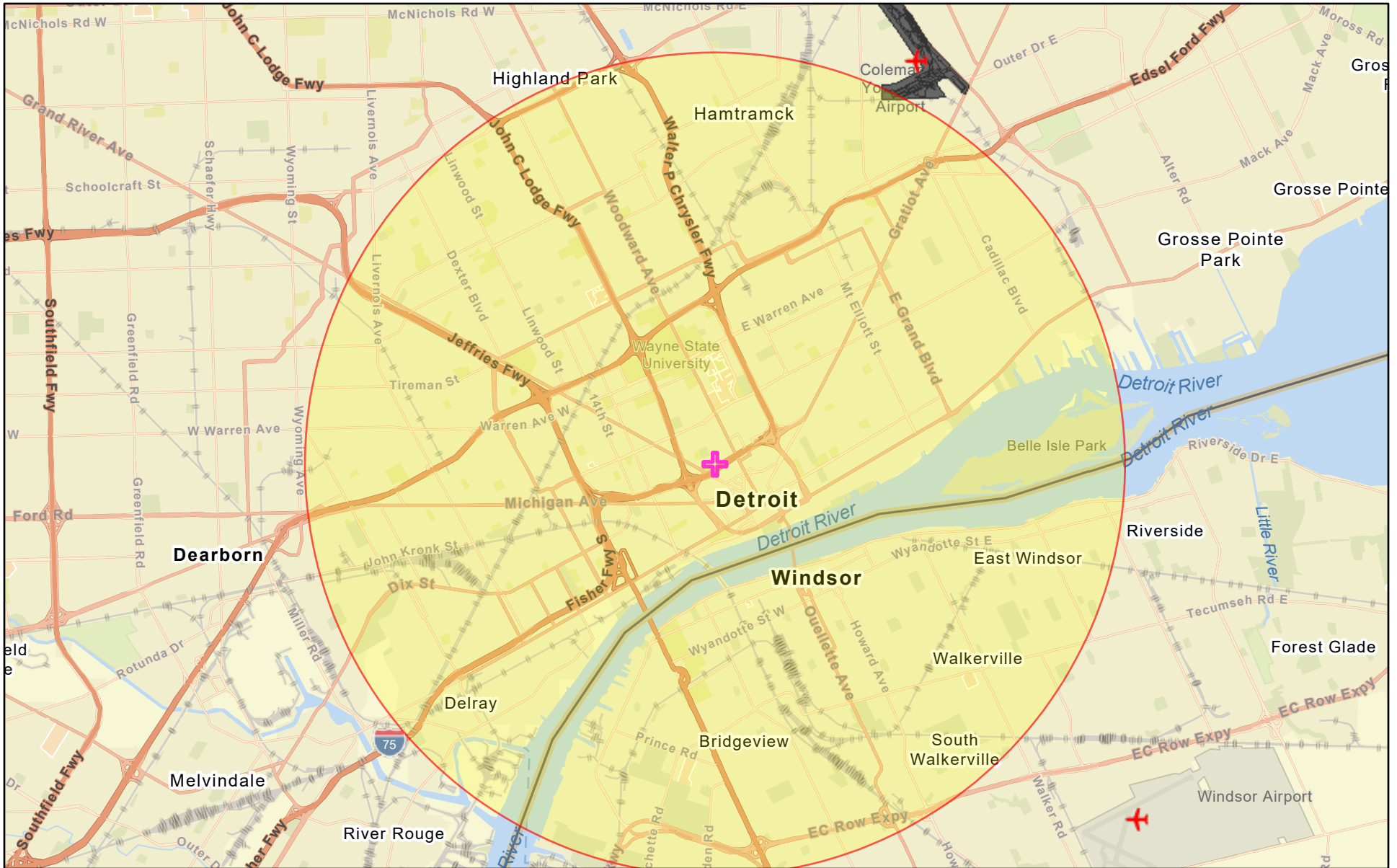
84 - AFFORDABLE

	STUDIO	1 BED / 1 BATH	1 BED + DEN/ 1 BATH
TOTAL	93	67	10





170 - TOTAL UNITS

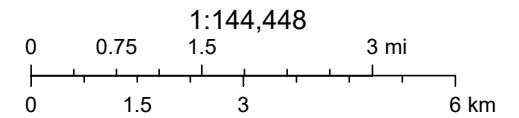


Airport Map



August 31, 2022

-  Project Buffer
-  Airport Map
-  Airport Points
-  Airport Polygons

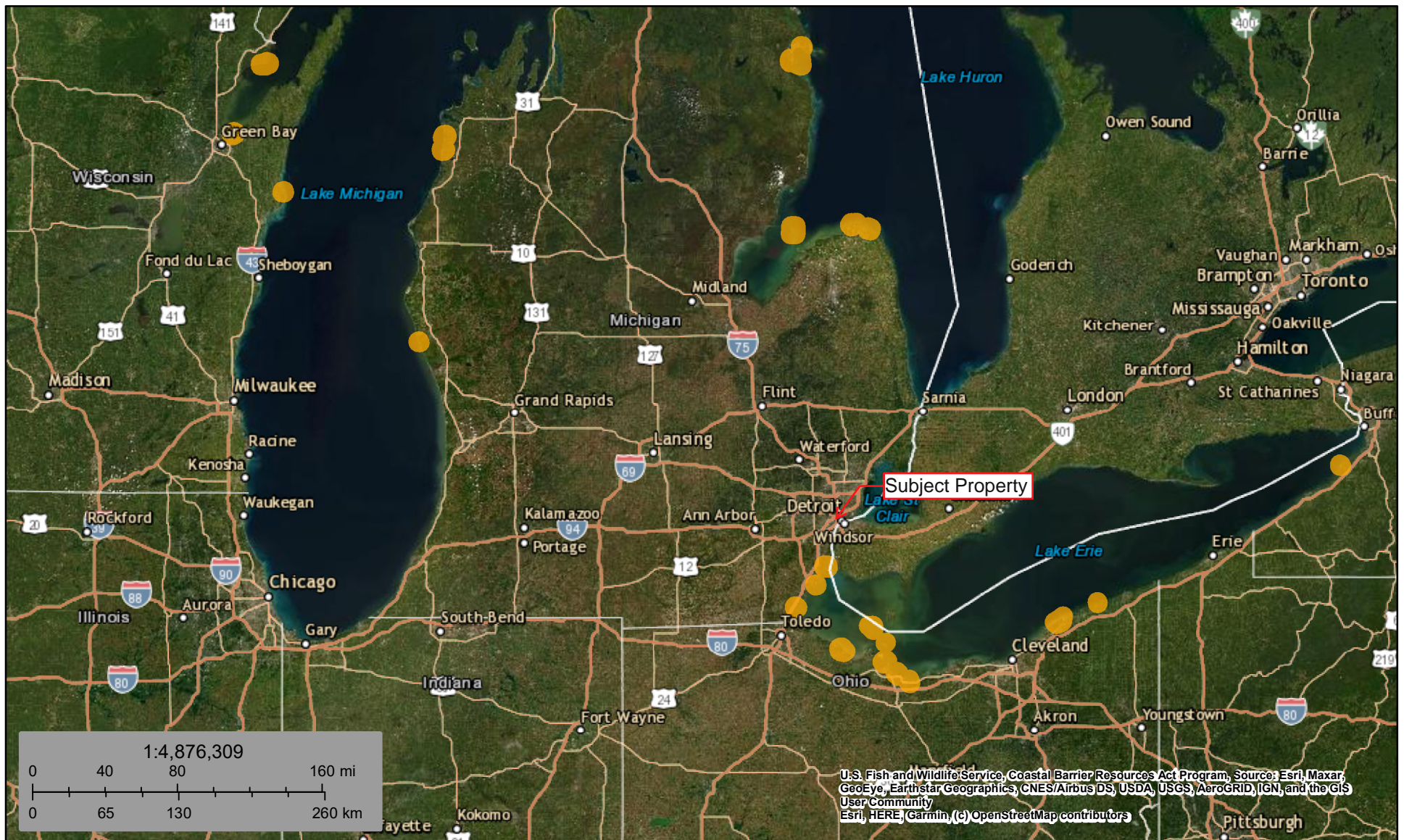


City of Windsor, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA,



U.S. Fish and Wildlife Service Coastal Barrier Resources System

CBRS



January 18, 2022

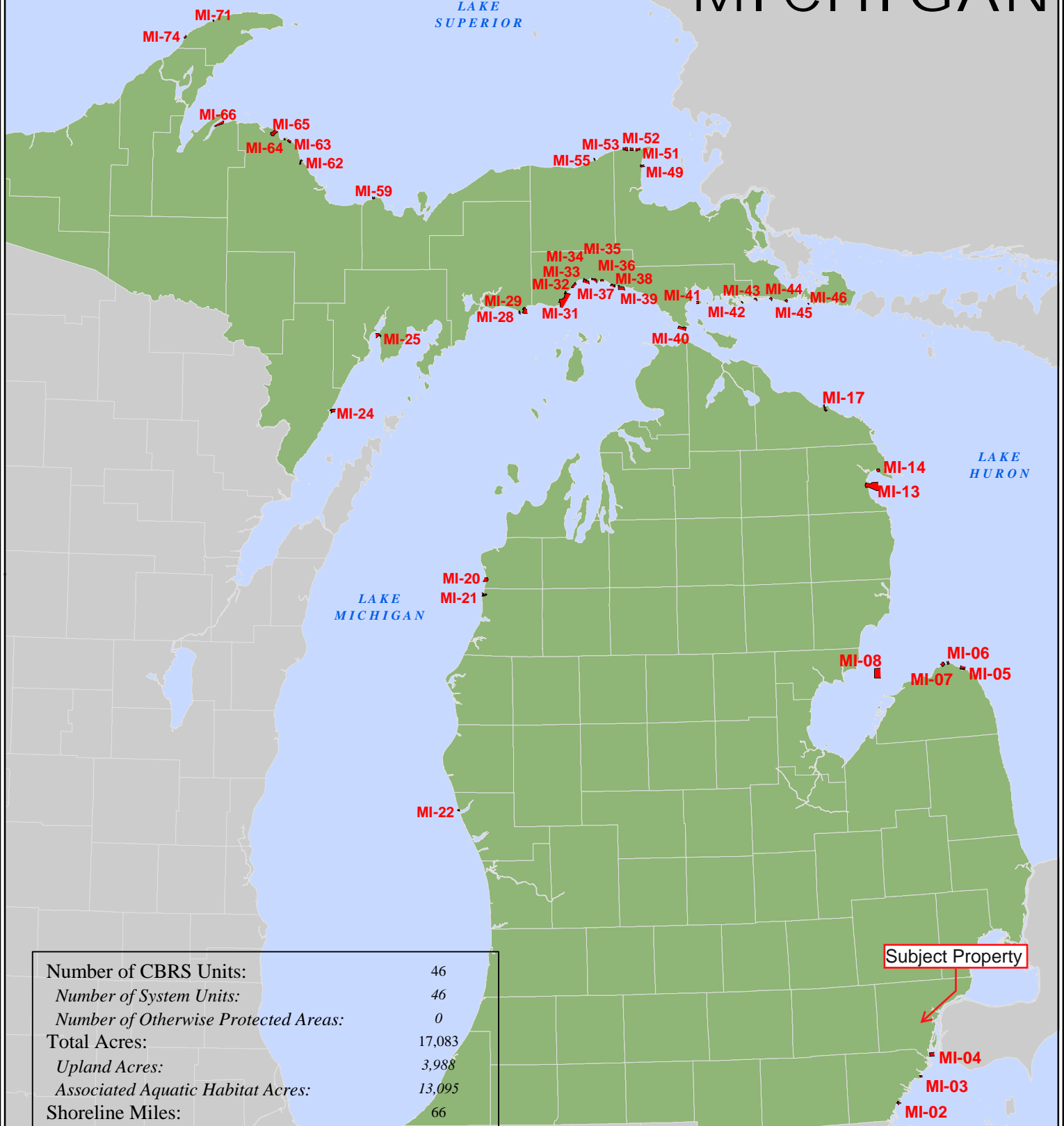
 CBRS Units

This map is for general reference only. The Coastal Barrier Resources System (CBRS) boundaries depicted on this map are representations of the controlling CBRS boundaries, which are shown on the official maps, accessible at <https://www.fws.gov/cbra/maps/index.html>. All CBRS related data should be used in accordance with the layer metadata found on the CBRS Mapper website.

The CBRS Buffer Zone represents the area immediately adjacent to the CBRS boundary where users are advised to contact the Service for an official determination (<http://www.fws.gov/cbra/Determinations.html>) as to whether the property or project site is located "in" or "out" of the CBRS.

CBRS Units normally extend seaward out to the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS mapper.

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM MICHIGAN



Boundaries of the John H. Chafee Coastal Barrier Resources System (CBRS) shown on this map were transferred from the official CBRS maps for this area and are depicted on this map (in red) for informational purposes only. The official CBRS maps are enacted by Congress via the Coastal Barrier Resources Act, as amended, and are maintained by the U.S. Fish and Wildlife Service. The official CBRS maps are available for download at <http://www.fws.gov/CBRA>.

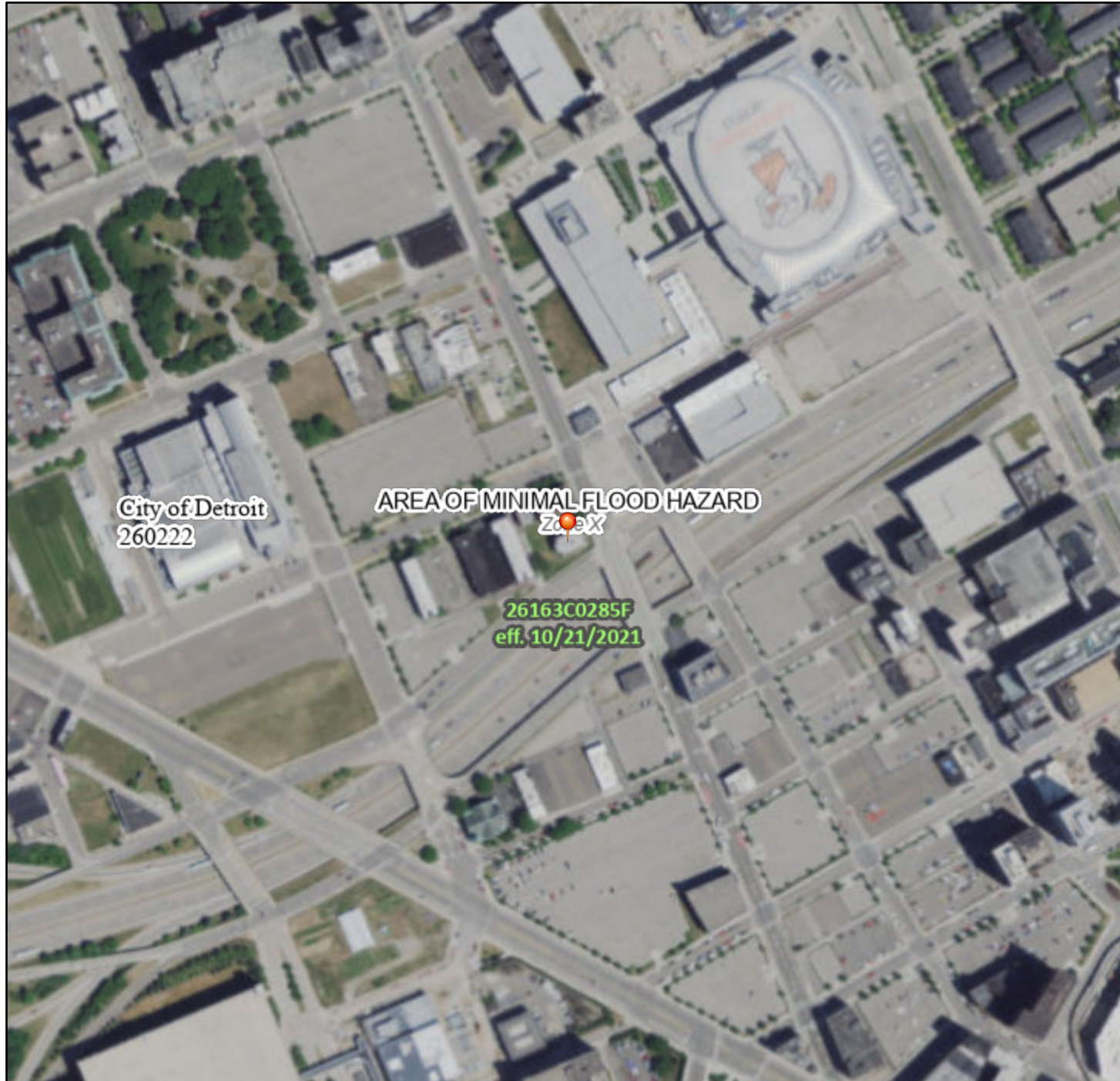
Map Date: March 14, 2016



National Flood Hazard Layer FIRMette



83°3'44"W 42°20'32"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

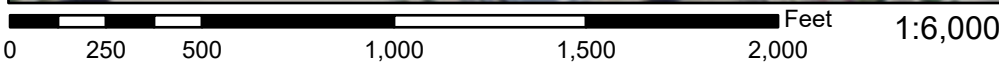
- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance |
| | | 17.5 Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/18/2022 at 8:11 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



83°3'17"W 42°20'5"N

Attainment Status for the National Ambient Air Quality Standards

The National Ambient Air Quality Standards (NAAQS) are health-based pollution standards set by EPA.

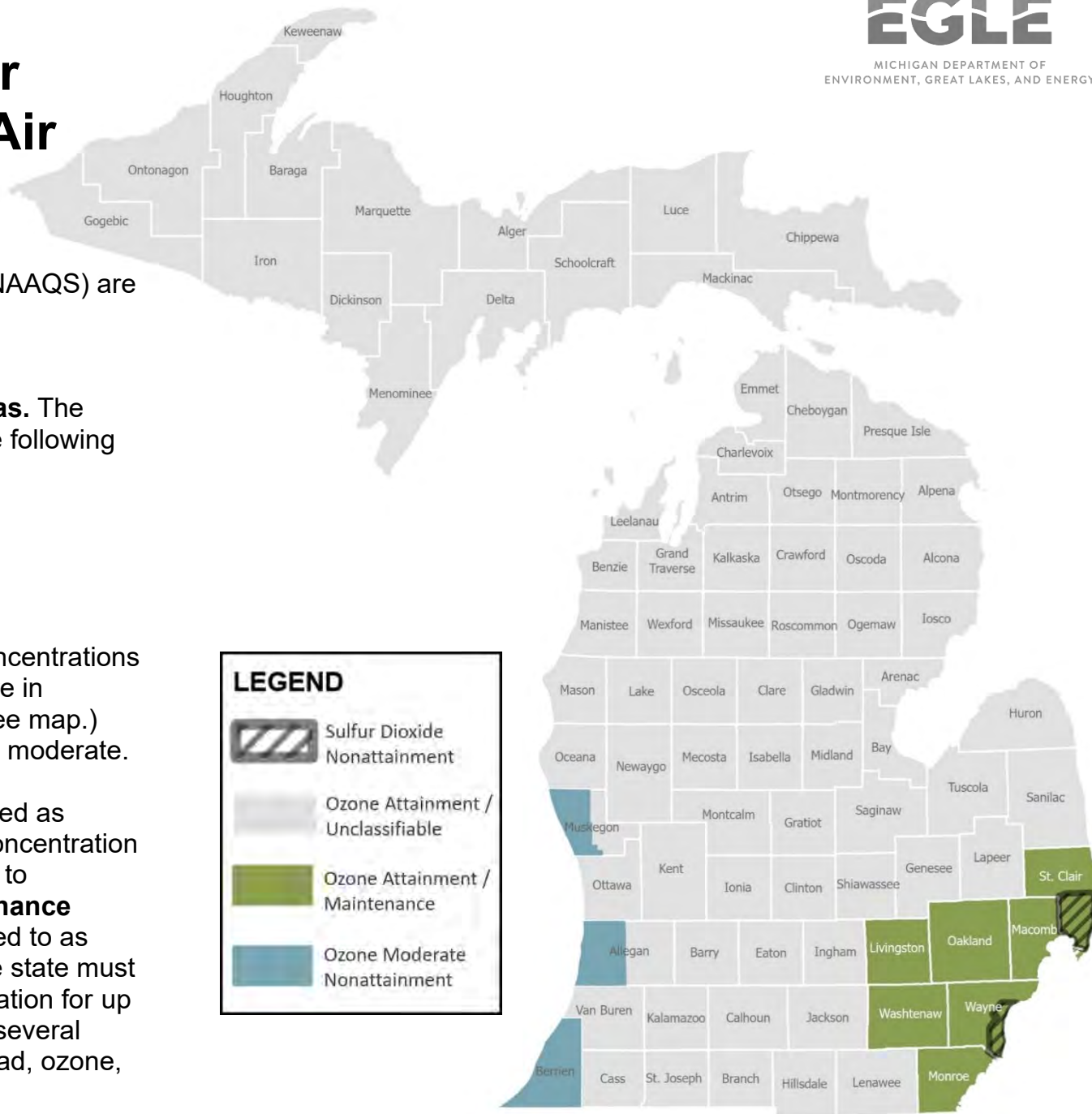
Areas of the state that are below the NAAQS concentration level are called **attainment areas**. The entire state of Michigan is in attainment for the following pollutants:

- Carbon Monoxide (CO)
- Lead (Pb)
- Nitrogen Dioxide (NO₂)
- Particulate Matter (PM₁₀ & PM_{2.5})

Nonattainment areas are those that have concentrations over the NAAQS level. Portions of the state are in nonattainment for sulfur dioxide and ozone (see map.) The ozone nonattainment area is classified as moderate.

Areas of the state that were previously classified as nonattainment but have since reduced their concentration levels below the NAAQS can be redesignated to attainment and are called **attainment/maintenance areas**. These areas are also commonly referred to as “attainment” after reclassification, however the state must continue monitoring and submitting documentation for up to 20 years after the redesignated. There are several maintenance areas throughout the state for lead, ozone, and particulate matter.

**For readability purposes the map only includes the most recently reclassified ozone maintenance area in southeast Michigan. For more information, please consult the Michigan.gov/AIR webpage or contact the division directly.*



LEGEND

- Sulfur Dioxide Nonattainment
- Ozone Attainment / Unclassifiable
- Ozone Attainment / Maintenance
- Ozone Moderate Nonattainment

**See Page 2 for close-up maps of partial county nonattainment areas.*



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING



LIESL EICHLER CLARK
DIRECTOR

January 19, 2022

Ms. Lindsey Sorensen, Director of Research Group
PM Environmental, Inc.
560 5th Street, N.W., Suite 301
Grand Rapids, Michigan 49504

Dear Ms. Sorensen:

Subject: Henry Street Redevelopment, Detroit, Michigan

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) has reviewed the federal regulations related to general conformity of projects with state implementation plans (SIP) for air quality. In particular, 40 Code of Federal Regulations (CFR) Section 93.150 et seq, which states that any federally funded project in a nonattainment or maintenance area must conform to the Clean Air Act requirements including the State's SIP if they may constitute a significant new source of air pollution.

On August 3, 2018, Wayne County was designated nonattainment for the 2015 National Ambient Air Quality Standard (NAAQS) for ozone, and thus, general conformity must be evaluated when completing construction projects of a given size and scope. EGLE is currently working to complete the required SIP submittal for this area; therefore, an alternative evaluation was completed to assess conformity. Specifically, EGLE considered the following information from the United States Environmental Protection Agency's (USEPA) general conformity guidance, which states "historical analysis of similar actions can be used in cases where the proposed projects are similar in size and scope to previous projects."

EGLE has reviewed the Henry Street Redevelopment project proposed to be completed with federal grant monies, including the interior and exterior rehabilitation of seven buildings located at 489, 459, 447, 439, and 427 Henry Street, and 2467 and 2447 Cass Avenue in Detroit, Michigan. The project will create 170 units of residential mixed-use, mixed-income housing and some commercial space, community amenity space, community supportive facilities, and support spaces within, for the operational and management aspects of the residential buildings. Each of the buildings will be updated with modern mechanical, electrical, and plumbing. The project is expected to commence in the summer/fall of 2022 and take approximately 12 months to complete.

Ms. Lindsey Sorensen
January 19, 2022
Page 2

In reviewing the *"Air Quality and Greenhouse Gas Study: Uptown Orange Apartments in Orange, California,"* dated December 2012, prepared for KTTY Group, Inc., by UltraSystems Environmental, Inc., it was determined that emission levels for the project were below the de minimis levels for general conformity. The Uptown Orange Apartments project and related parking structure construction was estimated to take 33 months to complete, would encompass an area of 5.57 acres, and included two four-story residential units with a total of 334 apartments, and two parking structures with a total of 494 and 679 parking stalls, respectively.

The size, scope, and duration of the Henry Street Redevelopment project proposed is much smaller in scale than the Uptown Orange Apartments project described above and should not exceed the de minimis levels included in the federal general conformity requirements. Therefore, it does not require a detailed conformity analysis.

If you have any further questions regarding this matter, please contact me at 517-648-6314; BukowskiB@Michigan.gov; or EGLE, AQD, P.O. Box 30260, Lansing, Michigan 48909-7760.

Sincerely,

A handwritten signature in blue ink that reads "Breanna Bukowski".

Breanna Bukowski
Environmental Quality Analyst

cc: Mr. Michael Leslie, USEPA Region 5
Ms. Carey Kratz, PM Environmental
Mr. Edward Potas, Cinnaire Solutions Corporation

Wayne County
Grosse Pointe Township, Grosse Pointe Woods, Grosse Pointe Farms
Grosse Pointe, Grosse Pointe Park, and Detroit, T1S R14E
Detroit, T1S R14E, T2S R13E, and T2S R12E
River Rouge, T2S R11E

The heavy red line is the **Coastal Zone Management Boundary**
The red hatched area is the **Coastal Zone Management Area**.





GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
DETROIT DISTRICT OFFICE



LIESL EICHLER CLARK
DIRECTOR

February 2, 2023

2445 Cass, LLC
c/o Tyler Hardy, Director, Development
2211 Woodward Avenue
Detroit, Michigan 48201

Dear Tyler Hardy:

SUBJECT: Notice of Approval of Response Activity Plan (ResAP) to Comply with 7a(1)(b) for:
Henry Street Development, 2445 Cass Avenue, Detroit, Wayne County, Michigan
Tax ID No. 02002278.002L; Site ID No. 82007889

The Michigan Department of Environment, Great Lake, and Energy (EGLE), Remediation and Redevelopment Division (RRD), has reviewed the ResAP to Comply with 7a(1)(b) for response activities to be undertaken at the properties identified as 2445 Cass Avenue, Detroit, Wayne County. The ResAP was submitted by NTH Consultants, Ltd. on behalf of 2445, LLC on January 17, 2023, pursuant to Section 20114b(3) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Based upon representations and information contained in the submittal, the response activities to mitigate unacceptable exposures as proposed in the ResAP to Comply with 7a(1)(b) are approved.

This approval of the ResAP to Comply with 7a(1)(b) is for the undertaking of response activities to mitigate unacceptable exposures as identified in Section 8.0 of the ResAP, dated January 2023, and is based upon the representations and information contained in this submittal.

EGLE expresses no opinion as to whether other conditions that may exist will be adequately addressed by the proposed response activities. Notwithstanding this approval, if environmental contamination is found to exist that is not addressed by the ResAP and you are otherwise liable for the contamination, additional response activities may be necessary.

If you should have further questions or concerns, please contact Jeanne Schlaufman, EGLE, RRD, Detroit District Office, at email SchlaufmanJ1@Michigan.gov.

Sincerely,

Paul Owens, District Supervisor
Detroit District Office
Remediation and Redevelopment Division
OwensP@Michigan.gov

cc: Bhushan Modi, NTH Consultants Ltd.
Beth Vens, EGLE
Jeanne Schlaufman, EGLE



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
DETROIT DISTRICT OFFICE



LIESL EICHLER CLARK
DIRECTOR

February 2, 2023

Sorin Enterprises, LLC
c/o Tyler Hardy, Director, Development
2211 Woodward Avenue
Detroit, Michigan 48201

Dear Tyler Hardy:

SUBJECT: Notice of Approval of Response Activity Plan (ResAP) to Comply with 7a(1)(b) for:
Henry Street Development, 2457 Cass Avenue, Detroit, Wayne County, Michigan
Tax ID No. 02002277; Site ID No. 82007889

The Michigan Department of Environment, Great Lake, and Energy (EGLE), Remediation and Redevelopment Division (RRD), has reviewed the ResAP to Comply with 7a(1)(b) for response activities to be undertaken at the properties identified as 2457 Cass Avenue, Detroit, Wayne County. The ResAP was submitted by NTH Consultants, Ltd. on behalf of Sorin Enterprises, LLC on January 17, 2023, pursuant to Section 20114b(3) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Based upon representations and information contained in the submittal, the response activities to mitigate unacceptable exposures as proposed in the ResAP to Comply with 7a(1)(b) are approved.

This approval of the ResAP to Comply with 7a(1)(b) is for the undertaking of response activities to mitigate unacceptable exposures as identified in Section 8.0 of the ResAP, dated January 2023, and is based upon the representations and information contained in this submittal.

EGLE expresses no opinion as to whether other conditions that may exist will be adequately addressed by the proposed response activities. Notwithstanding this approval, if environmental contamination is found to exist that is not addressed by the ResAP and you are otherwise liable for the contamination, additional response activities may be necessary.

If you should have further questions or concerns, please contact Jeanne Schlaufman, EGLE, RRD, Detroit District Office, at email SchlaufmanJ1@Michigan.gov.

Sincerely,

Paul Owens, District Supervisor
Detroit District Office
Remediation and Redevelopment Division
OwensP@Michigan.gov

cc: Bhushan Modi, NTH Consultants Ltd.
Beth Vens, EGLE
Jeanne Schlaufman, EGLE



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
DETROIT DISTRICT OFFICE



LIESL EICHLER CLARK
DIRECTOR

February 2, 2023

Cass Village Apartments, LLC
c/o Tyler Hardy, Director, Development
2211 Woodward Avenue
Detroit, Michigan 48201

Dear Tyler Hardy:

SUBJECT: Notice of Approval of Response Activity Plan to Comply with 7a(1)(b) for:
Henry Street Development
467 Henry Street and 481 Henry Street, Detroit, Wayne County, Michigan
Tax ID No. 02000559 and 02000560
Site ID No. 82007889

The Michigan Department of Environment, Great Lake, and Energy (EGLE), Remediation and Redevelopment Division (RRD), has reviewed the Response Activity Plan (ResAP) to Comply with 7a(1)(b) for response activities to be undertaken at the properties identified as 467 and 481 Henry Street, Detroit, Wayne County. The ResAP was submitted by NTH Consultants, Ltd. on behalf of Cass Village Apartments, LLC on January 17, 2023, pursuant to Section 20114b(3) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Based upon representations and information contained in the submittal, the response activities to mitigate unacceptable exposures as proposed in the ResAP to Comply with 7a(1)(b) are approved.

This approval of the ResAP to Comply with 7a(1)(b) is for the undertaking of response activities to mitigate unacceptable exposures as identified in Section 8.0 of the response activity plan, dated January 2023, and is based upon the representations and information contained in this submittal.

EGLE expresses no opinion as to whether other conditions that may exist will be adequately addressed by the proposed response activities. Notwithstanding this approval, if environmental contamination is found to exist that is not addressed by the ResAP and you are otherwise liable for the contamination, additional response activities may be necessary.

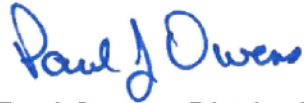
Tyler Hardy
Cass Village Apartments, LLC

2

February 2, 2023

If you should have further questions or concerns, please contact Jeanne Schlaufman, EGLE, RRD, Detroit District Office, at email SchlaufmanJ1@Michigan.gov.

Sincerely,



Paul Owens, District Supervisor
Detroit District Office
Remediation and Redevelopment Division
586-235-6990
OwensP@Michigan.gov

cc: Bhushan Modi, NTH Consultants Ltd.
Beth Vens, EGLE
Jeanne Schlaufman, EGLE

Contamination Summary

Phase I ESAs were completed for the affordable housing parcels (439, 447/449, 459, 467, and 481 Henry Street) dated January 8, 2021, for the Fisher Street parcels (412, 434, and 450 West Fisher Street) dated June 25, 2021, and for the market rate parcels (2445, 2447, 2457, and 2467 Cass Avenue and 427 and 489 Henry Street) dated July 15, 2021. These Phase I ESAs summarized previous investigations including Phase I ESAs and Baseline Environmental Site Assessments (BEAs) completed between 2009 and 2021. Recognized environmental conditions (RECs) affordable parcels: former use of 447/449 Henry Street for automotive repair services and a bowling alley, former dry cleaning operations at 481 Henry Street, former for backfill from unknown sources to be present at 467 and 481 Henry Street, and previously identified concentrations of select metals and PNAs exceeding Part 201 Generic Cleanup Criteria (GCC). Additionally, mercury and phenanthrene exceed residential Volatilization to Indoor Air Pathway (VIAP) Screening Levels. Recognized environmental conditions (RECs) Fisher Street parcels: former use of 412 West Fisher Street for automotive repair services, potential for backfill from unknown sources to be present at 412 West Fisher Street, and previously identified concentrations of arsenic exceeding Part 201 GCC. Recognized environmental conditions (RECs) market rate parcels: potential for backfill from unknown sources to present at 2445 and 2457 Cass Avenue and previously identified concentrations of mercury, selenium, and zinc exceeding Part 201 GCC and/or residential VIAP Screening Levels. An additional subsurface investigation was completed in October 2021 which included EGLE-provided site-specific volatilization to indoor air criteria (SSVIAC). The investigation consisted of 45 borings with samples analyzed for polynuclear aromatic hydrocarbons (PNAs) and mercury. It was also determined that the previously identified concentrations of arsenic were within regional background concentrations and therefore, no due care applied to the Fisher parcels. Numerous PNAs and mercury were identified with concentrations exceeding Part 201 GCC. Additionally, concentrations of select PNAs and mercury were detected above SSVIAC. Based on the analytical results, Response Activity Plans (RAPs) were completed for 2445 and 2457 Cass Avenue and 467 and 481 Henry Street dated January 2023 and approved by EGLE in letters dated February 2, 2023 and for 459 Henry Street dated March 2023 and approved by EGLE in a letter dated March 20, 2023. The adverse environmental impacts can be mitigated through excavation and placement of clean fill with barriers including parking lots, sidewalks, clean soil and landscaping, concrete, crushed aggregate and institutional controls including lock gates to prevent access to the private alley. Additionally, an active vapor mitigation system will be installed at 459 Henry Street. The subject property is located in Wayne County, which is within the EPA Radon Zone 3, low risk. The subject property is not located within one of the 24 counties designated by the EGLE, (formerly DEQ) as a county where 25% or more homes tested equal to or above 4.0 picocuries/liter (pCi/L) of radon exposure. Therefore, no additional radon testing or mitigation is required. Hazardous Materials Surveys were completed for the subject buildings dated June 29-30, 2021. Asbestos-containing materials (ACMs) identified included thermal systems insulations, various vinyl floor tiles and/or mastics, window caulks, ceiling tiles, and various surfacing materials. Lead-based paint (LBP) was also identified on numerous painted components. Abatement of ACMs and LBP will be completed with all local, state, and federal regulations and safe practices

with clearance testing completed following the renovations. Operations and Maintenance Plans will be completed for any ACMs and/or LBP that may remain in place. Attachments 8 and 22



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Michigan Ecological Services Field Office
2651 Coolidge Road Suite 101
East Lansing, MI 48823-6360
Phone: (517) 351-2555 Fax: (517) 351-1443
<http://www.fws.gov/midwest/EastLansing/>

In Reply Refer To:

January 18, 2022

Consultation Code: 03E16000-2022-SLI-0523

Event Code: 03E16000-2022-E-02269

Project Name: Henry & Cass

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Fish and Wildlife Service if they determine their project may affect listed species or critical habitat.

There are several important steps in evaluating the effects of a project on listed species. Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions to help you determine if your project may affect listed species and lead you through the section 7 consultation process.

Under 50 CFR 402.12(e) (the regulations that implement section 7 of the Endangered Species Act), the accuracy of this species list should be verified after 90 days. You may verify the list by visiting the ECOS-IPaC website (<http://ecos.fws.gov/ipac/>) at regular intervals during project planning and implementation and completing the same process you used to receive the attached list.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project area or may be affected by your proposed project.

Please see the “Migratory Birds” section below for important information regarding incorporating migratory birds into your project planning. Our Migratory Bird Program has developed recommendations, best practices, and other tools to help project proponents voluntarily reduce impacts to birds and their habitats. The Bald and Golden Eagle Protection Act prohibitions include the take and disturbance of eagles. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <https://www.fws.gov/midwest/eagle/permits/index.html> to help you avoid impacting eagles or determine if a permit may be necessary.

Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/administrative-orders/executive-orders.php>.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Michigan Ecological Services Field Office

2651 Coolidge Road Suite 101

East Lansing, MI 48823-6360

(517) 351-2555

Project Summary

Consultation Code: 03E16000-2022-SLI-0523
Event Code: Some(03E16000-2022-E-02269)
Project Name: Henry & Cass
Project Type: DEVELOPMENT
Project Description: Redevelopment
Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.338459900000004,-83.05742924913855,14z>



Counties: Wayne County, Michigan

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949 General project design guidelines: https://ecos.fws.gov/ipac/project/47JG5E67DVHMDMUG4GY2RCUTIY/documents/generated/5663.pdf	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045 General project design guidelines: https://ecos.fws.gov/ipac/project/47JG5E67DVHMDMUG4GY2RCUTIY/documents/generated/5664.pdf	Threatened

Birds

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6039	Endangered
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> Only actions that occur along coastal areas during the Red Knot migratory window of MAY 1 - SEPTEMBER 30. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Reptiles

NAME	STATUS
Eastern Massasauga (=rattlesnake) <i>Sistrurus catenatus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> For all Projects: Project is within EMR Range Species profile: https://ecos.fws.gov/ecp/species/2202 General project design guidelines: https://ecos.fws.gov/ipac/project/47JG5E67DVHMDMUG4GY2RCUTIY/documents/generated/5280.pdf	Threatened

Clams

NAME	STATUS
Northern Riffleshell <i>Epioblasma torulosa rangiana</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/527	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/601	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31

NAME	BREEDING SEASON
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Golden-winged Warbler <i>Vermivora chrysoptera</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see

below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

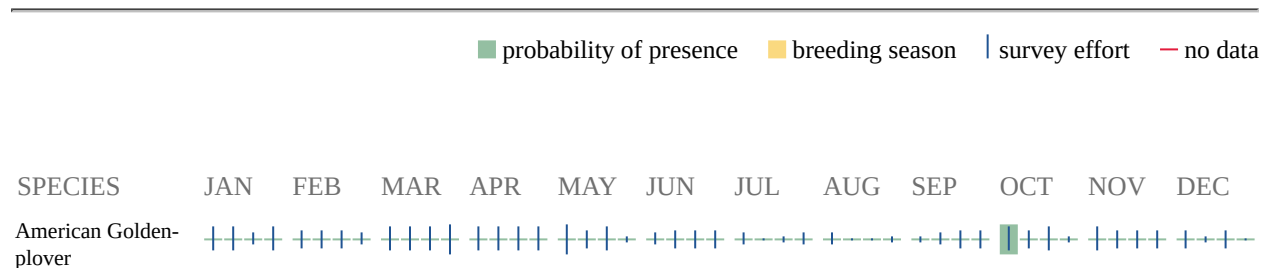
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

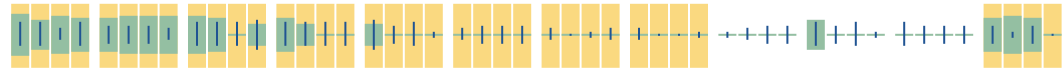
Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



BCC Rangewide
(CON)

Bald Eagle
Non-BCC
Vulnerable



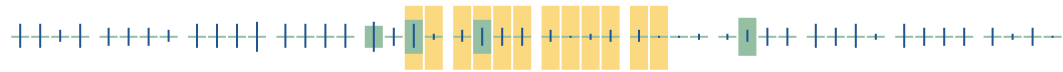
Black-billed
Cuckoo
BCC Rangewide
(CON)



Bobolink
BCC Rangewide
(CON)



Canada Warbler
BCC Rangewide
(CON)



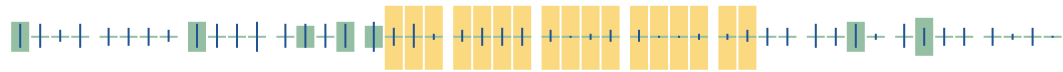
Golden-winged
Warbler
BCC Rangewide
(CON)



Lesser Yellowlegs
BCC Rangewide
(CON)



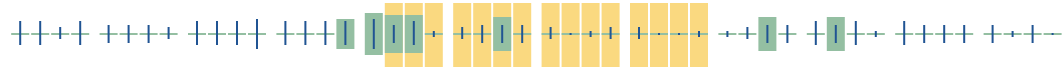
Red-headed
Woodpecker
BCC Rangewide
(CON)



Rusty Blackbird
BCC - BCR



Wood Thrush
BCC Rangewide
(CON)



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

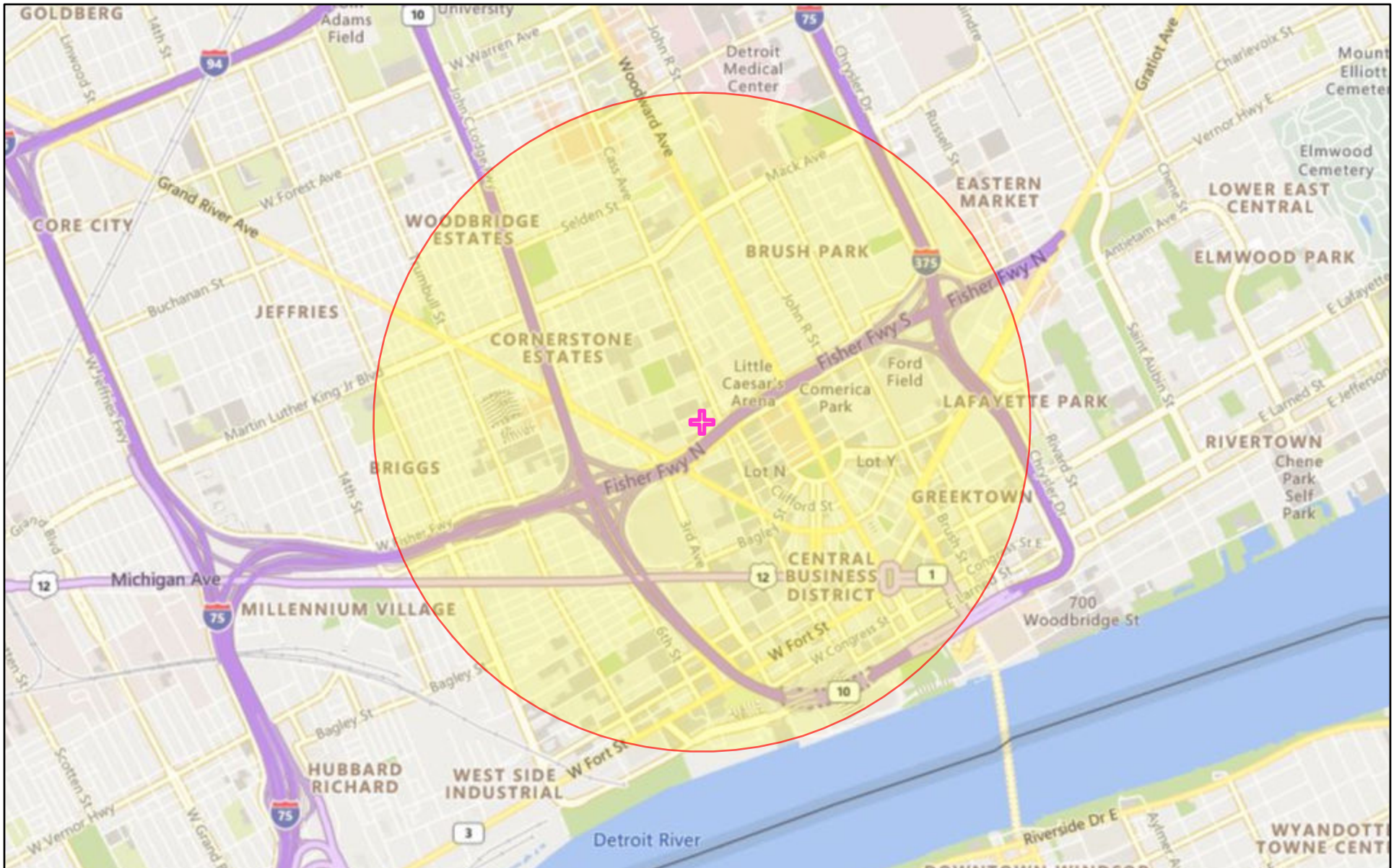
Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT [HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML](https://www.fws.gov/wetlands/data/mapper.html) OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

AST / Blast Map

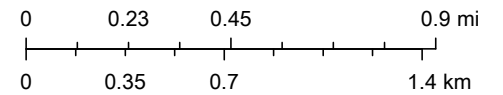


January 18, 2022

 Project Buffer

 Search Result (point)

1:36,112



Custom Soil Resource Report for Wayne County, Michigan



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

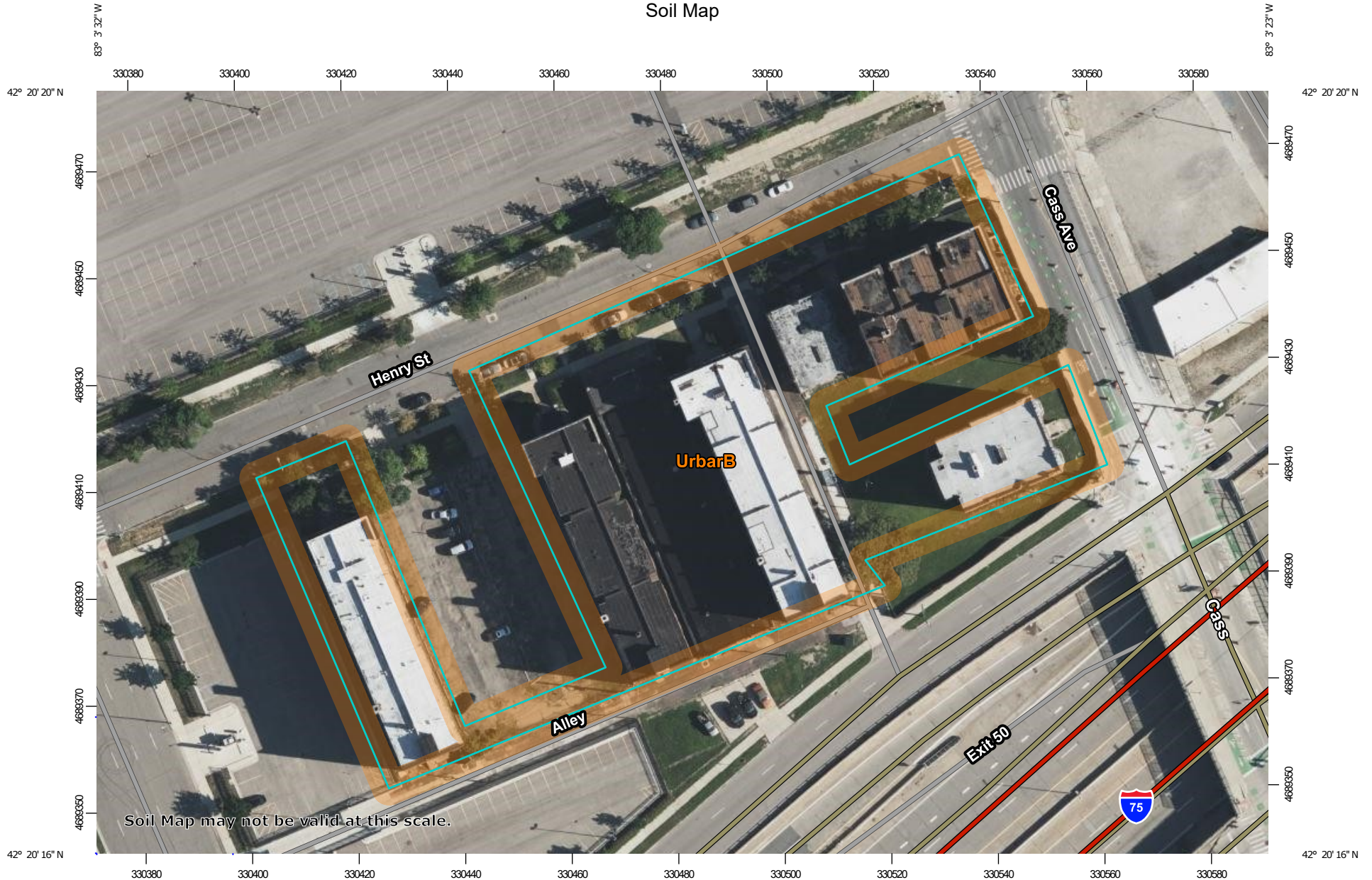
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

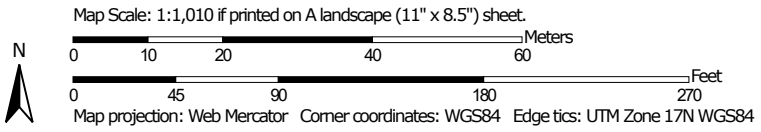
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Wayne County, Michigan
 Survey Area Data: Version 7, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 5, 2020—Aug 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UrbarB	Urban land-Riverfront complex, dense substratum, 0 to 4 percent slopes	1.8	100.0%
Totals for Area of Interest		1.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

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onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Wayne County, Michigan

UrbarB—Urban land-Riverfront complex, dense substratum, 0 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2whsx
Elevation: 560 to 720 feet
Mean annual precipitation: 28 to 38 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 135 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 80 percent
Riverfront, dense substratum, and similar soils: 19 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Riverfront, Dense Substratum

Setting

Landform: Deltas, water-lain moraines, wave-worked till plains
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Loamy human-transported material over clayey lodgment till

Typical profile

^Au - 0 to 6 inches: sandy loam
^Cu1 - 6 to 16 inches: very artificial sandy loam
^Cu2 - 16 to 46 inches: gravelly-artificial loam
^Cu3 - 46 to 68 inches: very artificial loam
2Cd - 68 to 80 inches: clay

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: 56 to 78 inches to densic material
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

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Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 28 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline (0.1 to 1.5 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: B
Ecological site: F099XY007MI - Lake Plain Flats
Hydric soil rating: No

Minor Components

Riverfront, dense substratum, steep

Percent of map unit: 1 percent
Landform: Deltas, water-lain moraines, wave-worked till plains
Down-slope shape: Linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

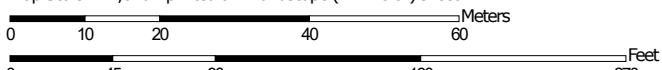
Farmland Classification

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Custom Soil Resource Report Map—Farmland Classification



Map Scale: 1:1,010 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

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







MAP LEGEND








Area of Interest (AOI)







 Area of Interest (AOI)








Soils



Soil Rating Polygons

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season









-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of statewide importance, if drained
-  Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated

-  Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated and drained
-  Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
-  Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60












































-  Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough
-  Farmland of statewide importance, if thawed
-  Farmland of local importance
-  Farmland of local importance, if irrigated

-  Farmland of unique importance
-  Not rated or not available

Soil Rating Lines

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

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	Prime farmland if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium		Farmland of unique importance		Prime farmland if subsoiled, completely removing the root inhibiting soil layer
	Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if irrigated and drained		Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season		Not prime farmland		Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
	Prime farmland if irrigated and reclaimed of excess salts and sodium		Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season		Prime farmland if drained		Prime farmland if irrigated and reclaimed of excess salts and sodium
	Farmland of statewide importance		Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season		Prime farmland if protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance
	Farmland of statewide importance, if drained		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Prime farmland if irrigated		Farmland of statewide importance, if drained
	Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
	Farmland of statewide importance, if irrigated		Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if warm enough		Prime farmland if irrigated and drained		Farmland of statewide importance, if irrigated
			Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if thawed		Prime farmland if irrigated and drained		
			Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Farmland of local importance		Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season		
			Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of local importance, if irrigated				

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<ul style="list-style-type: none"> Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season Farmland of statewide importance, if irrigated and drained Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60 	<ul style="list-style-type: none"> Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season Farmland of statewide importance, if warm enough Farmland of statewide importance, if thawed Farmland of local importance Farmland of local importance, if irrigated 	<ul style="list-style-type: none"> Farmland of unique importance Not rated or not available <p>Water Features</p> <ul style="list-style-type: none"> Streams and Canals <p>Transportation</p> <ul style="list-style-type: none"> Rails Interstate Highways US Routes Major Roads Local Roads <p>Background</p> <ul style="list-style-type: none"> Aerial Photography 	<p>The soil surveys that comprise your AOI were mapped at 1:12,000.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Warning: Soil Map may not be valid at this scale.</p> <p>Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.</p> </div> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Wayne County, Michigan Survey Area Data: Version 7, Sep 7, 2021</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Aug 5, 2020—Aug 12, 2020</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>
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Table—Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
UrbarB	Urban land-Riverfront complex, dense substratum, 0 to 4 percent slopes	Not prime farmland	1.8	100.0%
Totals for Area of Interest			1.8	100.0%

Rating Options—Farmland Classification

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

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March 21, 2023

Penny Dwoinen
City of Detroit Housing & Revitalization Department
Coleman A. Young Municipal Center
2 Woodward Avenue, Suite 908
Detroit, MI 48226

RE: Section 106 Review of a CDBG-Funded Project Located at 2447 Cass Avenue, 2467 Cass Avenue, 427 Henry Street, 439 Henry Street, 447 Henry Street, 459 Henry Street, 489 Henry Street in the City of Detroit, Wayne County, Michigan

Dear Mrs. Dwoinen,

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, I am providing a determination of historic eligibility regarding the above-referenced project under the authority of the "Programmatic Agreement between the Michigan State Historic Preservation Office and the City of Detroit, Michigan..." dated December 21, 2022.

Based on the information submitted to this office on 8/6/2021, we have determined a Historic Property is located within in the Area of Potential Effects (APE) for this project. The buildings at 2447 Cass Avenue, 2467 Cass Avenue, 427 Henry Street, 439 Henry Street, 447 Henry Street, 459 Henry Street, 489 Henry Street are listed on the National Register of Historic Places as part of the Cass Park Local Historic District. Therefore, per Stipulation V.B of the Programmatic Agreement (PA), the project shall be carried out in accordance with the *Secretary of the Interior's Standards for Rehabilitation*.

Additionally, Per Stipulation VI of the Programmatic Agreement (PA), the proposed undertaking qualified for review by the state archaeologist. On 8/12/2021, a technical report, completed by Misty M. Jackson of Arbre Croche Cultural Resources (ACCR), was submitted to SHPO to determine whether archaeological resources or human remains are present at the project location. This report concluded that more information was needed and recommended archaeological phase I trenching or monitoring during construction.

Archaeological trench excavation was conducted by in AACR in April 2022. Trench testing identified a single site, which was determined not eligible for inclusion on the National Register of Historic Places under Criterion D. ACCR recommended no further archaeological investigation. In a letter dated August 26, 2022, SHPO concurred with ACCR's recommendation of no historic properties affected.

On 1/4/2023, a request for Tribal Consultation related to the finding of no historic properties affected was submitted to the following Tribes:

Bay Mills Indian Community



Forest County Potawatomi Community of Wisconsin
Grand Traverse Band of Ottawa & Chippewa Indians
Hannahville Indian Community
Ketegitigaaning Ojibwe Nation/Lac Vieux Desert Band of Lake Superior Chippewa
Indians
Keweenaw Bay Indian Community of the Lake Superior Band of Chippewa Indians
Lac du Flambeau Band of Lake Superior Chippewa Indians
Little River Band of Ottawa Indians
Little Traverse Bay Bands of Odawa Indians
Menominee Indian Tribe of Wisconsin
Match-E-Be-Nash-She-Wish (Gun Lake) Band of Pottawatomi Indians
Miami Tribe of Oklahoma
Michigan Anishinaabek Cultural Preservation and Repatriation Alliance
Nottawaseppi Huron Band of the Potawatomi
Pokagon Band of Potawatomi Indians, Michigan and Indiana
Saginaw Chippewa Indian Tribe of Michigan
Sault Ste. Marie Tribe of Chippewa Indians
Seneca Cayuga Nation

This consultaiton concluded with no objections to the proposed activities related to this undertaking. In the event of an unanticipated discovery, Tribal Consultaiton will be reinitiated under the direction of the unanticipated discoveries plan for this project.

This project has been given a **Conditional No Adverse Effect** determination (Federal Regulations 36 CFR Part 800.5(b)) on properties that are listed or eligible for listing in the National Register of Historic Places, as long at the following conditions are met:

- A copy of the final tax credit certification is provided.

Please note that the Section 106 Review process will not be complete until the above-mentioned conditions are met. If you have any questions, you may contact the Preservation Specialist at Ciavattone@detroitmi.gov.

Sincerely,

Tiffany Ciavattone
Preservation Specialist
City of Detroit
Housing & Revitalization Department



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October 27, 2021

Penny Dwoinen
City of Detroit Housing & Revitalization Department
Coleman A. Young Municipal Center
2 Woodward Avenue, Suite 908
Detroit, MI 48226

RE: Section 106 Review of a CDBG-Funded Project Located at 2447 Cass Avenue, 2467 Cass Avenue, 427 Henry Street, 439 Henry Street, 447 Henry Street, 459 Henry Street, 489 Henry Street in the City of Detroit, Wayne County, Michigan

Dear Mrs. Dwoinen,

Under the authority of the National Historic Preservation Act (NHPA) of 1966, as amended, and the "Programmatic Agreement between the Michigan State Historic Preservation Office and the City of Detroit, Michigan..." dated November 9, 2016, the City of Detroit has reviewed the above-cited project and has determined it to be an undertaking as defined by 36 CFR 800.16(y).

Based on the information submitted to this office on 8/6/2021, we have determined a Historic Property is located within in the Area of Potential Effects (APE) for this project. The buildings at 2447 Cass Avenue, 2467 Cass Avenue, 427 Henry Street, 439 Henry Street, 447 Henry Street, 459 Henry Street, 489 Henry Street are listed on the National Register of Historic Places as part of the Cass Park Local Historic District.. Therefore, per Stipulation V.B of the Programmatic Agreement (PA), the project shall be carried out in accordance with the *Secretary of the Interior's Standards for Rehabilitation*.

Additionally, Per Stipulation VI of the Programmatic Agreement (PA), the proposed undertaking qualifies for review by the state archaeologist. On 8/12/2021, a technical report, completed by Misty M. Jackson of Arbre Croche Cultural Resources, was submitted to SHPO to determine whether archaeological resources or human remains are present at the project location. This report concluded:

Given the possibility of intact remains of former outbuildings within the proposed project boundaries along former alleys, which remains have the potential to add to the database of Detroit outbuilding functions and construction patterns, ACCR recommends a determination of More Information Needed and the conduct of archaeological phase I trenching or monitoring during construction.

36 CFR § 800.3(c)(4) states that if the SHPO/THPO fails to respond within 30 days of receipt of a request for review of a finding or determination, the agency official may either proceed to the next step in the process based on the finding or determination. As of 10/27/2021, the SHPO State Archaeologist has not provided a response; therefore, the determination of More information needed is effective. A Phase I survey or construction monitoring plan is required for this project.



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This project has been given a **Conditional No Adverse Effect** determination (Federal Regulations 36 CFR Part 800.5(b)) on properties that are listed or eligible for listing in the National Register of Historic Places, as long as the following conditions are met:

- Results of an Archaeological Phase I Survey or plans for monitoring during construction are submitted to the PS for additional SHPO review
- A scope of work is provided to the Preservation Specialist for review
- Any changes to the scope of work for the project shall be submitted for review and approval prior to the start of any work
- Photos of the completed work are submitted to the Preservation Specialist

Please note that the Section 106 Review process will not be complete until the above-mentioned conditions are met. If you have any questions, you may contact the Preservation Specialist at Ciavattone@detroitmi.gov.

Sincerely,

A handwritten signature in blue ink that reads "Tiffany Ciavattone".

Tiffany Ciavattone
Preservation Specialist
City of Detroit
Housing & Revitalization Department

HUD Acoustic Assessment Report for the Henry Street Development Project

Prepared By:

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Anna Catton, Consultant
MSAE

14 January 2022

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Executive Summary

A traffic noise impact assessment was conducted for the Henry Street Development. Two of the apartment buildings are seeking HUD funding. To qualify, the building façade sound isolation must be in compliance with the United States Department of Housing and Urban Development (HUD) regulations.

The study analyzed the noise produced by traffic on I-75, also known as the Fisher Freeway, its ramps, and the roads surrounding the development. The Traffic Noise Model (TNM) software was used to predict the sound level at the façades of the 439 and 459 Henry Street buildings.

The worst-case predicted day-night sound levels (DNL) at the south façade was 74 dB. This falls into the *normally unacceptable* HUD category which requires a minimum composite sound transmission class (STC_c) rating of 30 for the exterior wall. The composite STC was calculated as STC_c 39 for the three wythe brick wall with interior plaster finish (at 90% coverage) and the Marvin Ultimate double hung aluminum clad wood windows with ¾” insulated glass (at 10% coverage).

This window selection in combination with the brick exterior wall meets the HUD requirements.

For the ten year traffic volume projection, a regression analysis over the past five years was performed for the dominant noise source, the I-75 Fisher Freeway. The volume trend is negative, and therefore we expect the future DNL to be equal to or less than the current worst-case DNL that was used in the model.

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List of Abbreviated Terms

AADT	Average annual daily traffic
dB	Decibel
dBA	A-weighted decibels
DNL	Day-Night A-weighted average sound level
HUD	Department of Housing and Urban Development
L_{dn}	Day-Night A-weighted average sound level symbol
$L_{eq}(h)$	1-Hour A-weighted equivalent sound level
SEMCOG	Southeast Michigan Council of Governments
STC	Sound transmission class
STC _c	Composite sound transmission class

1.0 Introduction

The purpose of this acoustic assessment is to evaluate traffic noise levels at the Henry Street Development site, determine whether these exterior noise levels are acceptable per the US Department of Housing and Urban Development (HUD) requirements, and determine what, if any, noise abatement measures are needed. The noise impacts and abatements were assessed under the US Department of HUD standards (Regulation 24 CFR Part 51 and The Noise Guidebook). This report describes the existing conditions, summarizes the analysis, and provides the traffic impact assessment.

2.0 Background Information

Neumann/Smith is working with Olympia Development on a seven-building project located at Cass Avenue and Henry Street in Detroit, Michigan. Two buildings, at 439 and 459 Henry Street, will be redeveloped into affordable housing. Wayne County HOME funds, which receive and distributes US Department of Housing and Urban Development (HUD) funds, will be utilized. Consequently, the two buildings will be required to meet the HUD criterion for isolation from exterior noises, and a noise study must be performed for the sites. The main noise source, I-75 which is also known as the Fisher Freeway, is located immediately south of the two buildings.

The Henry Street Development is bordered to the North by Henry St., to the East by Cass Ave., to the West by 2nd St., and to the South by S Fisher Hwy and Service Dr. Traffic noise from all these roads, as well as North Fisher Hwy, N Fisher Service Dr, Grand River Ave., and Ledyard St. were assessed in this analysis.



Figure 1: Henry Street Development

2.1 Acoustics Terminology

Sound level is measured in units called decibels (abbreviated dB). Decibels are logarithmic rather than linear quantities and thus a doubling of the sound level does not translate to a mathematical doubling of decibels. Also, the human ear does not interpret a doubling of sound energy (two sources instead of one) as a doubling of loudness. The logarithmic nature of dB and the human subjective perception of relative sound levels result in the following approximate rules for judging increases in sound.

- 3 dB sound level increase or decrease - just noticeable (the addition of one identical sound source to an existing source)
- 5 dB sound level increase or decrease - clearly perceptible and is often considered significant (the addition of two identical sound sources to an existing source)
- 10 dB sound level increase or decrease - perceived as twice as loud/half as loud (the addition of nine identical sound sources to an existing source)

These perceived changes in the sound level are mostly independent of the absolute sound level. That is, a 35 dB sound will be perceived as approximately twice as loud as a 25 dB sound, and a 60 dB sound will be perceived as approximately twice as loud as a 50 dB sound.

Audible sound occurs over a wide frequency range, from low pitched sounds at approximately 20 hertz (abbreviated as Hz) to high pitched sounds at 20,000 Hz. These frequencies are commonly grouped into octave bands or 1/3 octave bands. Building mechanical systems generally produce sound in the 63 Hz to 1000 Hz octave bands, with the lower frequency sound generated by large fans. Human speech is predominantly contained in the 250 Hz to 2000 Hz octave bands.

A-weighted sound level - Humans do not hear equally well at all frequencies. We are especially poor at hearing low frequency sound and are best at hearing sound in the frequency range of speech. A microphone does not have these same characteristics. Therefore, when sound is being measured to determine how well people will be able to hear it, a “weighting” or microphone-to-human correction factor is applied to the sound level measured using a microphone. The most common weighting is the “A-weighting”, and the resulting sound level is expressed in A-weighted decibels (dBA). This weighting reduces the low frequency sound, slightly increases the sound at the dominant frequencies of speech, and slightly lowers the sound level at high frequencies.

The **ambient or background sound level** often refers to the indoor or outdoor sound level without the additional sound of the new construction, operating equipment, or other situation under study.

Equivalent Sound Level (L_{eq}) is essentially the average sound level in an environment. However, the L_{eq} is not a simple arithmetic average of the sound level over time but is a logarithmic average of the sound energy level over a period of time. L_{eq} can be measured for any period, but it is typically measured for some increment or fraction of an hour such as 15 minutes, 1 hour, or 24 hours. Steady sounds, such as fan noise, can be accurately measured for much shorter periods of time, such as 30 to 60 seconds. An A-weighted equivalent sound level is sometimes designated as L_{Aeq} though the unit dBA after the decibel level also indicates an A-weighted level.

Day-Night Average Level (DNL or L_{dn}) is the 24-hour average sound level in an environment, which is weighted to account for people’s increased annoyance to sound occurring in the nighttime hours (when sleep is the most likely activity). Specifically, the sound levels which occur in the night after 10 p.m. and before 7 a.m. are penalized by 10 dB before performing the averaging necessary to calculate Day-Night Average Level.

Sound Transmission Class (STC) is a single number rating of the amount of sound blocked by a partition (a window glazing unit, door, wall, floor-ceiling assembly) measured in a laboratory under ideal conditions. STC is a single number reduction calculated from the measured one-third octave band spectrum. This metric is mathematically normalized and can be compared other partitions or test data. STC is most appropriately used to assess the ability of a partition to block sound in the frequency range of speech. The original sound transmission test reports should be consulted when the sound source contains low frequencies, such as music or mechanical noise. A higher number indicates better performance.

Composite Sound Transmission Class (STC_c) is the combined sound transmission class rating of all elements in a partition. The rating is often controlled by the weakest element of the partition, though its influence is dependent on the relative size of the weak element. For example, a window in a concrete block wall will reduce the STC_c rating. Another example is an undercut in a door.

Outdoor to Indoor Transmission Class (OITC) is similar to STC except that it includes lower frequency acoustical performance of the partition or façade element and is intended to be a single number rating applicable to transportation noise sources rather than people talking. OITC test data are not available for all types of constructions, in which case STC would be used as the alternate.

2.2 Department of HUD Noise Criteria

The U.S. Department of HUD standards are defined in the Code of Federal Regulations, Title 24, Part 51.¹ HUD defines exterior DNL at the building façade that does not exceed 65 dB as *acceptable*. Exterior DNL above 65 dB but not exceeding 75 dB are considered *normally unacceptable*, and sound levels above 75 dB are considered *unacceptable*.

For building facades exposed to noise levels in the *normally unacceptable* range, the building façade must be shown to provide more sound reduction than HUD’s assumed standard façade of STC_c 20. HUD uses STC to describe the amount of noise reduction provided by a façade – the higher the STC, the more sound reduction provided by the façade. Façades that are exposed to a noise level of 66 to 70 dB must have a minimum composite STC of 25, rather than the STC 20 that is assumed for “standard” construction. For façades that are exposed to a noise level of 71 to 75 dB, a minimum composite STC 30 must be achieved. The HUD design criteria are summarized in Table 1.

Table 1: HUD Site Acceptability Standards

Predicted DNL Range	Design Acceptability	Abatement Measures
Not exceeding 65 dB	<i>Acceptable</i>	None required
Above 65 dB but not exceeding 70 dB	<i>Normally Unacceptable</i>	Ensure façade has a minimum composite STC of 25
Above 70 dB but not exceeding 75 dB	<i>Normally Unacceptable</i>	Ensure façade has a minimum composite STC of 30
Above 75 dB	<i>Unacceptable</i>	None specified

These standards apply at a location 2 meters (6.5 feet) from the building that houses sound sensitive activities, in the direction of the dominant noise source.

In addition to predicting existing noise levels, HUD requires that traffic noise levels be predicted for ten years into the future.² The same standards for existing noise levels that were discussed above apply to future predictions.

3.0 Traffic Noise Impact Analysis

In order to determine the acceptability of the traffic noise at the Henry Street site, we need to know the existing DNL and the DNL for ten years into the future. While sound level measurements at the project site could be readily performed, HUD discourages this approach in the HUD Noise Guidebook.³ The guidebook authors reason that calculations can a) better predict future traffic levels, and b) better represent the monthly or annual noise levels if monthly or annual traffic data is used in the model inputs. For instances in which prior noise calculations have been performed, the Noise Guidebook gives absolute

¹ Code of Federal Regulations, Title 24, Part 51, 24 CFR Part 51.103c.

² Code of Federal Regulations, Title 24, Part 51, 24 CFR Part 51.106e.

³ *The Noise Guidebook*, US Department of HUD, Chapter 7, p. 1.

instructions, “One thing noise measurements should not be used for is to confirm or refute calculated noise levels”.³

In keeping with HUD instructions, the traffic noise was predicted using sound modeling software. We used the U.S. Department of Transportation Federal Highway Administration Traffic Noise Model (TNM) software version 3.0.7.60002 to predict the sound level exposure at the Henry Street Development. This computer modeling package is acceptable to HUD, and more detailed than the simple calculations in The Noise Guidebook.

While the HUD calculation takes into account distance from source to receiver, traffic volumes, average traffic speeds, and distances to stop signs, TNM also considers the site elevations, speed variability due to acceleration from traffic control devices, shielding provided by sound from barriers, and reflections off barriers.

3.1 Traffic Noise Modeling with TNM Software

Inputs into the TNM software include traffic data, traffic control devices, building and barrier effects on sound propagation, terrain, and the receiver locations on the building façade. Figure 2 shows the roadways and buildings that were used as inputs to the TNM model.

The 3D coordinates of the roadways and buildings were identified from satellite images of the area. Figure 3 is a section view from the TNM model showing the relative elevation of roads, buildings, and receivers.

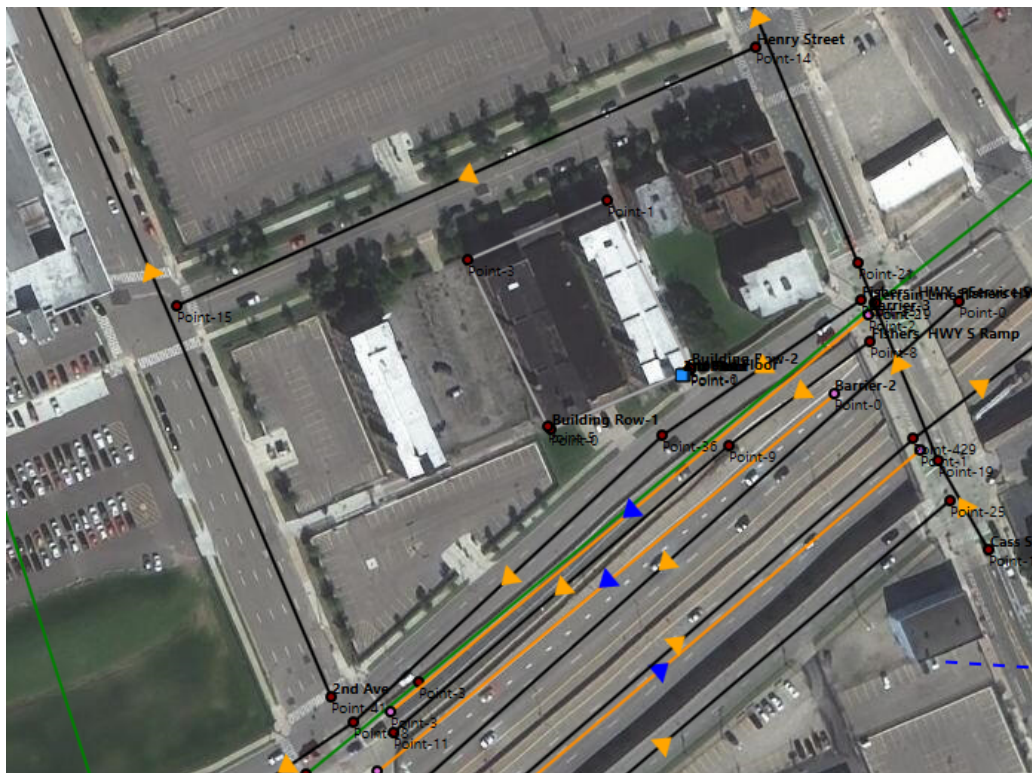


Figure 2: Traffic Noise Model of the Henry Street Development

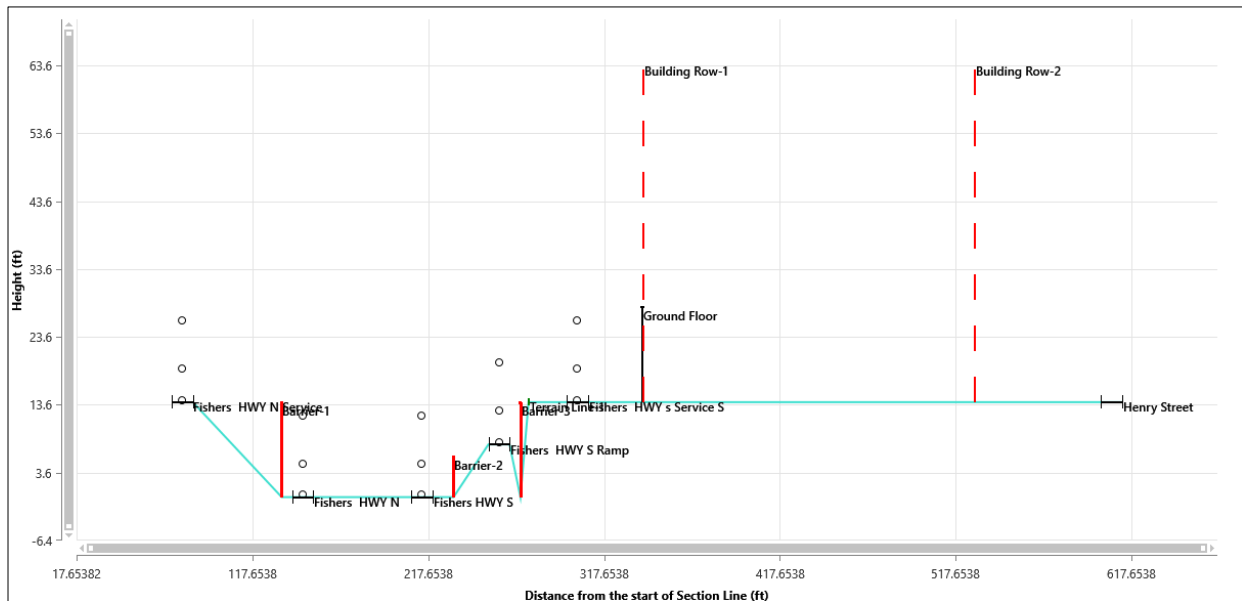


Figure 3: TNM Section View through Project Site

Average Annual Daily Traffic (AADT) values and posted traffic speeds from the I-75 Fisher Freeway, North and South Fisher Service Dr., S Fisher Off Ramp (Exit 50), Cass Ave., 2nd St., Grand River Ave., Henry St., and Ledyard St. were obtained from the Southeast Michigan Council of Governments online database⁴ and Michigan Department of Traffic MS2 database (CITATION https://mdot.public.ms2soft.com/tcds/tsearch.asp?loc=mdot&mod=tcds&local_id=82-3334_SE).

The AADT values and traffic speeds used as inputs to TNM are shown in **Error! Reference source not found.** with the traffic input sources for TNM included in Appendix A.

The traffic information used was the highest available for the past ten years and was generally from 2018 and 2019. The I-75 Fisher Freeway noise dominated the predicted sound level, so the trend for only this roadway was examined. A regression analysis was performed on the Fisher Freeway AADT data for the last five years and is pictured in Figure 4. The downward trend indicates that the traffic level will not be higher than the highest values that we used. While traffic volume was lower during the pandemic, it is unknown how remote working will affect future volumes. If the partial economic recovery of 2021 is any indication of the future, the trend is still downward.

⁴ SEMCOG Traffic Counts, <http://www.semco.org/data/Apps/trafficcounts.report.cfm>

Table 2: AADT input values

Road	Average Annual Daily Traffic (AADT) Counts	AADT Count Year	Posted Speed Limit (mph)
Fisher Freeway	70,908 south of Michigan	2018	55
	50,413 north of Michigan	2019	
S Fisher Service Rd.	4,900	NA	25
N Fisher Service Rd.	8,170	2011	25
Fisher S Off Ramp	7,077	2018	40
Cass Ave.	7,800	2011	25
2nd St.	1,640	2019	30
Grand River Ave.	11,880	2019	30
Henry St.	2,320	2003	25
Ledyard St.	1,679	2018	25

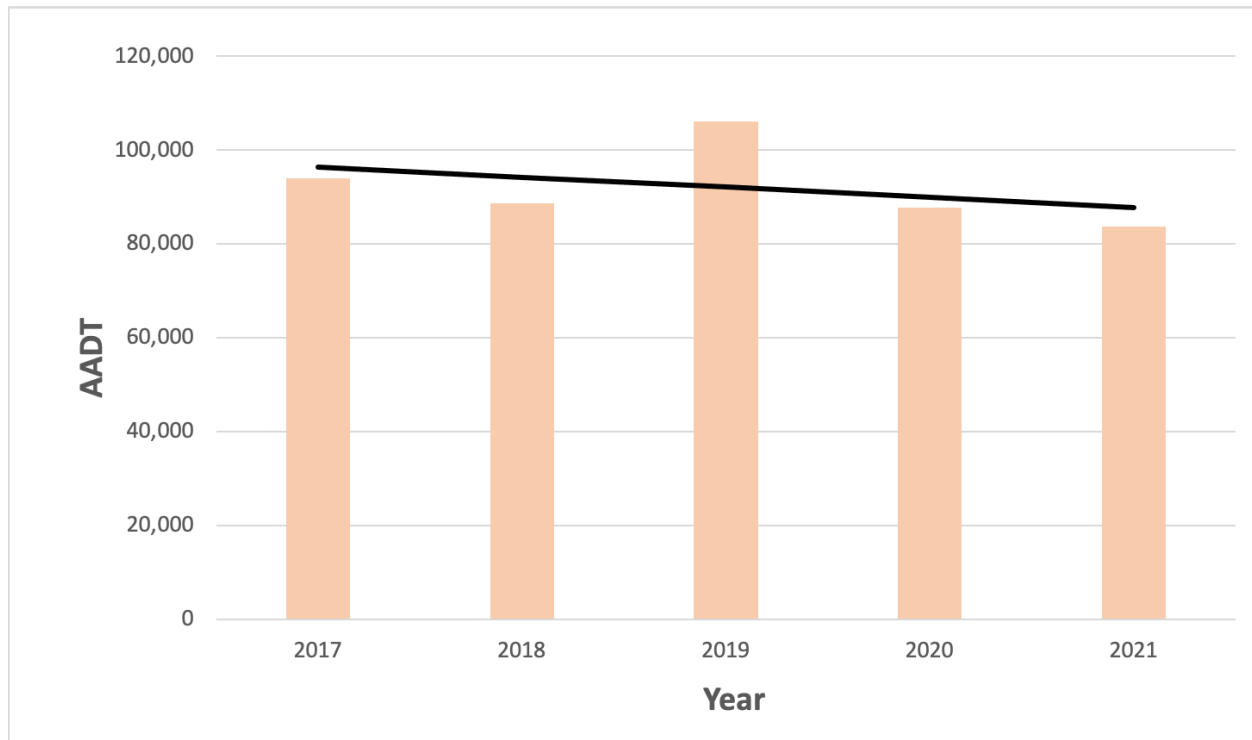


Figure 4: Fisher Freeway Northbound and Southbound AADT Regression Analysis

3.2 Modeling Results

Table 3 **Error! Reference source not found.** presents the predicted DNL at the 439 Henry Street south façade. As previously mentioned, the dominant noise source is the I-75 Fisher Freeway. HUD regulations are not relevant to the entire site, but to a specific location that is 2 m (6.5 ft) from the building façade with noise-sensitive use in the direction of the primary noise source.

The predicted DNL for each floor of the south façades of 439 and 459 Henry Street are shown in Table 3.

These levels fall into the *normally unacceptable* range of 71 to 75 dB, and require a façade design with a minimum composite STC rating of 30.

Table 3: Predicted Day-night Level at Worst Case Exposure

Location Description	Day-night Level (DNL, dB)			
	1 st Floor	2 nd Floor	3 rd Floor	4 th Floor
South Façade of 439/459 Henry Street	73	74	74	73

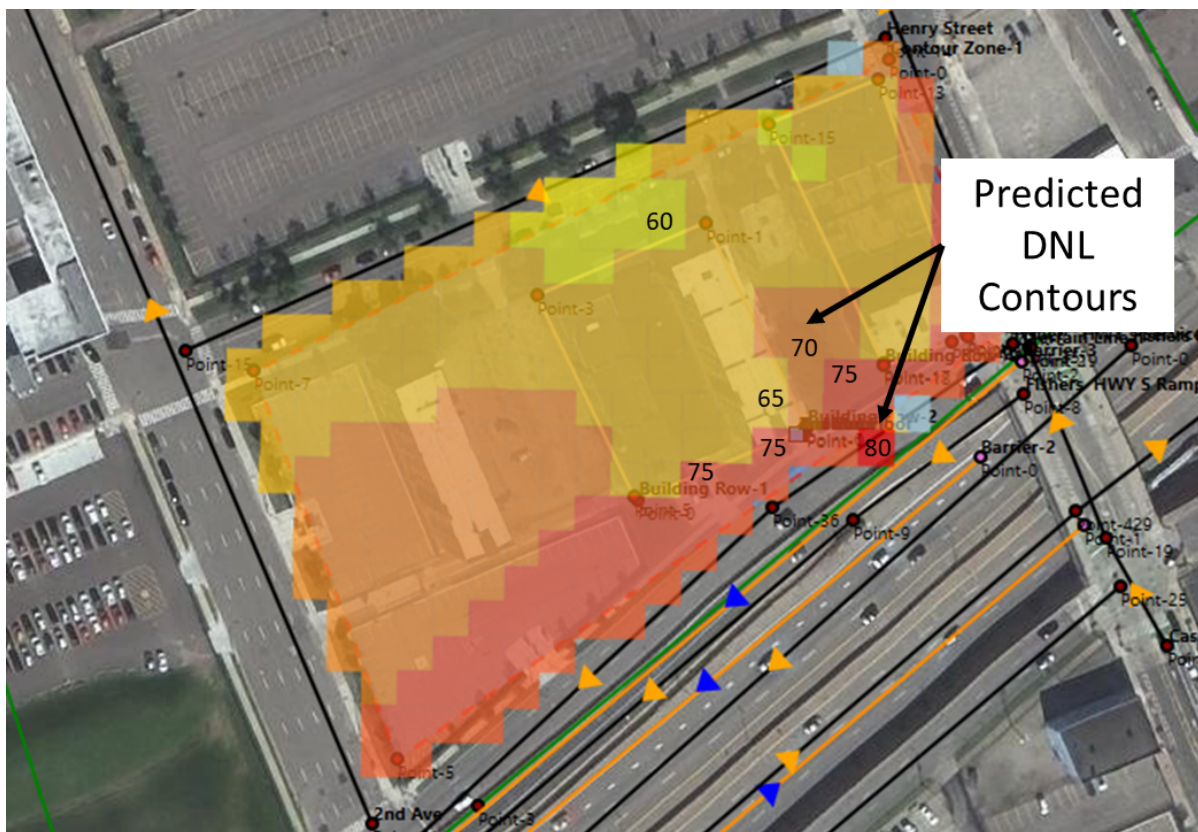


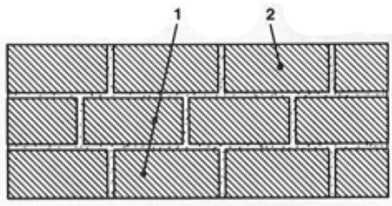
Figure 5: TNM Predicted DNL Contours

3.3 Calculation of Façade Composite STC

Heavy brick walls, like the ones present on the exterior of the Henry Street buildings, are highly effective at blocking sound. However, sound travels comparatively well through window glass. In order to take into account the reduction in sound blocking capacity due to the presence of windows, we calculated the composite STC that accounts for all façade elements. The composite STC is based on the wall composition, window type, and the relative areas of the walls and windows for each façade. We followed the procedures in the HUD Noise Guidebook for this calculation.⁵

Since the receiver locations on the south façade of the Henry Street building are predicted to have noise levels in the *normally unacceptable* range, we calculated the composite STC for the façades to determine if it meets STC_c 30.

The dwelling layouts from the 100% SD Architectural Drawings were used to determine wall and window areas. We understand the existing composition to be four wythes of 4” brick and mortar on the 1st floor and three wythes of 4” brick and mortar for the floors above. All floors have a 1/2” air space, 1/4” wood lath, and 3/4” plaster finish on the interior. This composition is expected to have a slightly higher STC than the similar composition shown in the top image in Figure 6, which is from the HUD Noise Guidebook.^{Error! Bookmark not defined.} Figure 6 also includes the window test data from Marvin.

Brick		
Sketch	Brief Description	STC
	1. Common brick, mortared together.	59
	2. Face brick, mortared together.	

Window

STC and OITC Class Values

Marvin Sound Transmission Class and Outdoor - Indoor Transmission Class Values							
Product Type	Exterior Glazing	Airspace	Interior Glazing	STC	OITC	Additional Information	STC Report #
Ultimate Casement							
Values for wood and clad product UCA, UCART, UPCA, UCAP, UCARTP, UPCAP							
UCA 2460 3/4" (19)	1/8" (3.1) Annealed	1/2" (13)	1/8" (3.1) Annealed	29	23		TCT005872P-1

Figure 6: Henry Street Exterior Wall Materials STC Ratings

⁵ *The Noise Guidebook*, US Department of HUD, Chapter 4, p. 35.

Using the relative areas and these STC ratings, the composite STC values in Table 4 were calculated for the south facing façades of the Henry Street building.

Table 4: Composite STC for Building Façade

Façade	Primary Noise Source	Composite STC Rating
South Façade Apartment Floor 1	Fisher FWY	STC 39
South Façade Apartment Floors 2-4	Fisher FWY	STC 39

These calculated composite STC ratings meet the HUD requirement. No additional upgrades are needed.

A table that summarizes the composite STC calculation, including the STC ratings for each façade element and its relative area, is provided in Appendix B.

4.0 Conclusions

The south façades of the apartment buildings 439 and 459 Henry Street are predicted to have DNL of 73 to 74 dB, which is in the *normally unacceptable* range that requires the exterior wall have a composite STC rating of at least 30. The composite STC rating for the existing brick exterior wall and the proposed window is STC_c 39, which meets the HUD requirement. No window upgrades are needed on any face of these two apartment buildings.

The ten year traffic volume projection was based on the trends from the last five years. The downward trend in volume indicates that the selection of the highest volume data for the analysis sufficiently accounts for the future changes predicted.

Appendix A: TNM Inputs

Percentages based on recommended HUD data of 85% day and 15% night traffic distribution.
Total vehicles taken from SEMCOG Traffic Volume and MDOT reports on the following pages.

Road	Passenger	Bus/Commercial	Total vehicles in 24 hours	Year of study
S Fisher Freeway	90%	10%	70,908 south of Michigan	2018
N Fisher Freeway	90%	10%	50,413 north of Michigan	2019
S Fisher Service Rd.	91%	9%	4,900	NA
N Fisher Service Rd.	96%	4%	8,170	2011
Fisher S Off Ramp	96%	4%	7,077	2018
Cass Ave.	96%	4%	7,800	2011
2nd St.	96%	4%	1,640	2019
Grand River Ave.	96%	4%	11,880	2019
Henry St.	96%	4%	2,320	2003
Ledyard St.	97%	3%	1,679	2018

Intersection	Control device	Amount of traffic affected by control device (estimated)
W Fisher Service Drive at Cass Ave.	Traffic light	50%
W Fisher Service Drive at 2 nd Ave.	Traffic light	50%
S Fisher Ramp at 2 nd Ave.	Traffic light	50%
Henry Street at 2 nd Ave.	Stop sign	100%



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Record	1		of 1	Goto Record	go
Location ID	82-0848	MPO ID	53262		
Type	SPOT	HPMS ID			
On NHS	Yes	On HPMS	No		
LRS ID	1592010	LRS Loc Pt.	23.699		
SF Group		Route Type	0		
AF Group		Route	75		
GF Group		Active	Yes		
Class Dist Grp		Category	Primary		
Seas Class Grp					
WIM Group					
QC Group	Default				
Funct'l Class	(1) Interstate	Milepost			
Located On	I-75				
Loc On Alias	Fisher				
NE OF	Cass Ave Overpass				
More Detail					

STATION DATA

Directions: [2-WAY](#) [NB](#) [SB](#) ?

AADT ?								
	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2021	43,696				39,581 (91%)	4,114 (9%)	
	2020	41,881 ⁸		15				Grown from 2019
	2019	50,413 ⁸		15				Grown from 2018
	2018	17,791 ⁸		15				Grown from 2017
	2017	25,339 ⁸	3,774	15				

VOLUME COUNT			
	Date	Int	Total
	Wed 9/1/2021	15	53,133
	Tue 8/31/2021	15	51,394
	Tue 1/3/2017	60	43,640

VOLUME TREND ?	
Year	Annual Growth
2021	4%
2020	-17%
2019	183%
2018	-30%

CLASSIFICATION			
	Date	Int	Total
	Wed 9/1/2021	15	53,133
	Tue 8/31/2021	15	51,394
	Tue 1/3/2017	60	43,640



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Record	1	of 1	Goto Record	go
Location ID	82-0848	MPO ID	53263	
Type	SPOT	HPMS ID		
On NHS	Yes	On HPMS	No	
LRS ID	1592010	LRS Loc Pt.	23.699	
SF Group		Route Type	0	
AF Group		Route	75	
GF Group		Active	Yes	
Class Dist Grp		Category	Primary	
Seas Class Grp				
WIM Group				
QC Group	Default			
Funct'l Class	(1) Interstate	Milepost		
Located On	I-75			
Loc On Alias	Fisher			
NE OF	Cass Ave Overpass			

STATION DATA

Directions: [2-WAY](#) [NB](#) [SB](#) ?

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2021	40,021				35,872 (90%)	4,148 (10%)	
2020	45,935 ⁸		7				Grown from 2019
2019	55,690 ⁸		7				Grown from 2018
2018	70,908 ⁸		7				Grown from 2017
2017	68,728 ⁸	4,549	7				

Date	Int	Total
Wed 9/1/2021	15	48,937
Tue 8/31/2021	15	46,683
Wed 1/4/2017	60	46,600

Year	Annual Growth
2021	-13%
2020	-18%
2019	-21%
2018	3%

Date	Int	Total
Wed 9/1/2021	15	48,937
Tue 8/31/2021	15	46,683
Wed 1/4/2017	60	46,600



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Record		1 of 1		Goto Record		go	
Location ID	82-0597	MPO ID	43986				
Type	SPOT	HPMS ID					
On NHS	Yes	On HPMS	No				
LRS ID	1595307	LRS Loc Pt.	0.06				
SF Group	Urban	Route Type	0				
AF Group	Ramp	Route	75				
GF Group	Urban	Active	Yes				
Class Dist Grp		Category	Primary				
Seas Class Grp							
WIM Group							
QC Group	Default						
Funct'l Class	(1) Interstate	Milepost					
Located On	I-75 OFF RAMP						
Loc On Alias							
BETWEEN	S I 75 AND 2nd Ave						
More Detail							



STATION DATA

Directions: [RAMP](#) [WB](#)

AADT								
	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2020	5,627 ³		12				Grown from 2019
	2019	7,042 ³		12				Grown from 2018
	2018	7,077	880	12				
	2017	5,133 ³						Grown from 2016
	2016	5,077						MDOT

VOLUME COUNT			
	Date	Int	Total
	Tue 10/30/2018	15	8,175
	Mon 10/29/2018	15	7,542
	Mon 5/16/2016	15	7,351
	Sun 5/15/2016	15	6,515
	Tue 8/5/2014	15	5,848
	Mon 8/4/2014	15	5,598
	Tue 7/17/2012	15	6,786
	Mon 7/16/2012	15	6,406
	Wed 4/14/2010	60	5,707
	Tue 4/13/2010	60	4,967

VOLUME TREND	
Year	Annual Growth
2020	-20%
2019	0%
2018	38%
2017	1%
2016	-3%

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Record	1 of 1		Goto Record	go
Location ID	82-5935	MPO ID	64272	
Type	SPOT	HPMS ID		
On NHS	No	On HPMS	No	
LRS ID	4718974	LRS Loc Pt.	0.209	
SF Group	Urban Non State	Route Type		
AF Group	NoFactor	Route		
GF Group	Urban Non State	Active	Yes	
Class Dist Grp	NTL_5	Category	Primary	
Seas Class Grp				
WIM Group				
QC Group	Default			
Funct'l Class	(5) Major Collector	Milepost		
Located On	2ND ST			
Loc On Alias	BETWEEN LEDYARD ST AND HENRY ST(IN DETROIT)			
More Detail	▶			

STATION DATA

Directions: **1-WAY** **NB** ?

AADT ?							
Year	AADT	DHV-30	K %	D %	PA	BC	Src
2020	570 ³			100	530 (93%)	40 (7%)	Grown from 2019
2019	668 ³			100	640 (96%)	28 (4%)	Grown from 2018
2018	671 ³			100	653 (97%)	18 (3%)	Grown from 2017
2017	671 ³				642 (96%)	29 (4%)	Grown from 2016
2016	645				645 (100%)	0 (0%)	SEMCOG

VOLUME COUNT			
Date	Int	Total	
No Data			

VOLUME TREND ?	
Year	Annual Growth
2020	-15%
2019	0%
2018	0%
2017	4%

CLASSIFICATION			
Date	Int	Total	
No Data			

NOTES/FILES			
Note	Date		



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Record	1	of 1	Goto Record	go
Location ID	82-3334	MPO ID	49029	
Type	SPOT	HPMS ID	1_1_163_038	
On NHS	Yes	On HPMS	Yes	
LRS ID	1577408	LRS Loc Pt.	11.878	
SF Group	Urban	Route Type	9	
AF Group	South	Route	96	
GF Group	Urban	Active	Yes	
Class Dist Grp	9_096_003	Category	Primary	
Seas Class Grp				
WIM Group				
QC Group	Default			
Funct'l Class	(3) Other Principal Arterial	Milepost		
Located On	GRAND RIVER AVE			
Loc On Alias	100 FT. SE OF 3RD ST(@ I-75 OVERPASS)			
More Detail				

STATION DATA

Directions: [2-WAY](#) [NW](#) [SE](#) [?](#)

AADT ?								
Year	AADT	DHV-30	K %	D %	PA	BC	Src	
2020	9,492 ³		11	63	9,208 (97%)	284 (3%)	Grown from 2019	
2019	11,880	1,329	11	63	11,523 (97%)	357 (3%)		
2018	11,458 ³		11	60	10,965 (96%)	493 (4%)	Grown from 2017	
2017	11,458 ³		11	60	10,919 (95%)	539 (5%)	Grown from 2016	
2016	11,333		11	60	10,755 (95%)	578 (5%)	MDOT	

1-5 of 10

VOLUME COUNT			
Date	Int	Total	
Wed 10/9/2019	15	15,823	
Tue 10/8/2019	15	15,044	
Tue 5/17/2016	60	13,061	
Mon 5/16/2016	60	12,503	
Wed 8/14/2013	60	11,891	
Tue 8/13/2013	60	13,309	
Sat 4/6/2013	15	9,545	
Thu 4/4/2013	15	9,507	
Tue 6/29/2010	60	11,652	
Mon 6/28/2010	60	11,118	

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VOLUME TREND ?	
Year	Annual Growth
2020	-20%
2019	4%
2018	0%
2017	1%
2016	-8%
2015	19%
2014	2%
2013	6%
2012	2%



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Record	1 of 1		Goto Record	go
Location ID	82-2498	MPO ID	52699	
Type	SPOT	HPMS ID		
On NHS	No	On HPMS	No	
LRS ID	4705718	LRS Loc Pt.	0.0424119	
SF Group	Urban Non State	Route Type		
AF Group	NoFactor	Route		
GF Group	Urban Non State	Active	Yes	
Class Dist Grp	NTL_5	Category	Primary	
Seas Class Grp				
WIM Group				
QC Group	Default			
Funct'l Class	(5) Major Collector	Milepost		
Located On	LEDYARD ST			
Loc On Alias	BETWEEN 2ND AND CASS (IN DETROIT)			
More Detail ▶				

STATION DATA

Directions: [2-WAY](#) [EB](#) [WB](#) ?

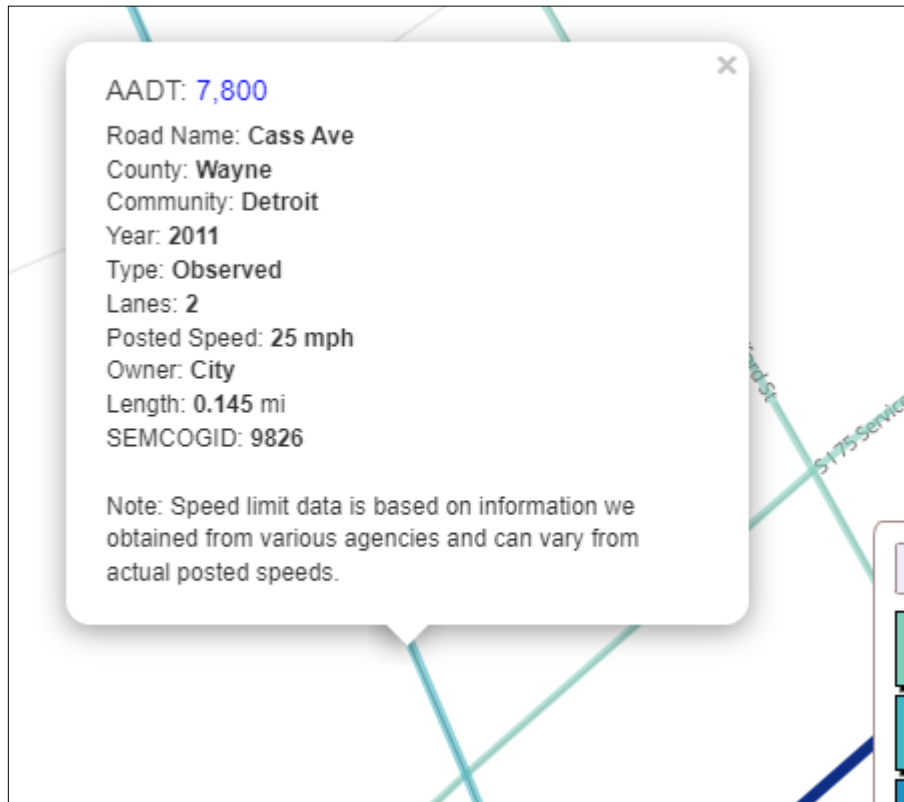
AADT ?							
Year	AADT	DHV-30	K %	D %	PA	BC	Src
2021	563						
2020	1,427 ³		26		1,327 (93%)	100 (7%)	Grown from 2019
2019	1,671 ³		26		1,603 (96%)	68 (4%)	Grown from 2018
2018	1,679 ³		26		1,635 (97%)	44 (3%)	Grown from 2017
2017	1,679 ³		26		1,606 (96%)	73 (4%)	Grown from 2016

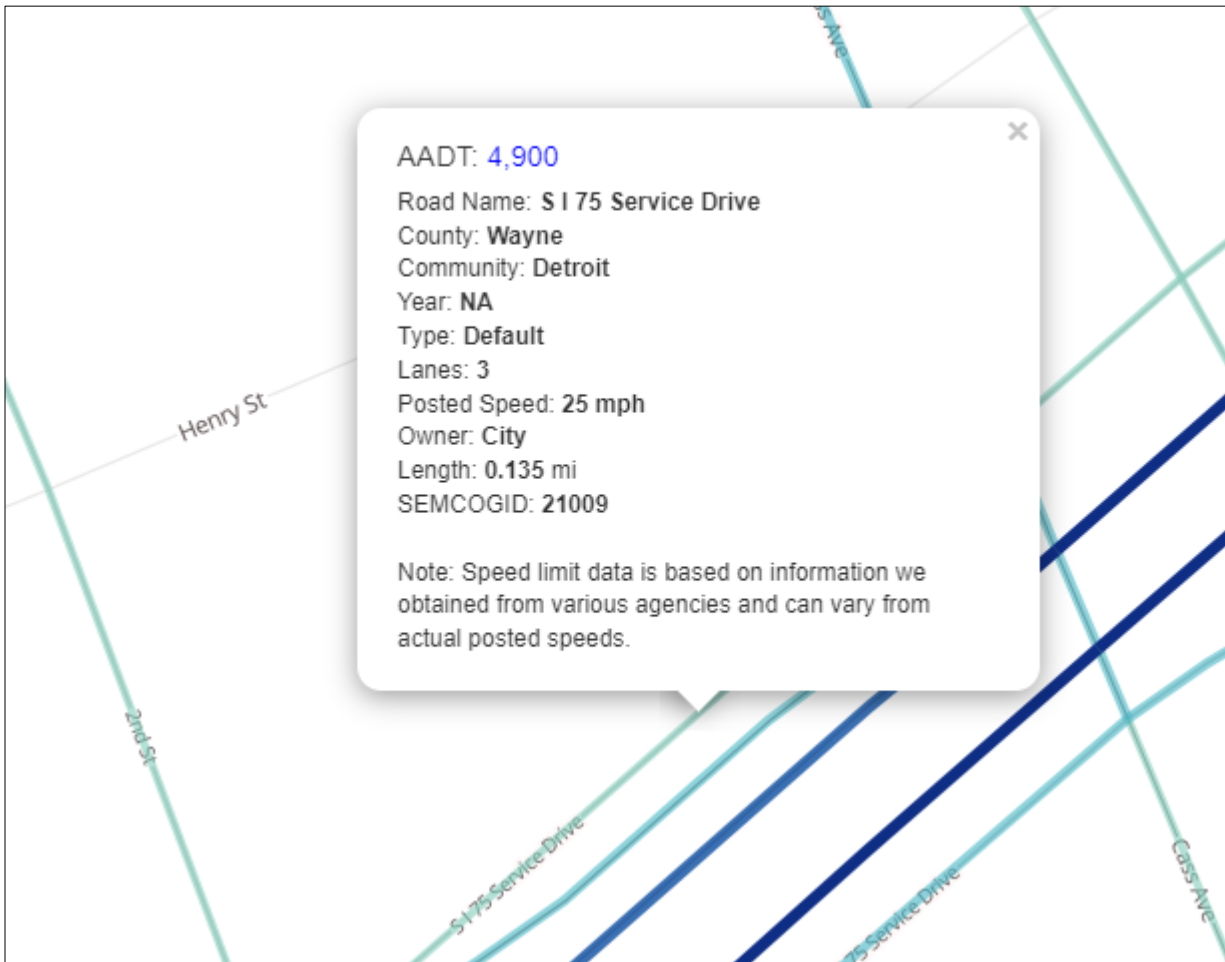
1-5 of 6

VOLUME COUNT			
	Date	Int	Total
	Tue 8/17/2021	15	611
	Mon 8/16/2021	15	542
	Wed 4/18/2012	60	1,560
	Tue 4/17/2012	60	1,550

VOLUME TREND ?	
Year	Annual Growth
2021	-61%
2020	-15%
2019	0%
2018	0%
2017	4%

CLASSIFICATION			
Date	Int	Total	
No Data			





Appendix B: Effect of windows on the sound transmission of walls – Calculating the Composite STC of the Façade

<p>Soundscape Engineering Project #: 1969 Date: 1/14/22 Project Name: Henry Street Deveolment Project Location: 439 & 459 Henry Street, Detroit, MI Client/Sponsor/Developer: Nuemann/Smith Architecture</p> <p>Performance Required: STCc 30 Primary Noise Source: I-75 Freeway Traffic</p> <p>Partition: South Wall Orientation to Noise Source: Parallel (Facing Freeway)</p>				
Partition Component	Dimensions	Area (sq.ft)	Percentage of Total Partition Area	STC
Wall: 3 wythes of 4" brick for the floors above, ½" air space, 1/4" wood lath, and 3/4" plaster finish		153.0	90.0%	59
Marvin Ultimate double hung aluminum clad wood windows with 3/4" insulated glass (3.1mm glass, 13.0 mm air, 3.1mm glass)	3.3' x 5.66'	17.0	10.0%	29
Total Partition Area		170.0	100.0%	
Composite STC				39

January 21, 2022

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**Subject: Henry Street Development – 447 Henry Community Building Add Services
Detroit, Michigan**

Dear Mike:

Soundscape Engineering has analyzed the exterior noise sound transmission into the Community Room at 447 Henry Street. The results and recommendations are presented in this report.

Background

Neumann/Smith is working with Olympia Development on a seven building project located at Cass Avenue and Henry Street in Detroit. Between the two residential buildings is a community use building with the address 447 Henry Street. The requirements for this building are not required to meet a HUD noise level. We understand that ODM would like the sound levels evaluated for occupant acoustical comfort.

Soundscape has already researched the traffic noise counts, proximity of other sound sources to the site, the terrain, and other input parameters for the previously prepared SoundPLAN model. This model, which allows for more flexibility than the TNM software used for HUD compliance, was used to assess the Community Room in Building 447 shown in Figure 1.



Figure 1: 447 Henry Street

Terminology

A glossary of acoustical terminology is appended to this report in case you wish to refer to it while reading the report.

Acoustic Criteria

We have set an interior noise maximum target level for the Community Room at Noise Criteria (NC) 30. Noise criteria levels are most often used to describe the background sound level of mechanical equipment noise, but is occasionally applied to other situations where a steady background sound level needs to be assessed for speech intelligibility. The American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) guidelines recommend NC 25 – 35 for conference rooms and classrooms, and we have selected this criterion to allow speech to be heard above the exterior noise while not overdesigning.

Note that the traffic noise will still be audible in the space, but it will be reduced to a level that allows for typical speech effort levels in a room of this size. We recommend adding acoustically absorptive materials to the room to further improve the speech intelligibility and reduce sound build-up.

Noise Modeling with SoundPLAN

The commercially available and widely used computer software called SoundPLAN was used to create a 3-D model of the existing site and vicinity. Sound sources were placed in the model to represent the local street traffic and the surrounding buildings were modeled, the sound propagation was calculated, and the model was calibrated using the octave band sound levels measured at the site.

Average Annual Daily Traffic (AADT) values and posted traffic speeds from the I-75 Fisher Freeway, North and South Fisher Service Dr., S Fisher Off Ramp (Exit 50), Cass Ave., 2nd St., Grand River Ave., Henry St., and Ledyard St. were obtained from the Southeast Michigan Council of Governments online database¹ and Michigan Department of Traffic MS2 database. Please refer to the traffic data reported in our previous published report dated January 14th, 2022.

The model was run to predict sound levels over the 447 Henry Street building facades. The results are shown in Figure 2. The predicted average sound level at the community room façade is 63 dBA.

¹ SEMCOG Traffic Counts, <http://www.semco.org/data/Apps/trafficcounts.report.cfm>

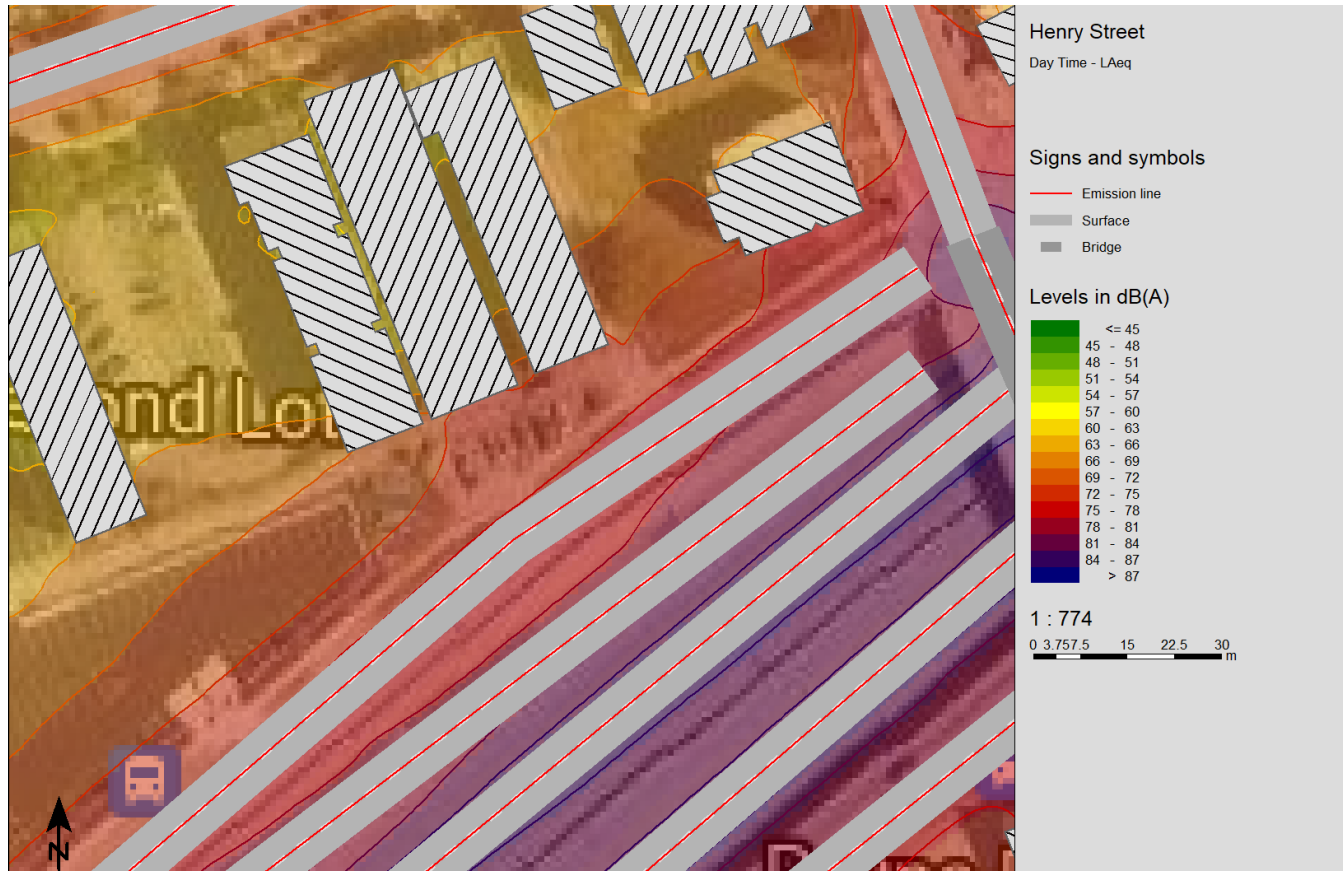


Figure 2: Predicted A-weighted Leq Levels

Exterior to Interior Noise Calculations

After predicting the exterior sound levels around the facade with SoundPLAN, the sound level inside the community room was calculated based on the room dimensions, glazing area, the glazing assembly, and the exterior wall assembly.

We have the exterior wall for 447 Henry Street to be the following:

- Minimum 2 wythes of 4” brick and mortar
- 1/2” air space
- 1/4” wood lath
- 3/4” plaster finish on the interior

The glazing required an upgrade from the 3/4” insulated units to 1” insulated units.

- Glazing (standard) we have assumed to be (1/4” float glass – 1/2” air space – 1/4” float glass) (OITC 28)

With the wall and glazing types listed above, the average sound level inside the community room is predicted to be NC 30, which meets the recommended NC criteria. Figure 3 the predicted interior noise level and criteria level on an NC graph.

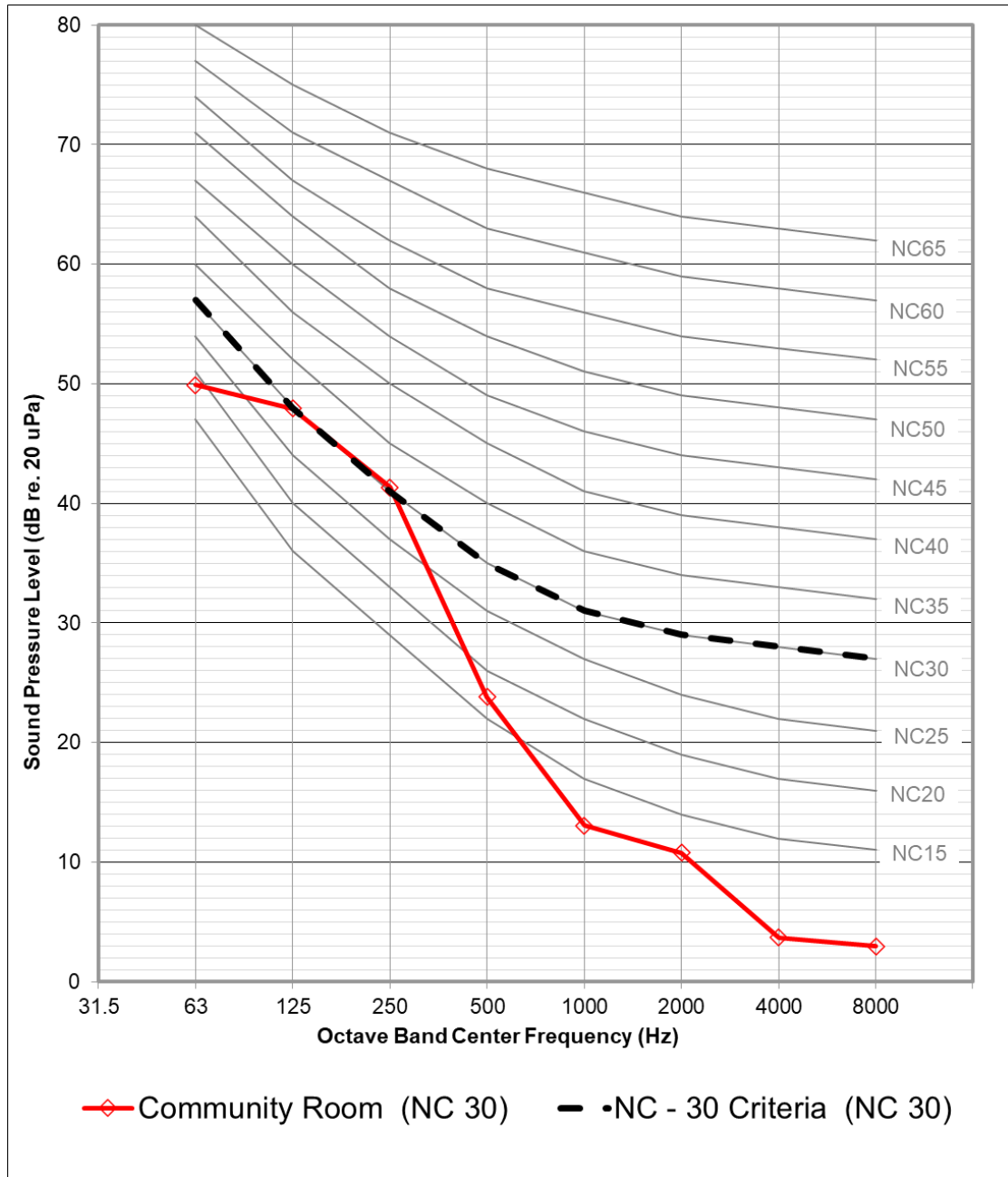


Figure 3: Predicted Noise Level in Community Room

Conclusion

With an upgrade to 1” insulated windows, the Community Room sound level from traffic noise is predicted to meet the target level of NC 30. Traffic noise will be audible in the space but will not unduly hamper communication. It would be beneficial for speech intelligibility to include acoustically absorptive materials in the space also. Selection of the quantity and type of material was not part of the scope of this project.

Please note that our recommendations and comments are exclusive to acoustics. We cannot comment on such things as local codes, life-safety requirements, or any other non-acoustic issues.

This concludes our exterior assessment of the community room exterior noise intrusion. We will be happy to elaborate on anything contained within this report.

Sincerely,

Soundscape Engineering

Per:



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Principal Consultant

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Appendix A: Acoustical Terminology

Sound level is measured in units called decibels (abbreviated dB). Decibels are logarithmic rather than linear quantities and thus a doubling of the sound level does not translate to a mathematical doubling of decibels. Also, the human ear does not interpret a doubling of sound energy (two sources instead of one) as a doubling of loudness. The logarithmic nature of dB and the human subjective perception of relative sound levels result in the following approximate rules for judging increases in sound.

- 3 dB sound level increase or decrease - just noticeable
(the addition of one identical sound source to an existing source)
- 5 dB sound level increase or decrease - clearly perceptible and is often considered significant
(the addition of two identical sound sources to an existing source)
- 10 dB sound level increase or decrease - perceived as twice as loud/half as loud
(the addition of nine identical sound sources to an existing source)

These perceived changes in the sound level are mostly independent of the absolute sound level. That is, a 35 dB sound will be perceived as twice as loud as a 25 dB sound, and a 60 dB sound will be perceived as twice as loud as a 50 dB sound.

Audible sound occurs over a wide frequency range, from low pitched sounds at approximately 20 hertz (Hz) to high pitched sounds at 20,000 Hz. These frequencies are commonly grouped into octave bands or 1/3 octave bands. Building mechanical systems generally produce noise in the 63 Hz to 1000 Hz octave bands, with the lower frequency noise generated by large fans. Human speech is predominantly contained in the 250 Hz to 2000 Hz octave bands.

A-weighted sound level - Humans do not hear equally well at all frequencies. We are especially poor at hearing low frequency sound and are best at hearing sound in the frequency range of speech. A microphone does not have these same characteristics. Therefore, when sound is being measured to determine how well people will be able to hear it, a “weighting” or microphone-to-human correction factor is applied to the sound level measured using a microphone. The most common weighting is the “A-weighting”, and the resulting sound level is expressed in A-weighted decibels (dBA). This weighting reduces the low frequency sound, slightly increases the sound at the dominant frequencies of speech, and slightly lowers the sound level at high frequencies.

Equivalent Sound Level (L_{eq}) is essentially the average sound level in an environment. However, the L_{eq} is not a simple arithmetic average of the sound level over time but is a logarithmic average of the sound energy level over a period of time. L_{eq} can be measured for any period, but it is typically measured for some increment or fraction of an hour such as 15 minutes, 1 hour, or 24 hours. Steady sounds, such as fan noise, can be accurately measured for much shorter periods of time, such as 30 to 60 seconds. An A-weighted equivalent sound level is designated LA_{eq} .

Sound Transmission Class (STC) is a single number rating of the sound blocked by a partition (window glazing unit, door, wall, floor-ceiling assembly). It is measured in a laboratory. Because of the sound frequency range measured and weighting applied to the measurements, it is most appropriately used to assess the ability of a partition to block the noise produced by people talking.

Outdoor to Indoor Transmission Class (OITC) is similar to STC except that it includes lower frequency acoustical performance of the partition and is intended to be a single number rating when the source is transportation noise rather than people talking. While it can be used to describe the performance of any exterior partition, it is most commonly found in the performance data provided by acoustical window manufacturers.

March 16, 2022

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**Subject: Henry Street Development
Detroit, Michigan
Sound Isolation Report for 427 and 489 Henry and 2447 and 2467 Cass**

Dear Mike:

Soundscape Engineering has analyzed the exterior noise sound transmission into the remaining residential buildings in the Henry Street Development. The results and recommendations are presented in this report.

Background

Neumann/Smith is working with Olympia Development on a seven building project located at Cass Avenue and Henry Street in Detroit. Soundscape Engineering has already assessed 439, 459, and 447 Henry Street. The remaining buildings are located at 427 and 489 Henry Street and 2447 and 2467 Cass Avenue. All are residential.

Soundscape has already researched the traffic noise counts, proximity of other sound sources to the site, the terrain, and other input parameters for the previously prepared SoundPLAN model. This model will be used to assess the remaining four buildings at the site noted in this proposal.

Terminology

A glossary of acoustical terminology is appended to this report in case you wish to refer to it while reading the report.

Acoustic Criteria

These buildings will not be funded through HUD and therefore are not required to have a mandated acoustical performance. We understand that the project team and/or Owner would like the buildings to

perform better than the HUD funded buildings but in keeping with the general level of the development. In this case, we recommend retaining the HUD criteria of DNL 45 dBA in the living areas but improving the performance to DNL 40 dBA in the bedrooms.

Sound Propagation Modeling with SoundPLAN

The commercially available and widely used computer software called SoundPLAN was used to create a 3-D model of the existing site and vicinity. Street traffic data for the surrounding roads was input along with the surrounding buildings and terrain.

Average Annual Daily Traffic (AADT) values and posted traffic speeds from the I-75 Fisher Freeway, North and South Fisher Service Dr., S Fisher Off Ramp (Exit 50), Cass Ave., 2nd St., Grand River Ave., Henry St., and Ledyard St. were obtained from the Southeast Michigan Council of Governments online database¹ and Michigan Department of Traffic MS2 database. Please refer to the traffic data reported in our previous published report dated January 14th, 2022.

The model was run to predict sound levels on the 427 and 489 Henry Street and 2447 and 2467 Cass Avenue building facades and surrounding area. The results are shown in Figure 1. The L_{eq} predictions were converted to DNL to assess whether façade upgrades are needed per the criteria.

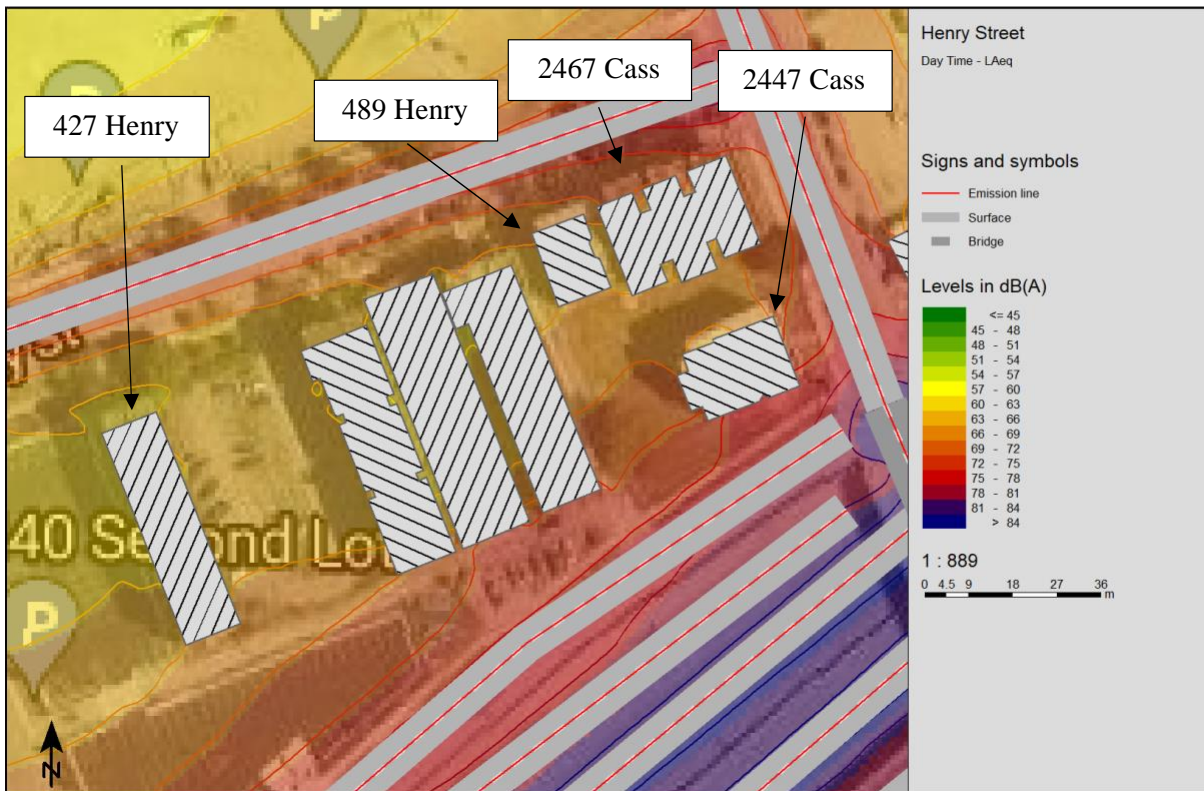


Figure 1: Predicted A-weighted L_{eq} Levels

¹ SEMCOG Traffic Counts, <http://www.semco.org/data/Apps/trafficcounts.report.cfm>

Exterior to Interior Noise Calculations

After predicting the exterior sound levels around the facade with SoundPLAN, the sound level inside the community room was calculated based on the room dimensions, glazing area, the glazing assembly, and the exterior wall assembly.

We modeled the exterior wall for the Henry Street Development buildings as follows:

- 3 wythes of 4” brick and mortar
- 1/2” air space
- 1/4” wood lath
- 3/4” plaster finish on the interior

We understand that the existing glazing will be replaced with standard 1” insulated units, which we have assumed to be (1/4” float glass – 1/2” air space – 1/4” float glass). This assembly has an OITC rating of 28. For the purposes of this report, we are calling this window a Category 1. For improved façade construction, Category 2 and 3 have been introduced.

Table 1: Recommended Window Types and Ratings

Exterior Facade Window Category	Color Code from Figures 2 through 5	Recommended Window OITC to meet Mid-Level Criterion
Category 1	Green	Baseline glazing (OITC 28 windows)
Category 2	Orange	OITC 33 windows
Category 3	Purple	OITC 39 windows

For each of the window ratings described above, there are several window assemblies that can meet the OITC rating shown. Table 2 shows example window constructions for each of the window types shown in Table 1, but others are possible. Please submit selections to us for review.

Table 2: Examples of Window Construction for Each OITC Specified

Window OITC	Corresponding STC (if OITC data is unavailable)	Example Construction
28	36	1/4” glass – 1/2” air space – 1/4” glass
33	41	1/4” laminated glass – 11/16” air space – 1/2” laminated glass
39	49	1/4” glass – 1/2” air space – 1/4” laminated glass – 1-7/16” air space – 1/2” laminated glass

Note: architect to confirm with glazing consultant or manufacturer that 1/4” laminated glass will be structurally acceptable based on project glazing sizes and wind loads

In order to meet the specified DNL criteria, the windows will need to meet or exceed the OITC and transmission loss (TL) values specified in Table 3. We can work with you to select window assemblies that will meet the OITC rating and other project constraints, as well as review product acoustical test data and drawings. For the laminated glazing, we recommend using 0.060” PVB interlayer rather than a 0.030” PVB interlayer to obtain better performance. Refer to Appendix A for a list of window manufacturers with acoustically rated windows. If windows from other manufacturers are selected, please submit them to us for review.

Table 3: Minimum OITC and TL Values Needed for Recommended Glazing Assembly

Window OITC	Transmission Loss (dB) at Octave Band Center Frequencies							
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
28	21	21	25	33	39	39	44	44
33	22	24	32	38	41	44	49	49
39	25	32	38	45	54	53	59	60

Recommendations

The following recommendations describe window upgrades to achieve the criteria of DNL 45 dBA in the living areas and DNL 40 dBA in the bedrooms.

1. 489 Henry Street

- The calculated interior with the standard glazing and exterior construction is below DNL 40 in the 489 Henry for all apartments. Therefore, no window upgrades are necessary to meet the acoustical target.

2. 427 Henry Street

- The calculated interior sound level in the bedrooms of 427 Henry Street from exterior sound meets the DNL 40 criterion and the other spaces meet DNL 45. No upgrade to the windows is necessary to meet the acoustical target.
- However, the door into the bedrooms requires an upgrade. Select an exterior door, including the lite, with a minimum performance of STC 34. Refer to Figure 2 for door locations and Appendix B for recommendations to upgrade the door.
 - Door lites should be the same glazing type as the windows (OITC 28/STC 34) or eliminated.

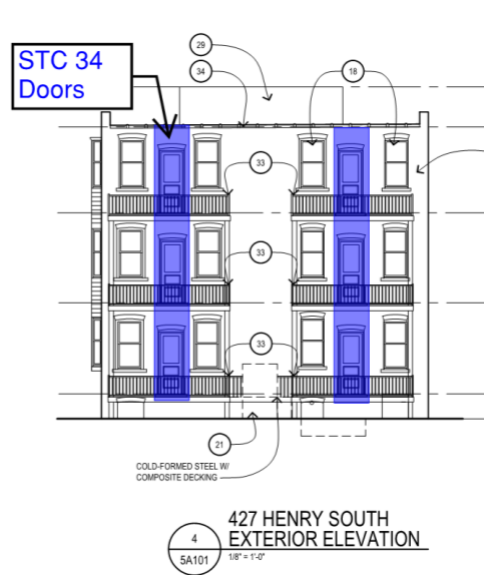


Figure 2: 427 Henry Street - Door upgrades South Facade

3. 2467 Cass Street

- Window upgrades are recommended for select bedroom windows at 2467 Cass Street as presented in Figure 3 and Figure 4. Refer to Table 2 for window construction.

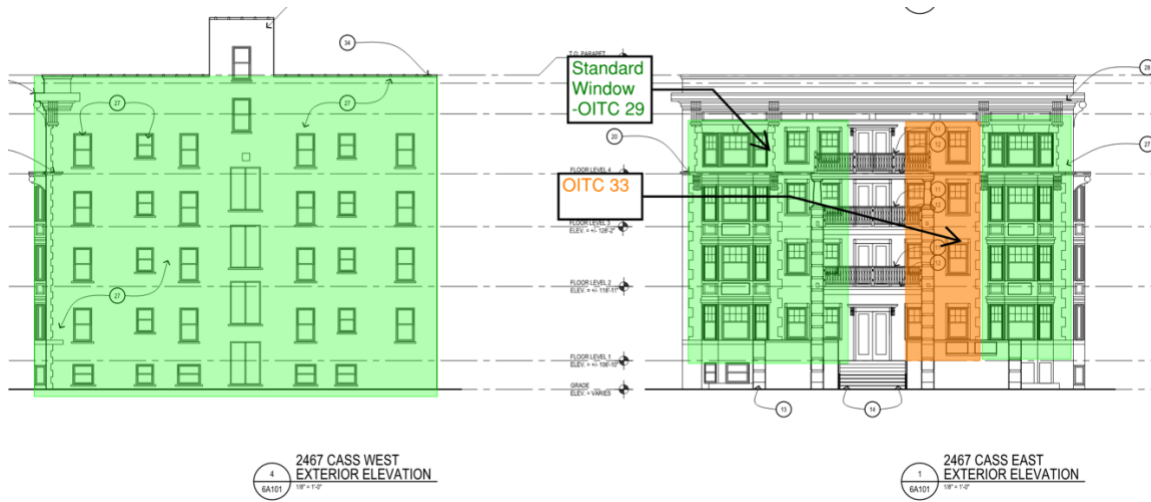


Figure 3: 2467 Cass Street- Window upgrades West and East Facades



Figure 4: 2467 Cass Street- Window upgrades North and South Facades

4. 2447 Cass Street

- Window upgrades are recommended for select living areas and bedroom windows as presented in Figure 5 and Figure 6. Refer to Table 2 for window construction.

Technically, the bathrooms need to have the indicated OITC ratings to meet the DNL 45 non-bedroom criteria, but if desired, the windows in the bathrooms could be relaxed 3 to 4 points since HUD funding is not involved and they are not acoustically sensitive spaces. Similarly, the bedroom criterion for this building could be accepted at the HUD DNL 45 level for the west and south facades if the project cannot afford the OITC 39 windows.

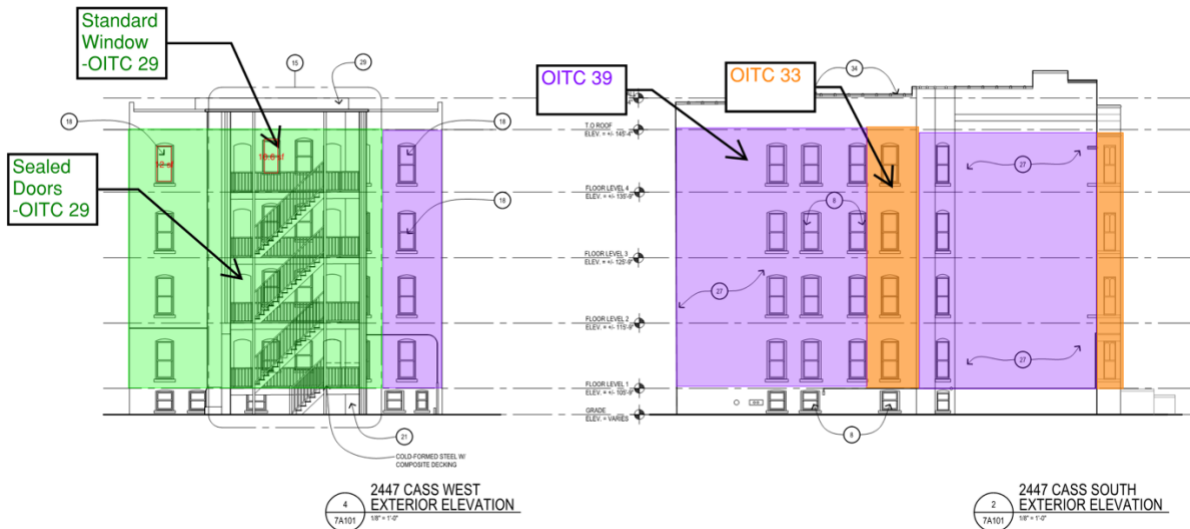


Figure 5: 2447 Cass Street- Window upgrades West and South Facades



Figure 6: 2447 Cass Street- Window upgrades North and East Facades

Conclusion

Please note that our recommendations and comments are exclusive to acoustics. We cannot comment on such things as local codes, life-safety requirements, or any other non-acoustic issues.

This concludes our exterior assessment of the community room exterior noise intrusion. We will be happy to elaborate on anything contained within this report.

Sincerely,

Soundscape Engineering

Per:



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Principal Consultant

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direct: (734) 494-0322



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MSAE

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(734) 418-8663 x106

Appendix A: Acoustical Terminology

Sound level is measured in units called decibels (abbreviated dB). Decibels are logarithmic rather than linear quantities and thus a doubling of the sound level does not translate to a mathematical doubling of decibels. Also, the human ear does not interpret a doubling of sound energy (two sources instead of one) as a doubling of loudness. The logarithmic nature of dB and the human subjective perception of relative sound levels result in the following approximate rules for judging increases in sound.

- 3 dB sound level increase or decrease - just noticeable
(the addition of one identical sound source to an existing source)
- 5 dB sound level increase or decrease - clearly perceptible and is often considered significant
(the addition of two identical sound sources to an existing source)
- 10 dB sound level increase or decrease - perceived as twice as loud/half as loud
(the addition of nine identical sound sources to an existing source)

These perceived changes in the sound level are mostly independent of the absolute sound level. That is, a 35 dB sound will be perceived as twice as loud as a 25 dB sound, and a 60 dB sound will be perceived as twice as loud as a 50 dB sound.

Audible sound occurs over a wide frequency range, from low pitched sounds at approximately 20 hertz (Hz) to high pitched sounds at 20,000 Hz. These frequencies are commonly grouped into octave bands or 1/3 octave bands. Building mechanical systems generally produce noise in the 63 Hz to 1000 Hz octave bands, with the lower frequency noise generated by large fans. Human speech is predominantly contained in the 250 Hz to 2000 Hz octave bands.

A-weighted sound level - Humans do not hear equally well at all frequencies. We are especially poor at hearing low frequency sound and are best at hearing sound in the frequency range of speech. A microphone does not have these same characteristics. Therefore, when sound is being measured to determine how well people will be able to hear it, a “weighting” or microphone-to-human correction factor is applied to the sound level measured using a microphone. The most common weighting is the “A-weighting”, and the resulting sound level is expressed in A-weighted decibels (dBA). This weighting reduces the low frequency sound, slightly increases the sound at the dominant frequencies of speech, and slightly lowers the sound level at high frequencies.

Equivalent Sound Level (L_{eq}) is essentially the average sound level in an environment. However, the L_{eq} is not a simple arithmetic average of the sound level over time but is a logarithmic average of the sound energy level over a period of time. L_{eq} can be measured for any period, but it is typically measured for some increment or fraction of an hour such as 15 minutes, 1 hour, or 24 hours. Steady sounds, such as fan noise, can be accurately measured for much shorter periods of time, such as 30 to 60 seconds. An A-weighted equivalent sound level is designated LA_{eq} .

Sound Transmission Class (STC) is a single number rating of the sound blocked by a partition (window glazing unit, door, wall, floor-ceiling assembly). It is measured in a laboratory. Because of the sound frequency range measured and weighting applied to the measurements, it is most appropriately used to assess the ability of a partition to block the noise produced by people talking.

Outdoor to Indoor Transmission Class (OITC) is similar to STC except that it includes lower frequency acoustical performance of the partition and is intended to be a single number rating when the source is transportation noise rather than people talking. While it can be used to describe the performance of any exterior partition, it is most commonly found in the performance data provided by acoustical window manufacturers.

Appendix B: Door Type Descriptions

The Sound Transmission Class (STC) rating is used to describe the acoustical performance of doors. With respect to STC, doors can be grouped into three categories. These doors are all hinged, swinging doors with door stops at the jamb and head.

- Door Type D1: Standard door with acoustical seals, STC 28 – 33
- Door Type D2: Acoustically rated door slab with acoustical seals, STC 33 – 42
- Door Type D3: Acoustical door assembly supplied with frame and all hardware, STC 42 – 55

Door Type D2 is recommended for the upgraded exterior doors in this project.

Door Type D2: Acoustically Rated Door Slab with Acoustical Seals, STC 33 – STC 42

These are specialty doors where the door slab has been acoustically tested in a laboratory and is heavier than a standard door slab. They are more expensive than standard doors. Prices vary significantly, particularly for the wood doors, based on wood type and finish. These doors may have a longer lead time than a standard door. Like standard doors and unlike acoustically rated door assemblies, door frames and hardware must be sourced separately.

Acoustically rated metal door slabs are available from the following manufacturers:

Ambico Limited:

<http://www.ambico.com/>

Ceco Door Products:

<http://www.cecodoor.com/>

Acoustically rated wood doors (these are actually wood doors not metal doors with a wood veneer) are available from the following manufacturers:

VT Industries (formerly Eggers Industries):

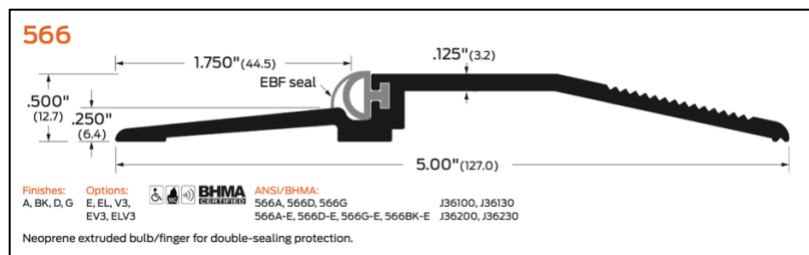
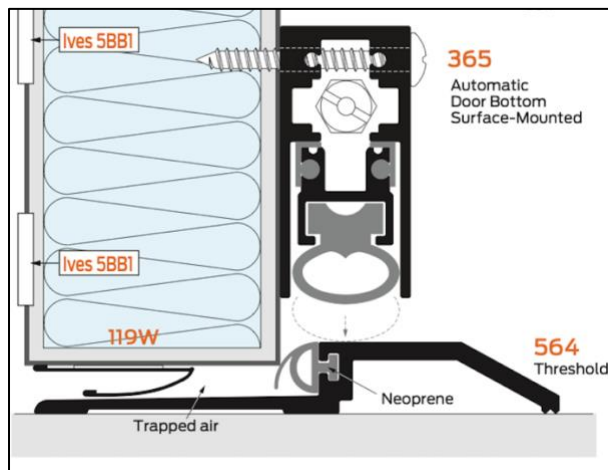
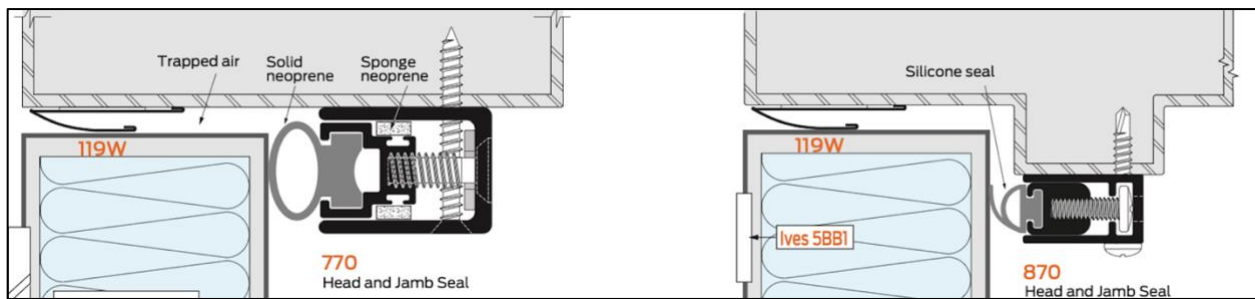
<https://www.vtindustries.com/architectural-doors/heritage-collection/>

Masonite Architectural:

<https://architectural.masonite.com/acoustic-solutions/>

The doors need adjustable acoustic seals at the head and jambs and an automatic door bottom which seals against a rabbeted threshold. Acoustical seals are available from Zero International. Submit alternates to us for review.

- Adjustable door jamb acoustical seals (Zero International 770 for frames without a stop, 870 for frames with a stop) with secondary seal (Zero International 119W)
- Rabbeted threshold seal (Zero International 566 for ADA compliant model)
- A surface mounted automatic door bottom (Zero International 365) with secondary seal (Zero International 119W)



Sole Source Aquifers






Property

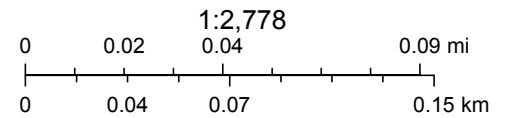
Wetlands Map Viewer



January 18, 2022

Part 303 Final Wetlands Inventory

-  Wetlands as identified on NWI and MIRIS maps
-  Soil areas which include wetland soils
-  Wetlands as identified on NWI and MIRIS maps and soil areas which include wetland soils



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Disclaimer: This map is not intended to be used to determine the specific



January 18, 2022

Wetlands

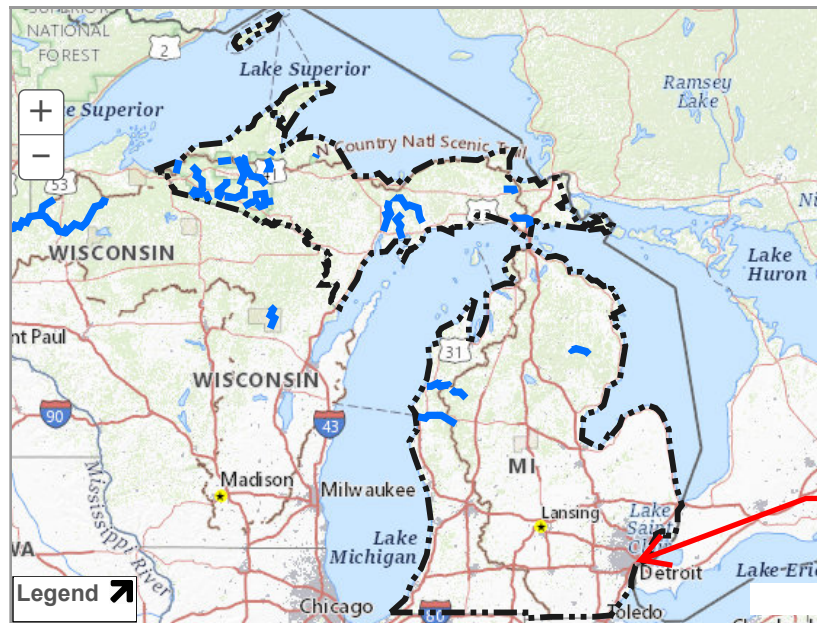
- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Lake
- Estuarine and Marine Wetland
- Freshwater Forested/Shrub Wetland
- Other
- Freshwater Pond
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



MICHIGAN

Michigan has approximately 51,438 miles of river, of which 656.4 miles are designated as wild & scenic—just a bit more than 1% of the state's river miles.



Choose A State

Choose A River

Nourished by the fertile soils of the region, rivers of the Midwest explode with life, from great avian migrations to ancient fishes.

[+ View larger map](#)

- AuSable River
- Bear Creek
- Black River
- Carp River
- Indian River
- Manistee River
- Ontonagon River
- Paint River
- Pere Marquette River
- Pine River
- Presque Isle River
- Sturgeon River (Hiawatha National Forest)
- Sturgeon River (Ottawa National Forest)
- Tahquamenon River (East Branch)
- Whitefish River
- Yellow Dog River

[NATIONWIDE RIVERS INVENTORY](#) | [CONTACT US](#) | [PRIVACY NOTICE](#) | [Q & A SEARCH ENGINE](#) | [SITE MAP](#)



Designated Rivers

[About WSR Act](#)
[State Listings](#)
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National System

[WSR Table](#)
[Study Rivers](#)
[Stewardship](#)
[WSR Legislation](#)

River Management

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[Management Plans](#)
[River Mgt. Society](#)
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[Bibliography](#)
[Publications](#)
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[Logo & Sign Standards](#)

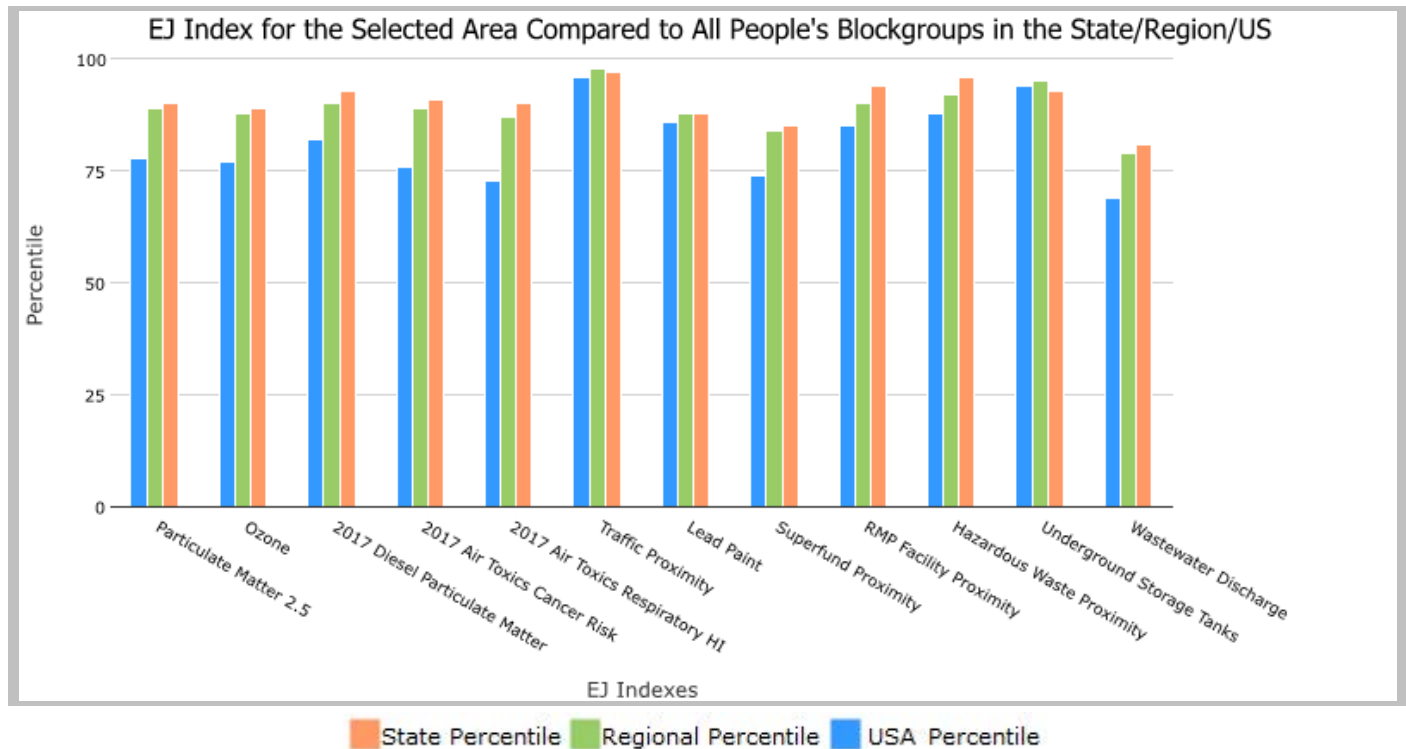
1 mile Ring Centered at 42.339101,-83.057070, MICHIGAN, EPA Region 5

Approximate Population: 16,746

Input Area (sq. miles): 3.14

EJS

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	90	89	78
EJ Index for Ozone	89	88	77
EJ Index for 2017 Diesel Particulate Matter*	93	90	82
EJ Index for 2017 Air Toxics Cancer Risk*	91	89	76
EJ Index for 2017 Air Toxics Respiratory HI*	90	87	73
EJ Index for Traffic Proximity	97	98	96
EJ Index for Lead Paint	88	88	86
EJ Index for Superfund Proximity	85	84	74
EJ Index for RMP Facility Proximity	94	90	85
EJ Index for Hazardous Waste Proximity	96	92	88
EJ Index for Underground Storage Tanks	93	95	94
EJ Index for Wastewater Discharge	81	79	69



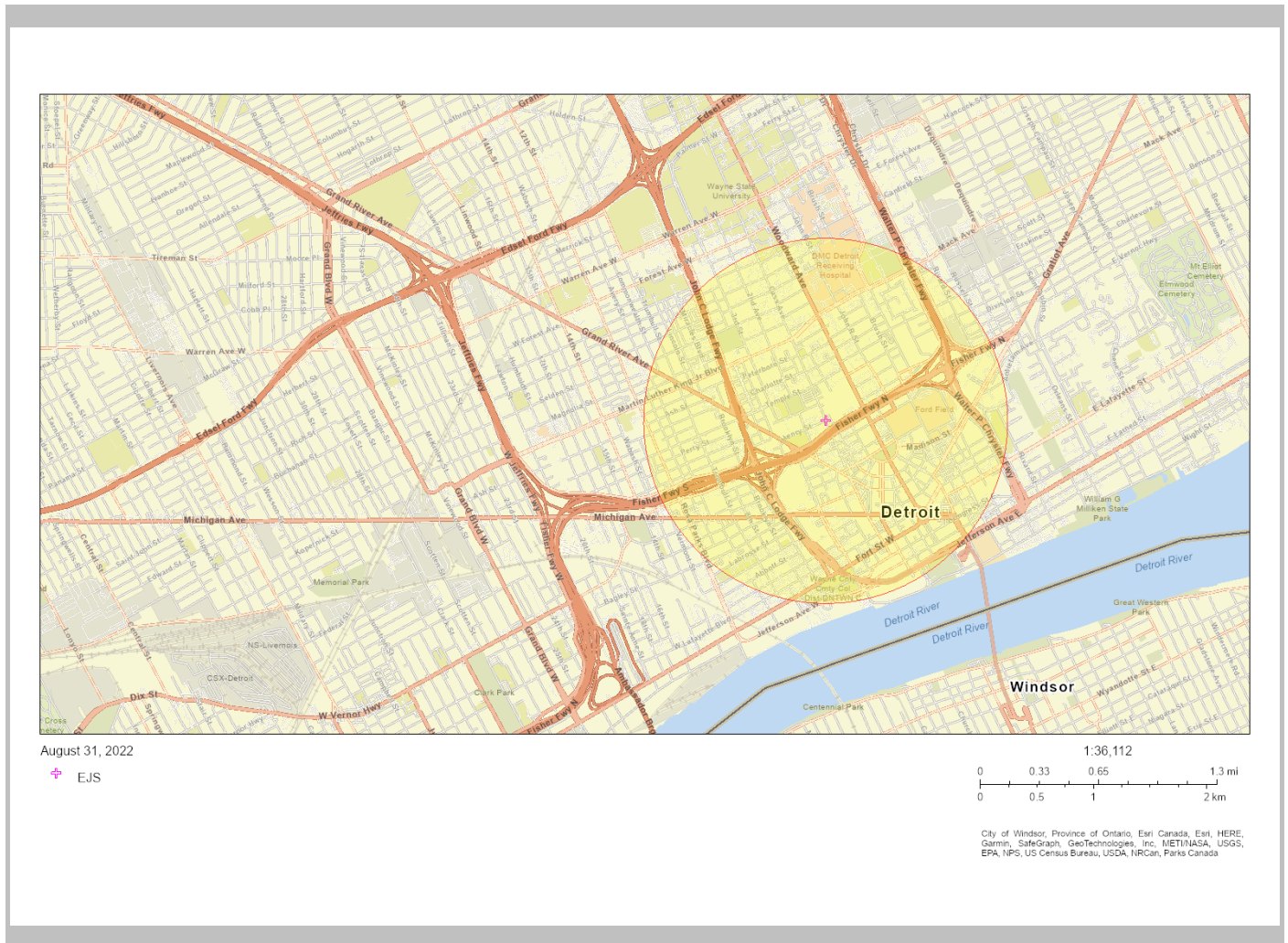
This report shows the values for environmental and demographic indicators and EJSscreen indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSscreen documentation for discussion of these issues before using reports.

1 mile Ring Centered at 42.339101,-83.057070, MICHIGAN, EPA Region 5

Approximate Population: 16,746

Input Area (sq. miles): 3.14

EJS



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	1

EJScreen Report (Version 2.0)

1 mile Ring Centered at 42.339101,-83.057070, MICHIGAN, EPA Region 5

Approximate Population: 16,746

Input Area (sq. miles): 3.14

EJS

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	10.1	8.75	98	8.96	86	8.74	85
Ozone (ppb)	44.7	43.8	54	43.5	59	42.6	73
2017 Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.431	0.209	98	0.279	80-90th	0.295	80-90th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	30	23	99	24	95-100th	29	80-90th
2017 Air Toxics Respiratory HI*	0.3	0.25	99	0.3	70-80th	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	5000	830	97	610	98	710	97
Lead Paint (% Pre-1960 Housing)	0.55	0.37	73	0.37	72	0.28	80
Superfund Proximity (site count/km distance)	0.049	0.15	36	0.13	41	0.13	41
RMP Facility Proximity (facility count/km distance)	1.1	0.53	85	0.83	75	0.75	79
Hazardous Waste Proximity (facility count/km distance)	3.7	1.1	94	1.8	86	2.2	83
Underground Storage Tanks (count/km ²)	33	7.3	96	4.8	98	3.9	98
Wastewater Discharge (toxicity-weighted concentration/m distance)	6.1E-05	0.41	29	9	26	12	28
Socioeconomic Indicators							
Demographic Index	60%	28%	88	28%	89	36%	82
People of Color	65%	25%	88	26%	87	40%	75
Low Income	56%	32%	85	29%	88	31%	86
Unemployment Rate	7%	6%	72	5%	77	5%	74
Linguistically Isolated	1%	2%	70	2%	64	5%	49
Less Than High School Education	15%	9%	81	10%	79	12%	69
Under Age 5	4%	6%	37	6%	34	6%	34
Over Age 64	13%	17%	32	16%	36	16%	41

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

For additional information, see: www.epa.gov/environmentaljustice

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

Linkages



Henry Street Redevelopment Neighborhood Linkages			
Map #	Category	Name/Description	Distance from Subject
N/A	Transportation	Ride Smart Route 18 – I-75 Service Dr & Second Ride Smart Route 23 – I-75 Service Dr & Cass QLine Route – Woodward Avenue	At Site At Site 0.3 miles
1	Grocery Store	Eve’s Market – 1411 Washington Boulevard Temple Trumbull Market – 2846 Trumbull Street	0.6 miles 0.8 miles
2	Shopping	Parker’s Alley – Parkers Alley	0.8 miles
3	Gas Station/ Convenience Store	Sunoco – 460 West Fort Street Marathon Gas – 3910 Grand River Avenue	0.9 miles 1.0 miles
4	Medical	Henry Ford Medical Center-Capitol Park – 45 West Grand River Avenue Children’s Hospital of Michigan – 3901 Beaubien Street	0.7 miles 1.0 miles
5	Pharmacy	Henry Ford Pharmacy – 1777 3 rd Avenue Doctor’s Medical Pharmacy – 3169 Woodward Avenue	0.6 miles 0.6 miles
6	Churches	I Am Temple – 2300 2 nd Avenue Woodside Bible Church – 500 Temple Street St. John’s Episcopal Church – 2326 Woodward Avenue	0.2 miles 0.3 miles 0.4 miles
7	Banking	Level One Bank Detroit – 1420 Washington Boulevard Citizens Bank – 777 Woodward Avenue	0.6 miles 0.9 miles
8	Restaurants	ZZ’s Market & Grill – 210 Henry Street Harry’s Detroit Bar & Grill – 2482 Clifford Street Bucharest Grill – 436 West Columbia Street	0.1 miles 0.1 miles 0.2 miles
9	Post Office	1401 West Fort Street	1.3 miles
10	Elementary School	Charles L. Spain Elementary-Middle School – 3700 Beaubien Boulevard	1.2 miles
10	Middle School	Charles L. Spain Elementary-Middle School – 3700 Beaubien Boulevard	1.2 miles
11	High School	Cass Technical High School – 2501 2 nd Avenue	0.1 miles
12	College/Job Training	Central Michigan University – West Fort Street Wayne State University – 4841 Cass Avenue	0.9 miles 1.2 miles
13	Recreation/Park	Cass Park Grand Circus Park Beacon Park	0.3 miles 0.4 miles 0.6 miles
14	Library	Douglas Detroit Public Library – 3666 Grand River Avenue	0.9 miles
15	Senior Center	St. Patrick Senior Center – 58 Parsons Street	0.8 miles

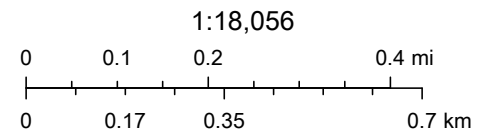
Source: Baker Tilly Virchow Krause, LLC

School Map



January 18, 2022

-  Search Result (point)
-  Schools



Maxar, EPA OEI, OFA

QLine Route Guide



Henry Street Project
459, 467 & 481 Henry Street, and 2445 & 2457 Cass Avenue Parcels
Project Consultant: PM Environmental and NTH Consultants, Ltd.
Date: May 2023

Response Activity or Continuing Obligation	Required Activities	Party Responsible for Completing Activity	Timing of Activity	Required Follow-up or Reporting
ResAP - Hardscape	The concrete or asphalt pavement will be a minimum thickness of 4-inches.	General Contractor	During Construction	None
ResAP - Softscape	<p>Demarcation barrier – A visual demarcation layer (colored non-biodegradable fabric) will be installed over the existing site soil except at locations where it would be injurious to tree roots. The demarcation barrier will be covered with one of the following:</p> <p>A. Clean soil plus topsoil and vegetative cover – Twelve inches of uncontaminated soil, plus six inches of uncontaminated topsoil and sod.</p> <p>B. Clean planting soil mix plus landscape plantings – Fourteen inches of uncontaminated soil mix plus evergreen ground cover or shrubs. Mulch may substitute for up to three inches of soil.</p> <p>C. Aggregate surface – Twelve inches of aggregate.</p>	General Contractor / Consultant	During Construction	<p>A. Installation photographs</p> <p>B. Lab data verifying soil is uncontaminated or confirmation that it is from a native source</p> <p>C. Verification of soil thickness via survey</p>
ResAP – VSIC Remediation (481 Henry parcel only)	<p>A. Excavate, haul and dispose of soil contaminated above the VSIC. It is estimated that 300 cubic yards of soil will be excavated and disposed at a Type II landfill.</p> <p>B. Post excavation verification of soil remediation in accordance with EGLE S3TM guidance (2002)</p>	General Contractor / Consultant	During Construction	<p>A. Waste disposal manifests</p> <p>B. Lab data for verification samples below VISC</p>

Henry Street Project
459, 467 & 481 Henry Street, and 2445 & 2457 Cass Avenue Parcels
Project Consultant: PM Environmental and NTH Consultants, Ltd.
Date: May 2023

Response Activity or Continuing Obligation	Required Activities	Party Responsible for Completing Activity	Timing of Activity	Required Follow-up or Reporting
ResAP – Install Vapor Mitigation System (459 Henry parcel only)	Install the vapor mitigation system and complete commissioning and prove-out activities.	Consultant	After construction	As-builts and prove out documentation
Prepare / Finalize OM&M Plans	A. OM&M Plan for exposure barrier – Finalize / revise Operations, Maintenance and Monitoring (OM&M) Plan for the exposure barrier based on the as-built conditions. B. OM&M Plan for the vapor mitigation system (459 Henry) – Prepare the OM&M Plan for the vapor mitigation system based on the as-built conditions.	Consultant	After construction, commissioning and prove-out of the vapor mitigation system are completed	OM&M Plans
Documentation of Due Care Compliance	Complete DDCC report(s) and submit to the City of Detroit Environmental Review Officer for review prior to submitting to EGLE.	Consultant	After all items above are completed	DDCC with all documentation indicated above, and EGLE approval
Ongoing OM&M – Exposure Barrier	Conduct periodic inspections of the exposure barrier for damage as indicated in the OM&M Plan, and period evaluation of clean soil thickness. Implement repairs if damage is identified.	Owner	Ongoing, after construction completion	Inspection forms and repair documentation
Ongoing OM&M – Vapor Mitigation System (459 Henry Only)	Conduct periodic inspections and tests as indicated in the OM&M Plan. Implement repairs if damage is identified or if the system is not performing as intended.	Owner	Ongoing, after vapor mitigation system prove-out	Inspection forms and repair documentation
Noise Analysis	Appropriate construction materials will be incorporated in the building to mitigate noise levels within the acceptable range. Materials to be utilized include window and door upgrades.	Architect, Construction, Crew, Foremen, Developer	During Construction	Building specs