U.S. Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410
www.hud.gov
espanol.hud.gov

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

Project Information

Project Name: Brewster-Wheeler-I,-II,-III

HEROS Number: 900000010465691

Start Date: 04/21/2025

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

RE Preparer: Kim Siegel

State / Local Identifier: Detroit, Michigan

Certifying Officer: Julie Schneider

Grant Recipient (if different than Responsible Entity):

Point of Contact:

Consultant (if applicable): Environmental Consulting Solutions (ECS)

Point of Contact: Julie Pratt

40 CFR 1506.5(b)(4): The lead agency or, where appropriate, a cooperating agency shall prepare a disclosure statement for the contractor's execution specifying that the contractor has no financial or other interest in the outcome of the action. Such statement need not include privileged or confidential trade secrets or other confidential business information.

- ✓ By checking this box, I attest that as a preparer, I have no financial or other interest in the outcome of the undertaking assessed in this environmental review.

Project Location: 631 Alfred St, Detroit, MI 48201

Additional Location Information:
3 acres of land, bound by St. Antoine, Alfred St. and Chrysler Drive. Addresses include 631, 651 and 671 Alfred Street.

Direct Comments to: Penny Dwoinen, Environmental Review Officer, City of Detroit
E-mail: Dwoinenp@detroitmi.gov

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:
MHT Housing proposes new construction of an affordable apartment community located at the former Brewster Wheeler Recreation Center site in Detroit, Michigan. The overall development consists of approximately 6 acres, and when completed, will include four (4) separate housing developments (Phase I through IV) and a fully rehabilitated recreation center. This Environmental Assessment (EA) is specific to Brewster Wheeler I, Brewster Wheeler II and Brewster Wheeler III. Phase (IV) of the overall project, the Sanctuary at Brewster, was included in a separate EA. The Brewster Wheeler I, II and III developments consist of redevelopment of approximately 3 acres of currently vacant land. The vacant land is at the southern portion of a larger parcel of land (#03003160-70), approximately 6 acres in size, and bound by Alfred Street to the south, Wilkins Street to the North, St. Antione to the west and Chrysler Drive to the east. The parent parcel of land is currently owned by Spar Bar, LLC. The south portions designated as Brewster Wheeler I, Brewster Wheeler II and Brewster Wheeler III will be purchased by Brewster I LDHA, LLC, Brewster II LDHA, LLC and Brewster III LDHA, LLC, respectively. Brewster Wheeler I will include construction of a new mixed-use building, having a footprint of approximately 12,863 sq ft, located at 671 Alfred Street. The building offers 53 units (26 one-bedroom and 27 two-bedroom plans). The building has four floors, with the first floor providing community space and 11 units, with floors 2, 3 and 4 having 14 units per floor. Unit sizes average from approximately 651 sq ft to 872 sq. ft. The building is situated on the eastern portion of the proposed parcel. The west portion of the proposed parcel will be developed with parking (23 spaces) and a proposed accessible pavilion. Brewster Wheeler II will include construction of a new mixed-use building, having a footprint of approximately 13,240 sq ft, located at 651 Alfred Street. The building offers 53 units (26 one-bedroom and 27 two-bedroom plans). The building has four floors, with the first floor providing community space and 11 units, with floors 2, 3 and 4 having 14 units per floor. Unit sizes average from 651 sq ft to 873 sq. ft. The building is situated on the north portion of the proposed parcel. The south portion of the proposed parcel will be developed with parking (30 spaces). Brewster Wheeler III will include construction of a new mixed-use building, having a footprint of approximately 12,863 sq ft, located at 631 Alfred Street. The building offers 53 units (26 one-bedroom and 27 two-bedroom plans). The building has four floors, with the first floor providing community space and 11 units, with floors 2, 3 and 4

having 14 units per floor. Unit sizes average from 651 sq ft to 872 sq. ft. The building is situated on the western portion of the proposed parcel. The east portion of the proposed parcel will be developed with parking (27 spaces) and a proposed accessible pavilion. This Environmental Review is valid for up to five years. Total HUD funded amount is $1,490,600 in HOME 2024 and 24 Project-Based Vouchers from the Detroit Housing Commission (DHC)

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

The project is an opportunity to provide affordable housing options in an area that is experiencing tremendous growth. This property is in the thriving Brush Park Neighborhood. This new construction project is a perfect opportunity to help provide affordable housing units to the lower-income bands while there is still land left to build on. The proximity to the stadium district and all of the jobs and amenities that area has to offer provides an ideal location for the residents providing many opportunities for employment as well as proximity to local resources. Each of the three developments will offer a wide range of affordability; 16 units at or below 30% AMI, 8 of which will be covered by DHC PBV; 7 units targeted at or below 40% AMI and 30 units targeted at or below 80 % AMI. All units are considered LIHTC eligible units, as the project is using Income Averaging, with an overall average AMI target of less than 60 % AMI for the entire development. The broad range of rents being offered here will allow for true economic integration, offering a portion of the units at lower income levels, but also offering a significant number of units that can be considered workforce housing units. This is an outcome that aligns with the priorities of all affordable housing programs in that it integrates residents of all income levels in the same community. The proximity of this development to other recent developments with higher-end units and rents, as well as all of the other amenities available to the residents in this area, this development aligns with the City's objective of integrating low-income units into areas of opportunity. Living in a well-designed, affordable housing community helps improve residents' quality of life by enabling them to have stability with a safe home environment, allowing the individuals to have more freedoms to pursue employment and education to move towards self-sustainability.

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

This Project offers a great opportunity to provide affordable housing in a thriving area of the City. If the project does not occur, the parcel would remain underutilized vacant land and the lower income wage earners would continue to have limited resources for affordable housing in a positive growth area with many employment options and community services nearby. Overall characteristics of the immediate neighborhood are diverse, consisting of a mixture of residential and commercial usages. The area's many attributes include neighborhood retail, sports venues, destination restaurants, Detroit Public Schools educational campuses, diverse historic housing, and a thriving arts and culture ecosystem. The surrounding area is experiencing rapid rental growth, with numerous large scale investments are noted in

the area. MHT Housing, Inc. has extensive experience in developing affordable housing, including the Brush Park Apartments still under construction located ~ two blocks away from the Project location. The Project is located in in Census Tract 5173. ~0.3 square mile area with a population of ~2,300. Median household income is estimated at ~$36,000 per year, which is significantly lower than the medium income of $60,000 for Michigan households. The percentage of households below the poverty line in this area is ~37%.

Maps, photographs, and other documentation of project location and description:
Brewster III - For Permits Set Combined.pdf
Brewster II - For Permits Set Combined.pdf
Brewster I - For Permits Set Combined.pdf
Figure 2 Brewster Wheeler Aerial Map.pdf
Figure 1 Brewster Wheeler Site Location Map.pdf
Brewster III Site Photographs.pdf
Brewster II Site Photographs.pdf
Brewster I Site Photographs.pdf
Brewster Wheeler I Project Narrative.pdf
Overall Site Plan.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:
ER Signature Page - Brewster Wheeler I-III.pdf

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

M24MC260202	Community Planning and Development (CPD)	HOME Program	$1,490,600.00

Estimated Total HUD Funded, Assisted or Insured Amount: $1,490,600.00

Estimated Total Project Cost [24 CFR 58.2 (a)(5)]: $58,872,100.00

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)
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR §50.4 & § 58.6		
Airport Hazards Clear Zones and Accident Potential Zones; 24 CFR Part 51 Subpart D	☐ Yes ☑ No	The project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport. The distance to the closest airport (Coleman A. Young {CAY}) is approximately 4.25 miles northeast. The project is in compliance with Airport Hazards requirements.
Coastal Barrier Resources Act Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	☐ Yes ☑ No	This project is not located in a CBRS Unit. Therefore, this project has no potential to impact a CBRS Unit and is in compliance with the Coastal Barrier Resources Act.
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	☐ Yes ☑ No	The structure or insurable property is not located in a FEMA-designated Special Flood Hazard Area. The Project is located in Zone X - Area of Minimal Flood Hazard. The project is in compliance with flood insurance requirements. Refer to attached FEMA panel #26163C0285F, effective date 10/21/2021.
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR §50.4 & § 58.5		
Air Quality Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	☐ Yes ☑ No	As of July 2023, the Project area in Wayne County is in attainment status for Carbon Monoxide, Lead, Nitrogen Dioxide, Sulfur Dioxide and Particulate Matter. The project area is in

		maintenance status for the following: Ozone. EGLE is currently working to complete the required SIP submittals 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 project, and it was determined that based on the size, scope and duration of the project, emission levels for the project should not exceed de minims levels for general conformity. The project is in compliance with the Clean Air Act.
Coastal Zone Management Act Coastal Zone Management Act, sections 307(c) & (d)	☐ Yes ☑ No	This project is not located in or does not affect a Coastal Zone as defined in the state Coastal Management Plan. The project is in compliance with the Coastal Zone Management Act.
Contamination and Toxic Substances 24 CFR 50.3(i) & 58.5(i)(2)]	☑ Yes ☐ No	There are no buildings/structures on the Project site; lead and asbestos determination was not applicable. The Project is located in Wayne County, MI, The project area is shaded green (EGLE Radon Map), with 9% of first-time tests above 2pCi/L. The project is located in Wayne County, Zone 3 for Radon. The City has elected to use scientific data in lieu of testing after construction is complete. Based on the samples taken in the City and the results averaging under 4 pCi/L, no additional testing is required. Site contamination was evaluated as follows: ASTM Phase I ESA's (including vapor encroachment screen) dated March 13, 2025, ASTM Phase II ESA's dated March 18, 2024, BEA's dated July 11, 2024 (EGLE acknowledgement August 7, 2024).

		ResAP's were completed in December 2024. On-site or nearby toxic, hazardous, or radioactive substances were found that could affect the health and safety of project occupants or conflict with the intended use of the property. RECs were identified, including 1) historic site operations (auto repair, electrical shop, lumber yard, junkyard, potential drycleaner, bottle manufacturer, coal yard and coal furnace); 2) potential use of imported fill material and 3) potential for offsite migration and/or potential vapor sources from adjoining historic operations. Phase II subsurface investigation confirmed soil contamination at levels greater than their respective Generic Residential Cleanup Criteria. Groundwater was not encountered. Analytical results conveyed impacts of arsenic, lead, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and/or dibenzo(a,h)anthracene are present in soil exceeded EGLE Part 201 Direct Contact Criteria at the Subject Property from depths ranging from 0.5 foot to 8 feet below ground surface. Response activities to mitigate unacceptable exposures include excavation and exposure barriers (hardscape/engineered barriers). A copy of the EGLE Notice of Approval of the ResAPs dated January 2025 are included as an attachment. Excavation will be performed for geotechnical reasons to depths estimated at 2 to 7 feet. Excavated soil will be transported to a licensed landfill for disposal. All excavations will include placement of clean backfill. The fill material brought to the site will be documented as clean by analytical results from samples collected from the site of origin documenting that the material does not

		contain volatile organic compounds, polynuclear aromatic hydrocarbons, or Michigan Ten Metals at concentrations above the applicable generic cleanup criteria. Hardscapes will consist of buildings, new asphalt or concrete. Engineered soil barriers will consist of a minimum of 12 inches in vertical thickness overlying a demarcation fabric comprised of orange geotextile. Daily reports, a photo log, and all other documentation (e.g., survey data, truck tickets, etc.) will be completed during the construction of the Engineered Soil Barrier areas. This documentation will be included in the subsequent Documentation of Due Care Compliance (DDCC) report. Adverse environmental impacts can be mitigated. With mitigation, identified in the mitigation section of this review, the project will be in compliance with contamination and toxic substances requirements.
Endangered Species Act Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	☐ Yes ☑ No	This project has been determined to have No Effect on listed species. Based on a review of Wayne County and US Fisheries and Wildlife Services information, a total of five endangered, threatened, or candidate species were identified in Wayne County; no critical habitat was identified on the Project sites. In addition, proposed plans for the site will have no effect on migratory birds or the bald eagle. (US Fish and Wildlife Services Wayne County Endangered Species list.). The project is urban infill. This project is in compliance with the Endangered Species Act without mitigation.
Explosive and Flammable Hazards Above-Ground Tanks)[24 CFR Part 51 Subpart C	☐ Yes ☑ No	The Project is not a hazardous facility. HMA utilized the EDR Database Report, Google Earth aerial imagery and observations from the site to evaluate for ASTs within one mile of the Project. No fire or explosion hazards were identified, except one 2,000-gallon

		diesel fuel AST situated over 2,000 feet to the northwest at the American Red Cross located at 100 Mack Avenue. HMA utilized the HUD ASD assessment tool and confirmed the site was located at a distance significantly beyond the ASD radius. The project is in compliance with explosive and flammable hazard requirements.
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	☐ Yes ☑ No	This project does not include any activities that could potentially convert agricultural land to a non-agricultural use. The Project consists of Urban Land. The project is in compliance with the Farmland Protection Policy Act.
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	☐ Yes ☑ No	This project does not occur in the FFRMS floodplain. The project is in compliance with Executive Orders 11988 and 13690. The project is not located in a FEMA-designated Special Flood Hazard Area. The Project is located in Zone X - Area of Minimal Flood Hazard. Refer to attached FEMA panel #26163C0285F, effective date 10/21/2021.
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	☑ Yes ☐ No	Based on Section 106 consultation the project will have an Adverse Effect on historic properties. With mitigation, as identified in the MOA or SMMA, the project will be in compliance with Section 106. Satisfactory implementation of the mitigation should be monitored.
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	☑ Yes ☐ No	A Noise Assessment was conducted at the site. Noise levels were calculated to be an average of 71dB for the proposed buildings. Since the DNL is in excess of 65 decibels, building materials are relied upon as barriers to mitigate noise. The HUD STraCAT electronic tool was utilized to conduct a site-specific noise assessment. The assessment indicated the wall assemblies meet required attenuation. Wall construction components include 4'' face brick; Exterior Siding - 2" insulation board +

		sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud. Window construction includes vinyl windows. The project is in compliance with HUD's Noise regulation with mitigation.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	☐ Yes ☑ No	The project is not located on a sole source aquifer area. There are no sole source aquifers in Michigan. The project is in compliance with Sole Source Aquifer requirements.
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	☐ Yes ☑ No	The project will not impact on- or off-site wetlands. The project is in compliance with Executive Order 11990.
Wild and Scenic Rivers Act Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	☐ Yes ☑ No	This project is not within proximity of a NWSRS river. The project is in compliance with the Wild and Scenic Rivers Act.
HUD HOUSING ENVIRONMENTAL STANDARDS		
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	☐ Yes ☑ No	Adverse environmental impacts are not disproportionately high for low-income and/or minority communities. The Project does not create adverse environmental or human health impacts. The mitigation measures addressing subsurface contamination (summarized in EGLE approved ResAP), noise (STraCAT building materials), and historic preservation (MOA) will mitigate potential adverse environmental impacts and/or human exposures. Therefore, the project is in compliance with Executive Order 12898.

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	2	This project conforms to the revitalization efforts currently being put forth in the City of Detroit. The proposed Project is not known to be in conflict with any land use policy, plan, or regulation. The Project is vacant land in an urban setting adjacent to the Brewster-Wheeler Recreation Center, a City of Detroit locally designated historic district. Because the proposed Project will havesimilar massing, heights and materials to other new buildings in the neighborhood, and due to the amount of vacant land surrounding the APE, there is limited potential to affect the setting, atmosphere, feeling or characteristics of properties beyond the immediate surroundings. The Proposed project complies with existing zoning regulations. The Project is located in a Planned Development Zone, adjacent to the Brewster-Wheeler Recreation Center local historic district. Proposed Site Plans will be submitted to the Detroit Building Department for approval. The adjacent properties include mixed use residential and commercial developments; the Project is compatible with proposed mixed use. The Project location will not contribute to urban sprawl; the Project is rehabilitation of once-developed vacant land surrounded by urban development. Refer to attached Surveys and Site Plans as well as Attachment 17 Zoning Documents.	
Soil Suitability / Slope/ Erosion / Drainage and Storm Water Runoff	2	The project area has supported residential and commercial development for over 100 years. According to the EGLE GeoWebFace database, in this area of Detroit, quaternary geology consists of lacustrine clay and silt. Bedrock geology is composed of the Traverse Group and Michigan Formation. No sloping issues will be caused by the redevelopment of the vacant land. Based on a review of the USGS topographic map, the	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		slope at the subject property would be considered optimum for a residential/mixed use development. Erosion will not be an issue during parking Project development. The developer will comply with state and county soil erosion regulations and manage erosive soils. The site storm water is serviced by the City of Detroit. Storm sewers in this area of Detroit are combined sewer, with no discharge to surface water. Underground storm water storage is proposed beneath the parking areas. During site construction, appropriate storm water management practices will be implemented as required in accordance with Wayne County and City of Detroit regulations. Refer to attached Surveys and Site Plans.	
Hazards and Nuisances including Site Safety and Site-Generated Noise	2	The site is not in an area which is expected to be influenced by natural hazards (i.e. not in an area prone to earthquakes, flooding, hurricanes). Potential man-made site hazards are mainly associated with the vacant land with inadequate street lighting and potential for vegetation overgrowth. This Project will improve this neighborhood by replacing a vacant underutilized area with much needed housing for homeless. Temporary construction phase noise will be mitigated by standard procedures. Using the Sound Transmission Classification Assessment Tool (STraCAT), appropriate construction materials are documented in the building construction which mitigate noise levels within the acceptable range. Wall construction components include 4'' face brick; exterior Siding - 2'' insulation board + sheathing - 2x6 wood studs @ 16'' o.c., fiberglass insulation 5-1/2'', 5/8'' gyp. bd. screwed to stud. Window construction includes vinyl windows. The project is not in close proximity to air pollution generators (i.e. heavy industry, cement plans, oil refineries). Site Plans, Attachment 7, Attachment 12	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
SOCIOECONOMIC			
Employment and Income Patterns	2	Each phase of this Project anticipates creating 75 temporary construction jobs along with at least two full time positions that will be created at time of occupancy. With some units being targeted to very-low income residents with PBV support, this development will provide market rate type aesthetics while creating opportunities to those most in need in the Detroit community. (Project Narrative).	
Demographic Character Changes / Displacement	2	This Project is in the thriving Brush Park Neighborhood that is quickly moving towards gentrification. This Project is a perfect opportunity to help provide units to lower-income bands. The proximity to the stadium district and all of the jobs and amenities that area has to offer provides an ideal location for future residents. The Project will have a positive impact on the character of the community. No reduction or significant alternation of racial, ethnic or income attributes will occur. The development will not be a hindrance for access to local services or institutions. The project will not introduce barriers that would isolate a particular neighborhood or population group, nor will it destroy or harm any community institution. Residents will not be displaced as a result of the project. Rather, the project provides much needed housing. (Field Observations, Project Narrative).	
Environmental Justice EA Factor	2	Adverse environmental impacts are not disproportionately high for low-income and/or minority communities. The Project does not create adverse environmental or human health impacts. The environmental site assessments completed for the Project indicated proposed Mitigation Measures are adequate to mitigate potential human exposures. Attachment 16	
COMMUNITY FACILITIES AND SERVICES			

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
Educational and Cultural Facilities (Access and Capacity)	2	The City of Detroit provides several educational options through the Detroit Public School System. Additional private and charter school options are also available throughout the City. The proposed project will not negatively impact local educational facilities; redevelopment would not tax existing capacities. (Field observations, www.detroitk12.org). The City of Detroit Art Institute, Detroit Public Library, Detroit Symphony Orchestra, Opera House, the Detroit Historical Museum as well as various ethnic cultural centers are examples of cultural facilities accessible by foot, bike and bus route. (Attachment 18).	
Commercial Facilities (Access and Proximity)	2	There are many neighborhood amenities in the Brush Park and surrounding neighborhoods. The project site is located near several main corridors containing restaurants, professional services, and pharmacies. The proposed project will not negatively impact local commercial facilities; proposed increase in density will not tax existing capacities (current homeless population to be relocated to housing). There are several locations of employment within 3.5 miles of the site. All are readily accessible by bus, car, and other modes of transportation. These include Eastern Market, Detroit Medical Center, Comerica Park, Ford Field, Little Caesars Arena and many small businesses in the surrounding districts. (Field observations, Attachment 19).	
Health Care / Social Services (Access and Capacity)	2	There are numerous health care facilities in the area--including the Detroit Medical Center ~1/2 mile from the Project, offering hospital and physician services. These facilities provide access to physicians, emergency services, and/or specialized medical clinics. Several public health services are located within 2 miles of the site, including the Wayne County Department of Health, Veterans and Community Wellness,	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		Wayne County Mental Health Services, Public Health and Human Services and Detroit Health Department. (Google Maps). Churches, community centers, senior services, and daycare centers are located within 2 miles of the project. Other social services are accessible via the DDOT bus system (see Transportation and Accessibility below). Proposed redevelopment will not negatively impact social services or unduly tax existing capacities (no significant increase in residential density). (Attachment 20).	
Solid Waste Disposal and Recycling (Feasibility and Capacity)	2	The City of Detroit is responsible for solid waste disposal activities at the project locations. During proposed construction, contracted disposal containers will be used for trash collection. Disposal containers will be emptied/removed by a contracted collection service. Following construction, contracted disposal containers will be used for trash collection which will be emptied/removed by a contracted collection service. There is an insignificant increase in residential density; the temporary construction waste will not significantly tax waste disposal capacities (www.detroitmi.gov)	
Waste Water and Sanitary Sewers (Feasibility and Capacity)	2	The City of Detroit provides waste water sanitary sewer services to the site. The proposed mixed-use/ residential use will not negatively impact the local wastewater treatment facility; the Project will not tax existing capacities (insignificant increase in residential density). (www.dwsd.org). The attached surveys call out sewer sizes (ranging from 6'' to 42''). (Site Plans and Surveys)	
Water Supply (Feasibility and Capacity)	2	The water supply is provided and maintained by the Detroit Water and Sewerage Department (DWSD) and the Great Lakes Water Authority (GLWA). According to the DWSD 2023 Water Quality Report, no water contaminants were	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		detected above the allowable levels and no violations were reported. The Project will not negatively impact local water supply; development would not tax existing capacities (no significant increase in residential density). The project will not result in alteration of the course of a stream or river in a manner that could potentially result in substantial erosion or siltation on- or off-site, or result in downstream flooding. There are no sole source aquifers in the City of Detroit. Water service lines (6'' fire service, 4'' domestic)) will extend from mains running along Saint Antoine, Alfred, vacated Brewster and/or Chrysler Drive. (Attachment 21)	
Public Safety - Police, Fire and Emergency Medical	2	The City of Detroit provides Police services to the area. The Detroit Police Department-8th precinct is located ~2 miles from the Project. (Google Maps). The City of Detroit provides Fire services to the area. There are several fire stations within two (2) miles of the development: Detroit Fire Engine 1 is located ~1/2 mile to the southwest of the Project. (Google Maps). The City of Detroit provides full Emergency Medical services to the area. Ambulance services are provided by 911 assistance. There are several hospitals and emergency facilities located ~1/2 mile north of the Project. Proposed development will not negatively impact local emergency medical facilities (no significant increase in residential density). Attachment 22	
Parks, Open Space and Recreation (Access and Capacity)	2	Recreation centers are located within three (3) miles of the development providing quality recreation and educational programs for all four seasons. The Project development is located within 1 1/2 miles of the Detroit Riverwalk as well as several parks, accessible by walking, car, or bus. The proposed development will not negatively impact community recreation services. (Attachment 23).	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
Transportation and Accessibility (Access and Capacity)	2	The project is located in a developed urban area. The Project will not significantly increase the traffic in the area (no significant increase in residential density). The development of additional parking will provide dedicated, safer parking to Project residents and decrease street congestion in the community. The development is considered to be located in an area with great walkability and accessibility to transit. There are a multitude of public transit opportunities within one mile of the project location. Detroit Department of Transportation (DDOT) has numerous bus stops along Woodward Avenue, ~1/2 mile to the west (Google Maps, DDOT Bus Schedules, Attachment 24).	
Transportation and Accessibility (Access and Capacity)	2	The project is located in a developed urban area. The Project will not significantly increase the traffic in the area (no significant increase in residential density). The development of additional parking will provide dedicated, safer parking to Project residents and decrease street congestion in the community. The development is considered to be located in an area with great walkability and accessibility to transit. There are a multitude of public transit opportunities within one mile of the project location. Detroit Department of Transportation (DDOT) has numerous bus stops along Woodward Avenue, ~1/2 mile to the west (Google Maps, DDOT Bus Schedules, Attachment 24).	
NATURAL FEATURES			
Unique Natural Features /Water Resources	2	The subject site and surrounding land have been fully developed as Urban Land since circa late 1800's. The site use is not agricultural, and the proposed actions will not impact agricultural land. No unique natural features or areas (lakes, rivers, streams, wetlands) are located on or near the subject site. (Field observations, Figures, and aerials in Phase I ESA). Municipal water	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
		and sewer service are provided at the site. The project will not deplete groundwater supplies or interfere with groundwater recharge and will not result in alteration of the course of a stream or river in a manner that could potentially result in substantial erosion or siltation on or off-site or result in downstream flooding. There are no sole source aquifers or natural water resources located at the subject site. (Attachments 13-15).	
Unique Natural Features /Water Resources	2	The subject site and surrounding land have been fully developed as Urban Land since circa late 1800's. The site use is not agricultural, and the proposed actions will not impact agricultural land. No unique natural features or areas (lakes, rivers, streams, wetlands) are located on or near the subject site. (Field observations, Figures, and aerials in Phase I ESA). Municipal water and sewer service are provided at the site. The project will not deplete groundwater supplies or interfere with groundwater recharge and will not result in alteration of the course of a stream or river in a manner that could potentially result in substantial erosion or siltation on or off-site or result in downstream flooding. There are no sole source aquifers or natural water resources located at the subject site. (Attachments 13-15).	
Vegetation / Wildlife (Introduction, Modification, Removal, Disruption, etc.)	2	Based on a review of Wayne County and US Fisheries and Wildlife Services information, five endangered, threatened or candidate species were identified in Wayne County; no critical habitat was identified on the Site. In addition, proposed plans for the site will have no effect on migratory birds or the bald eagle. (US Fish and Wildlife Services Wayne County Endangered Species list.) The Project is vacant land in a heavily urbanized area. (Attachment 8)	
Other Factors 1			
Other Factors 2			

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
CLIMATE AND ENERGY			
Climate Change	2	The project is not located in an area of potential natural hazards (i.e., hurricanes, flooding, drought, wildfire, etc.). The Project area is not reliant on a sole source aquifer. The project is in an area of potential extreme cold and heat conditions. The Project incorporates shelter from extreme weather conditions, including energy efficient heating and cooling and insulated windows. The development team has elected to build the proposed buildings to meet National Green Building Standards Green + Zero energy requirements to ensure the project will be resilient to future conditions and reduce the projects' impact on the environment. Site Plans, Project Narrative	
Energy Efficiency	2	The proposed buildings will go through rigorous site plan approval processes with the City of Detroit's Planning and Development Commission, ensuring that the building features architectural measures that align with the nature of the community as well as the new age green initiatives to lighten the load on the public utility system. The development team has elected to build the proposed buildings to meet National Green Building Certification requirements to ensure the project will be resilient to future conditions and reduce the projects' impact on the environment. Based on the proposed use there is no significant increase in residential density, energy consumption will be consistent with current use in the surrounding area. According to the Michigan Public Service Commission (MPSC), DTE is the provider for electricity and natural gas at the subject site. There are no plans that would substantially increase energy consumption for the area. (Project Narrative)	

Supporting documentation

Attachment 21 DWSD 2023 Water Quality Report.pdf
Attachment 24 transportation.pdf
Attachment 23 Parks and Rec.pdf
Attachment 22 Emergency Response.pdf
Attachment 20 Health Care and Social Services.pdf
Attachment 19 Commercial Facilities Access and Proximity.pdf
Attachment 18 Educational and Cultural.pdf
Attachment 17 zmap4 eastern market.pdf

Additional Studies Performed:

Phase I ESAs dated March 13, 2025, Phase II ESAs dated March 18, 2024, BEAs completed July 11, 2024, ResAPs dated December 2024, Phase I Archeology Trenching Survey dated July 2024, Archaeological Data Recovery Plan dated November 2024

Field Inspection [Optional]: Date and completed by:

Pam Wheeler 2/28/2025 12:00:00 AM

Brewster III Site Photographs.pdf
Brewster II Site Photographs.pdf
Brewster I Site Photographs.pdf
Brewster Wheeler I Project Narrative.pdf
Overall Site Plan.pdf

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

HUD Exchange, State Historic Preservation Office, Federal Emergency Management Agency (FEMA), Michigan Department of Environment, Great Lakes and Energy (EGLE), Michigan Department of Natural Resources, National Wetlands Inventory (NWI), United States Fisheries and Wildlife (USFWS), United States Environmental Protection Agency Water Management Division, Region V, Client Provided Documentation, City of Detroit, Wayne County, Google Maps, SHPO/THPO

List of Permits Obtained:

Public Outreach [24 CFR 58.43]:

Dissemination and/or publication of the findings will be made by the RE as applicable.

Cumulative Impact Analysis [24 CFR 58.32]:

There is no negative cumulative impact on the environment that would result from proposed site development activities. The Project will provide much needed affordable housing in an area that is experiencing growth. The Project will allow lower income wage earners to have access to amenities that they otherwise might not have access to. In addition to the current amenities and opportunities that exist in this project location, there are millions of dollars of planned future investment for this area, making this a great location to live in and provide affordable housing resources.

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

Variations in site redevelopment specifics have been proposed to accommodate demands. The proposed project will have a positive impact with the City of Detroit and is intended to provide much needed affordable housing to the City's most vulnerable. Various options and locations for development were considered. Initially, the Development Team looked at land on Woodward; however, this location in Brush Park was selected to provide residents with access to many services, the Recreational Center, Eastern Market in close proximity, access to transportation, and many other great amenities. The location is in the thriving Brush Park Neighborhood. The new construction project is an opportunity to help provide units to lower-income residents while land is still available. The proximity to the stadium district and all of the jobs and amenities in the area provide an ideal location for residential to find employment and services. The development team worked closely with various City of Detroit departments like Planning and Development and Building, Safety, Engineering and Environmental (BSEED) to do a design review to ensure that alternative designs were considered and feedback was given in order to put together a redevelopment that follows the proper City code and processes and also continues to provide much needed quality affordable housing.

No Action Alternative [24 CFR 58.40(e)]

One alternative is No Action. The No Action alternative would be to allow the subject property to remain vacant, underutilized land. No distinguishable benefits to the human environment would be gained by not choosing to initiate the project. The potential adverse impacts to the human environment of not implementing the project include ongoing security of vacant properties, potential for illicit dumping, potential as an attractive nuisance, and potential depreciation of surrounding properties.

Summary of Findings and Conclusions:

The proposed project as designed will not result in a significant negative impact on the quality of the human environment. The proposed redevelopment of underutilized vacant land will offer a great opportunity to provide affordable housing units in an area that is experiencing tremendous growth and has a need for affordable housing. The housing element of the project centers on new housing opportunities for low and moderate-income residents, providing market rate type aesthetics while creating opportunities to the most in need in the community. The broad range of rents being

offered here will allow for true economic integration, offering a portion of the units at lower income levels, but also offering a significant number of units that can be considered workforce housing units. Additionally, the proximity of this development to other recent developments with higher-end units and rents, as well as all of the other amenities available to the residents in this area, this development aligns with the City's objective of integrating low-income units into areas of opportunity.

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
Historic Preservation	The City has determined that the Undertaking may have an adverse effect on the Brewster Wheeler Archaeology District (BWAD). The City, MSHDA,The City has determined that the Undertaking may have an adverse effect on the Brewster Wheeler Archaeology District (BWAD). The City, MSHDA, DCH SHPO and MHT (signatories) and the ACHP agree that the Undertaking shall be implemented in accordance with the following stipulations over a period of up to seven (7) years: I. Phase III Archaeological Data Recovery, conducted in accordance with the Archaeology Data Recovery Plan. II. Oral History Documentation will be compiled III. A Final Technical Report will be provided at the end of	N/A	A Memorandum of Agreement was signed between the City of Detroit, Detroit Housing Commission, Michigan State Housing Development Authority, the developer and the MI SHPO to outline the stipulations needed in order to take into account the effect of the undertaking on historic properties.	

	mitigation activities IV. Public Education Material will be created to reach the broader public. Based on the response, the review is in compliance with this section. Document and upload the signed Memorandum of Agreement (MOA) or Standard Mitigation Measures Agreement (SMMA) below.			
Contamination and Toxic Substances	Response activities to mitigate unacceptable exposures include excavation and exposure barriers (hardscape/engineered barriers).	N/A	The ResAP summarizes mitigation measures to prevent potential unacceptable human exposures	
Noise Abatement and Control	The building materials are relied upon as barriers to mitigate noise. The HUD STraCAT electronic tool was utilized to conduct a site-specific noise assessment. The assessment indicated the wall assemblies meet required attenuation. Wall construction components include 4'' face brick; Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud. Window construction includes vinyl windows.	N/A	Building materials will be used to mitigate potential human exposures for noise.	

Project Mitigation Plan

Refer to the attached Mitigation Plan for a summary of the response activity or continuing obligation, required activities, responsible party, timing, costs and required follow up.

Mitigation Plan - Brewster I II III 05012025.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

The project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport. The distance to the closest airport (Coleman A. Young {CAY}) is approximately 4.25 miles northeast. The project is in compliance with Airport Hazards requirements.

Supporting documentation

Attachment 1 Airports.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

This project is not located in a CBRS Unit. Therefore, this project has no potential to impact a CBRS Unit and is in compliance with the Coastal Barrier Resources Act.

Supporting documentation

Attachment 2 CBRS Map.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.

✓ Yes

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

Attachment 3 FEMA Firmette.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. Provide FEMA/FIRM floodplain zone designation, panel number, and date within your documentation.

Is the structure, part of the structure, or insurable property located in a FEMA-designated Special Flood Hazard Area?

✓ No

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 structure or insurable property is not located in a FEMA-designated Special Flood Hazard Area. The Project is located in Zone X - Area of Minimal Flood Hazard. The project is in compliance with flood insurance requirements. Refer to attached FEMA panel #26163C0285F, effective date 10/21/2021.

Supporting documentation

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

Air Quality Attainment Status of Project's County or Air Quality Management District

2. Is your project's air quality management district or county in non-attainment or maintenance status for any criteria pollutants?

No, project's county or air quality management district is in attainment status for all criteria pollutants.

✓ Yes, project's management district or county is in non-attainment or maintenance status for the following criteria pollutants (check all that apply):

Carbon Monoxide

Lead

Nitrogen dioxide

Sulfur dioxide

✓ Ozone

Particulate Matter, <2.5 microns

Particulate Matter, <10 microns

3. What are the *de minimis* emissions levels (40 CFR 93.153) or screening levels for the non-attainment or maintenance level pollutants indicated above

Ozone 100.00 ppb (parts per million)

Provide your source used to determine levels here:
https://www.epa.gov/general-conformity/de-minimis-emission-levels

4. **Determine the estimated emissions levels of your project. Will your project exceed any of the de minimis or threshold emissions levels of non-attainment and maintenance level pollutants or exceed the screening levels established by the state or air quality management district?**

✓ No, the project will not exceed *de minimis* or threshold emissions levels or screening levels.

Enter the estimate emission levels:

Ozone 0.00 ppb (parts per million)

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

Yes, the project exceeds *de minimis* emissions levels or screening levels.

Screen Summary

Compliance Determination

As of July 2023, the Project area in Wayne County is in attainment status for Carbon Monoxide, Lead, Nitrogen Dioxide, Sulfur Dioxide and Particulate Matter. The project area is in maintenance status for the following: Ozone. EGLE is currently working to complete the required SIP submittals 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 project, and it was determined that based on the size, scope and duration of the project, emission levels for the project should not exceed de minims levels for general conformity. The project is in compliance with the Clean Air Act.

Supporting documentation

Attachment 4 naaqs ambient status map.pdf
Attachment 4 Gen Conformity Letter Brewster Wheeler.pdf
Attachment 4 Attainment Close Up Map.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

This project is not located in or does not affect a Coastal Zone as defined in the state Coastal Management Plan. The project is in compliance with the Coastal Zone Management Act.

Supporting documentation

Attachment 5 ArcGIS Coastal Zone Management Areas.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)
Reference		
https://www.onecpd.info/environmental-review/site-contamination		

1. How was site contamination evaluated?* Select all that apply.

- ✓ ASTM Phase I ESA
- ✓ ASTM Phase II ESA
- ✓ Remediation or clean-up plan
- ✓ ASTM Vapor Encroachment Screening.

None of the above

* HUD regulations at 24 CFR § 58.5(i)(2)(ii) require that the environmental review for multifamily housing with five or more dwelling units or non-residential property include the evaluation of previous uses of the site or other evidence of contamination on or near the site.
For acquisition and new construction of multifamily and nonresidential properties HUD strongly advises the review include an ASTM Phase I Environmental Site Assessment (ESA) to meet real estate transaction standards of due diligence and to help ensure compliance with HUD's toxic policy at 24 CFR §58.5(i) and 24 CFR §50.3(i). Also note that some HUD programs require an ASTM Phase I ESA.

2. Were any on-site or nearby toxic, hazardous, or radioactive substances* (excluding radon) 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?)

Provide a map or other documentation of absence or presence of contamination** and explain evaluation of site contamination in the Screen Summary at the bottom of this screen.

No

Explain:

✓ Yes

* This question covers the presence of radioactive substances excluding radon. Radon is addressed in the Radon Exempt Question.
** Utilize EPA's Enviromapper, NEPAssist, or state/tribal databases to identify nearby dumps, junk yards, landfills, hazardous waste sites, and industrial sites, including EPA National Priorities List Sites (Superfund sites), CERCLA or state-equivalent sites, RCRA Corrective Action sites with release(s) or suspected release(s) requiring clean-up action and/or further investigation. Additional supporting documentation may include other inspections and reports.

3. Evaluate the building(s) for radon. Do all buildings meet any of the exemptions* from having to consider radon in the contamination analysis listed in CPD Notice CPD-23-103?

Yes

Explain:

✓ No

* Notes:
- Buildings with no enclosed areas having ground contact.
- Buildings containing crawlspaces, utility tunnels, or parking garages would not be exempt, however buildings built on piers would be exempt, provided that there is open air between the lowest floor of the building and the ground.
- Buildings that are not residential and will not be occupied for more than 4 hours per day.
- Buildings with existing radon mitigation systems - document radon levels are below 4 pCi/L with test results dated within two years of submitting the application for HUD assistance and document the system includes an ongoing maintenance plan that includes periodic testing to ensure the system continues to meet the current EPA recommended levels. If the project does not require an application, document test results dated within two years of the date the environmental review is certified. Refer to program office guidance to ensure compliance with program requirements.
- Buildings tested within five years of the submission of application for HUD assistance: test results document indoor radon levels are below current the EPA's recommended action levels of 4.0 pCi/L. For buildings with test data older than five years, any new environmental review must include a consideration of radon using one of the methods in Section A below.

4. Is the proposed project new construction or substantial rehabilitation where testing will be conducted but cannot yet occur because building construction has not been completed?

Yes

Compliance with this section is conditioned on post-construction testing being conducted, followed by mitigation, if needed. Radon test results, along with any needed mitigation plan, must be uploaded to the mitigation section within this screen.

✓ No

5. Was radon testing or a scientific data review conducted that provided a radon concentration level in pCi/L?

✓ Yes

No

If no testing was conducted and a review of science-based data offered a lack of science-based data for the project site, then document and upload the steps taken to look for documented test results and science-based data as well as the basis for the conclusion that testing would be infeasible or impracticable.

Explain:

File Upload:

Based on the response, the review is in compliance with this section. Continue to the Screen Summary at the bottom of this screen.

Non-radon contamination was found in a previous question.

6. How was radon data collected?

All buildings involved were tested for radon

✓ A review of science-based data was conducted

Enter the Radon concentration value, in pCi/L, derived from the review of science-based data:

0.74

Provide the documentation* used to derive this value:

Per the HUD CPD-23-103 Policy for Addressing Radon, the City of Detroit has elected to follow Consideration III A ii. 3) Scientific Data Review to determine whether the project site is located in an area that has average documented radon levels at or above 4 pCi/L. The Housing and Revitalization Department (HRD) has collected radon samples throughout the City of Detroit. According to the HRD Indoor Radon Map, the City is in a geographic area with radon under the levels suggested for mitigation. Since November 2023, fifty-nine (59) tests were taken throughout the City. The average results of the tests are 0.74 pCi/L. Based on the samples taken in the City and the results averaging under 4 pCi/L, no additional testing is required.

File Upload:

Attachment 6 Map Of Michigan Radon Levels.pdf
Attachment 6 HRD Indoor Radon Map 04-18-24.pdf

Based on the response, the review is in compliance with this section. Continue to the Screen Summary at the bottom of this screen.

Radon concentration value is greater than or equal to 4.0 pCi/L and/or non-radon contamination was found in a previous question. Continue to Mitigation.

* For example, if you conducted radon testing then provide a testing report (such as an ANSI/AARST report or DIY test) if applicable (note: DIY tests are not eligible for use in multifamily buildings), or documentation of the test results. If you conducted a scientific data review, then describe and cite the maps and data used and include copies of all supporting documentation. Ensure that the best available data is utilized, if conducting a scientific data review.

8. Mitigation

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

For instances where radon mitigation is required (i.e. where test results demonstrated radon levels at 4.0 pCi/L and above), then you must include a radon mitigation plan*.

Can all adverse environmental impacts be mitigated?

No, all adverse environmental impacts cannot feasibly be mitigated. Project cannot proceed at this location.

✓ Yes, all adverse environmental impacts can be eliminated through mitigation, and/or consideration of radon and radon mitigation, if needed, will occur following construction.
Provide all mitigation requirements** and documents in the Screen Summary at the bottom of this screen.

* Refer to CPD Notice CPD-23-103 for additional information on radon mitigation plans.
** Mitigation requirements include all clean-up requirements required by applicable federal, state, tribal, or local law. Additionally, please upload, as applicable, the long-term operations and maintenance plan, Remedial Action Work Plan, and other equivalent documents.

9. Describe how compliance was achieved. 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.**

Response activities to mitigate unacceptable exposures include excavation and exposure barriers (hardscape/engineered barriers).

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

Complete removal

✓ Risk-based corrective action (RBCA)

Other

* Engineering controls are any physical mechanism used to contain or stabilize contamination or ensure the effectiveness of a remedial action. Engineering controls may include, caps, covers, dikes, trenches, leachate collection systems, radon mitigation systems, signs, fences, physical access controls, ground water monitoring systems and ground water containment systems including, slurry walls and ground water pumping systems.
** Institutional controls are mechanisms used to limit human activities at or near a contaminated site, or to ensure the effectiveness of the remedial action over time, when contaminants remain at a site at levels above the applicable remediation standard which would allow for unrestricted use of the property. Institutional controls may include structure, land,

and natural resource use restrictions, well restriction areas, classification exception areas, deed notices, and declarations of environmental restrictions.

Screen Summary

Compliance Determination

There are no buildings/structures on the Project site; lead and asbestos determination was not applicable. The Project is located in Wayne County, MI, The project area is shaded green (EGLE Radon Map), with 9% of first-time tests above 2pCi/L. The project is located in Wayne County, Zone 3 for Radon. The City has elected to use scientific data in lieu of testing after construction is complete. Based on the samples taken in the City and the results averaging under 4 pCi/L, no additional testing is required. Site contamination was evaluated as follows: ASTM Phase I ESA's (including vapor encroachment screen) dated March 13, 2025, ASTM Phase II ESA's dated March 18, 2024, BEA's dated July 11, 2024 (EGLE acknowledgement August 7, 2024). ResAP's were completed in December 2024. On-site or nearby toxic, hazardous, or radioactive substances were found that could affect the health and safety of project occupants or conflict with the intended use of the property. RECs were identified, including 1) historic site operations (auto repair, electrical shop, lumber yard, junkyard, potential drycleaner, bottle manufacturer, coal yard and coal furnace); 2) potential use of imported fill material and 3) potential for offsite migration and/or potential vapor sources from adjoining historic operations. Phase II subsurface investigation confirmed soil contamination at levels greater than their respective Generic Residential Cleanup Criteria. Groundwater was not encountered. Analytical results conveyed impacts of arsenic, lead, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and/or dibenzo(a,h)anthracene are present in soil exceeded EGLE Part 201 Direct Contact Criteria at the Subject Property from depths ranging from 0.5 foot to 8 feet below ground surface. Response activities to mitigate unacceptable exposures include excavation and exposure barriers (hardscape/engineered barriers). A copy of the EGLE Notice of Approval of the ResAPs dated January 2025 are included as an attachment. Excavation will be performed for geotechnical reasons to depths estimated at 2 to 7 feet. Excavated soil will be transported to a licensed landfill for disposal. All excavations will include placement of clean backfill. The fill material brought to the site will be documented as clean by analytical results from samples collected from the site of origin documenting that the material does not contain volatile organic compounds, polynuclear aromatic hydrocarbons, or Michigan Ten Metals at concentrations above the applicable generic cleanup criteria. Hardscapes will consist of buildings, new asphalt or concrete. Engineered soil barriers will consist of a minimum of 12 inches in vertical thickness overlying a demarcation fabric comprised of orange geotextile. Daily reports, a photo log, and all other documentation (e.g., survey data, truck tickets, etc.) will be completed during the construction of the Engineered Soil Barrier areas. This

documentation will be included in the subsequent Documentation of Due Care Compliance (DDCC) report. Adverse environmental impacts can be mitigated. With mitigation, identified in the mitigation section of this review, the project will be in compliance with contamination and toxic substances requirements.

Supporting documentation

Attachment 7C1 Brewster III Phase I.pdf
Attachment 7C2 Brewster III Phase II.pdf
Attachment 7C3 Brewster III BEA.pdf
Attachment 7C4 Brewster III ResAP.pdf
Attachment 7B2 Brewster II Phase II.pdf
Attachment 7B4 Brewster II ResAP.pdf
Attachment 7B3 Brewster II BEA.pdf
Attachment 7B1 Brewster II Phase I.pdf
Attachment 7A4 Brewster I ResAP.pdf
Attachment 7A3 Brewster I BEA.pdf
Attachment 7A2 Brewster I Phase II ESA.pdf
Attachment 7A1 Brewster I Phase I.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 *et seq*.); particularly section 7 (16 USC 1536).	50 CFR Part 402

1. Does the project involve any activities that have the potential to affect specifies 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

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

2. Are federally listed species or designated critical habitats present in the action area?

✓ No, the project will have No Effect due to the absence of federally listed species and designated critical habitat

Based on the response, the review is in compliance with this section. Document and upload all documents used to make your determination below. Documentation may include letters from the Services, species lists from the Services' websites, surveys or other documents and analysis showing that there are no species in the action area.

Yes, there are federally listed species or designated critical habitats present in the action area.

Screen Summary

Compliance Determination

This project has been determined to have No Effect on listed species. Based on a review of Wayne County and US Fisheries and Wildlife Services information, a total of five endangered, threatened, or candidate species were identified in Wayne County; no critical habitat was identified on the Project sites. In addition, proposed plans for the site will have no effect on migratory birds or the bald eagle. (US Fish and Wildlife Services Wayne County Endangered Species list.). The project is urban infill. This project is in compliance with the Endangered Species Act without mitigation.

Supporting documentation

Attachment 8 Species List Michigan Ecological Services Field Office.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

✓ Yes

4. Based on the analysis, is the proposed HUD-assisted project located at or beyond the required separation distance from all covered tanks?

✓ Yes

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

No

Screen Summary

Compliance Determination

The Project is not a hazardous facility. HMA utilized the EDR Database Report, Google Earth aerial imagery and observations from the site to evaluate for ASTs within one mile of the Project. No fire or explosion hazards were identified, except one 2,000-gallon diesel fuel AST situated over 2,000 feet to the northwest at the American Red Cross located at 100 Mack Avenue. HMA utilized the HUD ASD assessment tool and confirmed the site was located at a distance significantly beyond the ASD radius. The project is in compliance with explosive and flammable hazard requirements.

Supporting documentation

Attachment 9 ASTs.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:

The Project consists of Urban Land.

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

This project does not include any activities that could potentially convert agricultural land to a non-agricultural use. The Project consists of Urban Land. The project is in compliance with the Farmland Protection Policy Act.

Supporting documentation

Attachment 10 Web Soil Survey.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 * Executive Order 13690 * 42 USC 4001-4128 * 42 USC 5154a * only applies to screen 2047 and not 2046	24 CFR 55

1. Does this project meet an exemption at 24 CFR 55.12 from compliance with HUD's floodplain management regulations in Part 55?

Yes

(a) HUD-assisted activities described in 24 CFR 58.34 and 58.35(b).

(b) HUD-assisted activities described in 24 CFR 50.19, except as otherwise indicated in § 50.19.

(c) The approval of financial assistance for restoring and preserving the natural and beneficial functions and values of floodplains and wetlands, including through acquisition of such floodplain and wetland property, where a permanent covenant or comparable restriction is place on the property's continued use for flood control, wetland projection, open space, or park land, but only if:
(1) The property is cleared of all existing buildings and walled structures; and
(2) The property is cleared of related improvements except those which:
(i) Are directly related to flood control, wetland protection, open space, or park land (including playgrounds and recreation areas);
(ii) Do not modify existing wetland areas or involve fill, paving, or other ground disturbance beyond minimal trails or paths; and
(iii) Are designed to be compatible with the beneficial floodplain or wetland function of the property.

(d) An action involving a repossession, receivership, foreclosure, or similar acquisition of property to protect or enforce HUD's financial interests under previously approved loans, grants, mortgage insurance,

or other HUD assistance.

(e) Policy-level actions described at 24 CFR 50.16 that do not involve site-based decisions.

(f) A minor amendment to a previously approved action with no additional adverse impact on or from a floodplain or wetland.

(g) HUD's or the responsible entity's approval of a project site, an incidental portion of which is situated in the FFRMS floodplain (not including the floodway, LiMWA, or coastal high hazard area) but only if: (1) The proposed project site does not include any existing or proposed buildings or improvements that modify or occupy the FFRMS floodplain except de minimis improvements such as recreation areas and trails; and (2) the proposed project will not result in any new construction in or modifications of a wetland .

(h) Issuance or use of Housing Vouchers, or other forms of rental subsidy where HUD, the awarding community, or the public housing agency that administers the contract awards rental subsidies that are not project-based (i.e., do not involve site-specific subsidies).

(i) Special projects directed to the removal of material and architectural barriers that restrict the mobility of and accessibility to elderly and persons with disabilities.

Describe:

✓ No

2. Does the project include a Critical Action? Examples of Critical Actions include projects involving hospitals, fire and police stations, nursing homes, hazardous chemical storage, storage of valuable records, and utility plants.

Yes

Describe:

✓ No

3. Determine the extent of the FFRMS floodplain and provide mapping documentation in support of that determination

The extent of the FFRMS floodplain can be determined using a Climate Informed Science Approach (CISA), 0.2 percent flood approach (0.2 PFA), or freeboard value approach (FVA). For projects in areas without available CISA data or without FEMA Flood Insurance Rate Maps (FIRMs), Flood Insurance Studies (FISs) or Advisory Base Flood Elevations (ABFEs), use the best available information[1] to determine flood elevation. Include documentation and an explanation of why this is the best available information[2] for the site. Note that newly constructed and substantially improved[3] structures must be elevated to the FFRMS floodplain regardless of the approach chosen to determine the floodplain.

Select one of the following three options:

CISA for non-critical actions. If using a local tool , data, or resources, ensure that the FFRMS elevation is higher than would have been determined using the 0.2 PFA or the FVA.

✓ 0.2-PFA. Where FEMA has defined the 0.2-percent-annual-chance floodplain, the FFRMS floodplain is the area that FEMA has designated as within the 0.2-percent-annual-chance floodplain.

FVA. If neither CISA nor 0.2-PFA is available, for non-critical actions, the FFRMS floodplain is the area that results from adding two feet to the base flood elevation as established by the effective FIRM or FIS or — if available — a FEMA-provided preliminary or pending FIRM or FIS or advisory base flood elevations, whether regulatory or informational in nature. However, an interim or preliminary FEMA map cannot be used if it is lower than the current FIRM or FIS.

[1] Sources which merit investigation include the files and studies of other federal agencies, such as the U. S. Army Corps of Engineers, the Tennessee Valley Authority, the Soil Conservation Service and the U. S. Geological Survey. These agencies have prepared flood hazard studies for several thousand localities and, through their technical assistance programs, hydrologic studies, soil surveys, and other investigations have collected or developed other floodplain information for numerous sites and areas. States and communities are also sources of information on past flood 'experiences within their boundaries and are particularly knowledgeable about areas subject to high-risk flood hazards such as alluvial fans, high velocity flows, mudflows and mudslides, ice jams, subsidence and liquefaction.

[2] If you are using best available information, select the FVA option below and provide supporting documentation in the screen summary. Contact your local environmental officer with additional compliance questions.

[3] Substantial improvement means any repair or improvement of a structure which costs at least 50 percent of the market value of the structure before repair or improvement or results in an increase of more than 20 percent of the number of dwelling units. The full definition can be found at 24 CFR 55.2(b)(12).

5. Does your project occur in the FFRMS floodplain?

Yes

✓ No

Screen Summary

Compliance Determination

This project does not occur in the FFRMS floodplain. The project is in compliance with Executive Orders 11988 and 13690. The project is not located in a FEMA-designated Special Flood Hazard Area. The Project is located in Zone X - Area of Minimal Flood Hazard. Refer to attached FEMA panel #26163C0285F, effective date 10/21/2021.

Supporting documentation

Attachment 3 FEMA Firmette(1).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 Completed

✓ 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 Otawa & Chippewa Indians	Completed
✓ Hannahville Indian Community	Completed
✓ Ketegitigaaning Ojibwe Nation	Completed
✓ lac du Flambeau Band of Lake Superior Chippewa	Completed
✓ Little River Band of Ottawa	Completed
✓ Little Traverse Bay Bands of Odawa	Completed
✓ Match-E-Be-Nash-She-Sish Band of Potawatomi	Completed
✓ Menominee Indian Tribe of Wisconsin	Completed
✓ Miami Tribe of Oklahoma	Completed
✓ Notawaseppi Huron Band of the Potawatomi	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 City of Detroit works under a programmatic agreement with the Michigan SHPO and Advisory Council on Historic Preservation. Consulting Parties were invited to participate in the creation of the agreement. Additional consultation was conducted to resolve the adverse effect. Consulting parties included the City of Detroit Historic Designation Advisory Board and Planning and Development Department, Preservation Detroit, and the Michigan Historic Preservation Network.

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:**
   This information is available as an attachment.

   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:

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:

   An archaeology survey was conducted. An Archaeology Summary Memo has been prepared by the City of Detroit, see attachments.

   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

✓ Adverse Effect

Document reason for finding; upload the criteria with summary and justification. Criteria of Adverse Effect 36 CFR 800.5.

The Phase I Archaeological trenching report documented archaeological sites that appeared to be eligible for NRHP. The finding of Adverse Effect was concurred with by SHPO in a recommendation letter dated August 13, 2024.

Step 4 – Resolve Adverse Effects

Work with consulting parties to try to avoid, minimize or mitigate adverse effects. Refer to HUD Exchange guidance and 36 CFR 800.6 and 800.7.

Were the Adverse Effects resolved?

✓ Yes

Describe the resolution of Adverse Effects, including consultation efforts and participation by the Advisory Council on Historic Preservation:

A Memorandum of Agreement was signed between the City of Detroit, Detroit Housing Commission, Michigan state Housing Development Authority, the developer, and the MI SHPO to outline the stipulations needed in order to take into account the effect of the undertaking on historic properties. Consultation to define the stipulations was conducted through e-mail and virtual meetings. Associated documentation is attached.

For the project to be brought into compliance with this section, all adverse impacts must be mitigated. Explain in detail the exact measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.

The City has determined that the Undertaking may have an adverse effect on the Brewster Wheeler Archaeology District (BWAD). The City,

MSHDA,The City has determined that the Undertaking may have an adverse effect on the Brewster Wheeler Archaeology District (BWAD). The City, MSHDA, DCH SHPO and MHT (signatories) and the ACHP agree that the Undertaking shall be implemented in accordance with the following stipulations over a period of up to seven (7) years:
I. Phase III Archaeological Data Recovery, conducted in accordance with the Archaeology Data Recovery Plan.
II. Oral History Documentation will be compiled
III. A Final Technical Report will be provided at the end of mitigation activities
IV. Public Education Material will be created to reach the broader public.

Based on the response, the review is in compliance with this section. Document and upload the signed Memorandum of Agreement (MOA) or Standard Mitigation Measures Agreement (SMMA) below.

Based on the response, the review is in compliance with this section. Document and upload the signed Memorandum of Agreement (MOA) or Standard Mitigation Measures Agreement (SMMA) below.

No

Screen Summary

Compliance Determination

Based on Section 106 consultation the project will have an Adverse Effect on historic properties. With mitigation, as identified in the MOA or SMMA, the project will be in compliance with Section 106. Satisfactory implementation of the mitigation should be monitored.

Supporting documentation

Sanctuary Brewster Wheeler Archaeology MOA Final May 1 2025.pdf
The Sanctuary at Brewster Section 106 report Kidorff.pdf
SHPO24-337 MIN 324.pdf
SHPO24-337 AE Sanctuary at Brewster and Brewster Wheeler I II III.pdf
SHPO 24-337 Archaeological Data Recovery Plan response.pdf
SHPO 24-337 AE824.pdf
Sanctuary at Brewster Section 106 Letter 31325.pdf
MSHDAThe Sanctuary at Brewster THPO Packet.pdf
MSHDAPokagon 106 No Adverse Effect The Sanctuary at Brewster New Housing Construction Detroit MI.docx
MSHDA RE Section 106 Review Proposed project in Wayne County The Sanctuary at Brewster.msg

mishpo section106 application The Sanctuary at Brewster Detroit 1272023 signed.pdf
January 16-AE Consulting Parties Meeting Notes.pdf
COD Sanctuary at Brewster and Brewster Wheeler I-III Adverse Effect Notification Invitation to Consult.pdf
City of Detroit Tribal Consultaiton AE Brewster Wheeler I-III and The Sanctuary at Brewster.pdf
Brewster Wheeler 106AE Consulting Parties Meeting Presentation 11625.pdf
ArchSummaryMemoSanctuaryBrewster20250314.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

NOTE: HUD assistance to new construction projects is generally prohibited if they are located in an Unacceptable zone, and HUD discourages assistance for new construction projects in Normally Unacceptable zones. See 24 CFR 51.101(a)(3) for further details.

Rehabilitation of an existing residential property

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))

Is your project in a largely undeveloped area?

✓ No

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

Yes

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.

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:

The building materials are relied upon as barriers to mitigate noise. The HUD STraCAT electronic tool was utilized to conduct a site-specific noise assessment. The assessment indicated the wall assemblies meet required attenuation. Wall construction components include 4'' face brick; Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud. Window construction includes vinyl windows.

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 at the site. Noise levels were calculated to be an average of 71dB for the proposed buildings. Since the DNL is in excess of 65 decibels, building materials are relied upon as barriers to mitigate noise. The HUD STraCAT electronic tool was utilized to conduct a site-specific noise assessment. The assessment indicated the wall assemblies meet required attenuation. Wall construction components include 4'' face brick; Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud. Window construction includes vinyl windows. The project is in compliance with HUD's Noise regulation with mitigation.

Supporting documentation

Attachment 12 Brewster II Noise Assessment.pdf
Attachment 12 Brewster I Noise Assessment.pdf
Attachment 12 Brewster III Noise Assessment.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

✓ No

2. Is the project located on a sole source aquifer (SSA)?

A sole source aquifer is defined as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. This includes streamflow source areas, which are upstream areas of losing streams that flow into the recharge area.

✓ No

Based on the response, the review is in compliance with this section. Document and upload documentation used to make your determination, such as a map of your project (or jurisdiction, if appropriate) in relation to the nearest SSA and its source area, below.

Yes

Screen Summary

Compliance Determination

The project is not located on a sole source aquifer area. There are no sole source aquifers in Michigan. The project is in compliance with Sole Source Aquifer requirements.

Supporting documentation

Attachment 13 No Sole Source Aquifer in MI.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

✓ Yes

2. Will the new construction or other ground disturbance impact an on- or off-site wetland? The term "wetlands" means those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

"Wetlands under E.O. 11990 include isolated and non-jurisdictional wetlands."

✓ No, a wetland will not be impacted in terms of E.O. 11990's definition of new construction.

Based on the response, the review is in compliance with this section. Document and upload a map or any other relevant documentation below which explains your determination

Yes, there is a wetland that be impacted in terms of E.O. 11990's definition of new construction.

Screen Summary
Compliance Determination

The project will not impact on- or off-site wetlands. The project is in compliance with Executive Order 11990.

Supporting documentation

Attachment 14 Wetlands MapViewer.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

This project is not within proximity of a NWSRS river. The project is in compliance with the Wild and Scenic Rivers Act.

Supporting documentation

Attachment 15 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

Adverse environmental impacts are not disproportionately high for low-income and/or minority communities. The Project does not create adverse environmental or human health impacts. The mitigation measures addressing subsurface contamination (summarized in EGLE approved ResAP), noise (STraCAT building materials), and historic preservation (MOA) will mitigate potential adverse environmental impacts and/or human exposures. Therefore, the project is in compliance with Executive Order 12898.

Supporting documentation

Attachment 16 EJScreen Community Report.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Mitigation Plan
Brewster Wheeler I, II, III
NEPA EA April 2025

Response Activity or Continuing Obligation	Required Activities	Party Responsible for Completing Activity	Timing of Activity	Cost	Required Follow-up or Reporting
ResAP – excavation and exposure barriers	Historic uses of the site were identified as RECs, with subsurface investigation confirming soil contamination at levels greater than their respective Generic Residential Cleanup Criteria. Groundwater was not encountered. Response activities to mitigate unacceptable exposures include excavation and exposure barriers (hardscape/engineered barriers). Mitigation measures to be implemented in accordance with the EGLE approved ResAPs (approved January 2025). • Excavation will performed for geotechnical reasons to depths estimated at 2 to 7 feet. Excavated soil will be transported to a licensed landfill for disposal. • Hardscapes will consist of buildings, new asphalt or concrete. • Engineered soil barriers will consist of a minimum of 12 inches of vertical thickness. • Daily reports, a photo log, and all other documentation (e.g., survey data, truck tickets, etc.) will be completed during the construction of the Engineered Soil Barrier areas.	Contractor	During Construction	Phase I $411,600 Phase II $413,000 Phase III $469,700	Include results in DDCC report.
ResAP – Clean Fill	The fill material brought to the site will be documented as clean by analytical results from samples collected from the site of origin documenting that the material does not contain metals at concentrations above the applicable generic direct contact criteria.	Contractor	During Construction	Phase I $61,400 Phase II $60,640 Phase III $61,400	Include results in DDCC report.

Mitigation Plan
Brewster Wheeler I, II, III
NEPA EA April 2025

Documentation of Due Care Compliance	A. Complete a DDCC report and submit to EGLE. Engineering controls will require an Operations and Maintenance plan. B. Additional requirements such as a Restrictive Covenants and/or a recorded Notice to Title may be requested depending on site conditions.	Consultant	Post Construction	$6,500 (per Phase)	Provide report to City.
Noise Analysis – Unacceptable Noise	Appropriate construction materials will be incorporated in the building to mitigate noise levels within the acceptable range. The HUD STraCAT electronic tool was used to conduct a site specific noise assessment. The assessment indicated the wall assemblies meet required attenuation. The project is in compliance with HUD's Noise regulation with mitigation. Wall construction components include 4'' face brick; exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud. Window construction includes vinyl windows.	Architect, Construction, Crew, Foremen, Developer,	During Construction	NA	Building specs
Section 106 – Adverse Effect Requirements	The City has determined that the Undertaking may have an adverse effect on the Brewster Wheeler Archaeology District (BWAD). The City, MSHDA, DCH SHPO and MHT (signatories) and the ACHP agree that the Undertaking shall be implemented in accordance with the following stipulations over a period of up to seven (7) years: I. Phase III Archaeological Data Recovery, conducted in accordance with the Archaeology Data Recovery Plan. II. Oral History Documentation will be compiled III. A Final Technical Report will be provided at the end of mitigation activities IV. Public Education Material will be created to reach the broader public.	General Contractor	Prior to/during Construction	Phase I $473,400 Phase II $362,000 Phase III $476,800	Include findings in Archaeological Data Recovery report.
Section 106 – Unanticipated Discoveries Plan	During the Undertaking, the SHPO approved Unanticipated Discoveries Plan shall be followed for the duration of the project.	Construction Crew, Foremen, Developer	During Construction	NA	Unanticipated Discoveries Plan included in MOA

U.S. Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410
www.hud.gov
espanol.hud.gov

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

Project Information

Project Name: Brewster-Wheeler-I,-II,-III

HEROS Number: 900000010465691

Start Date: 04/21/2025

Project Location: 631 Alfred St, Detroit, MI 48201

Additional Location Information:
3 acres of land, bound by St. Antoine, Alfred St. and Chrysler Drive. Addresses include 631, 651 and 671 Alfred Street.

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:
MHT Housing proposes new construction of an affordable apartment community located at the former Brewster Wheeler Recreation Center site in Detroit, Michigan. The overall development consists of approximately 6 acres, and when completed, will include four (4) separate housing developments (Phase I through IV) and a fully rehabilitated recreation center. This Environmental Assessment (EA) is specific to Brewster Wheeler I, Brewster Wheeler II and Brewster Wheeler III. Phase (IV) of the overall project, the Sanctuary at Brewster, was included in a separate EA. The Brewster Wheeler I, II and III developments consist of redevelopment of approximately 3 acres of currently vacant land. The vacant land is at the southern portion of a larger parcel of land (#03003160-70), approximately 6 acres in size, and bound by Alfred Street to the south, Wilkins Street to the North, St. Antione to the west and Chrysler Drive to the east. The parent parcel of land is currently owned by Spar Bar, LLC. The south portions designated as Brewster Wheeler I, Brewster Wheeler II and Brewster Wheeler III will be purchased by Brewster I LDHA, LLC, Brewster II LDHA, LLC and Brewster III LDHA, LLC, respectively. Brewster Wheeler I will include construction of a new mixed-use building, having a footprint of approximately 12,863 sq ft, located at 671 Alfred Street. The building offers 53 units (26 one-bedroom and 27 two-bedroom plans). The building has four floors, with the first floor providing community space and 11 units, with floors 2, 3 and 4 having 14 units per floor. Unit sizes average from approximately 651 sq ft to 872 sq. ft. The building is situated on the eastern portion of the proposed parcel. The west portion of the proposed parcel will be developed with parking (23 spaces) and a proposed accessible pavilion. Brewster Wheeler II will include construction of a new mixed-use building, having a footprint of approximately 13,240 sq ft, located at 651 Alfred Street. The building offers 53 units (26 one-bedroom and 27 two-bedroom plans). The building has four floors, with the first floor providing community space and 11 units, with floors 2, 3 and 4 having 14 units per floor. Unit sizes average from 651 sq ft to 873 sq. ft. The building is situated on the north portion of the proposed parcel. The south portion of the

proposed parcel will be developed with parking (30 spaces). Brewster Wheeler III will include construction of a new mixed-use building, having a footprint of approximately 12,863 sq ft, located at 631 Alfred Street. The building offers 53 units (26 one-bedroom and 27 two-bedroom plans). The building has four floors, with the first floor providing community space and 11 units, with floors 2, 3 and 4 having 14 units per floor. Unit sizes average from 651 sq ft to 872 sq. ft. The building is situated on the western portion of the proposed parcel. The east portion of the proposed parcel will be developed with parking (27 spaces) and a proposed accessible pavilion. This Environmental Review is valid for up to five years. Total HUD funded amount is $1,490,600 in HOME 2024 and 24 Project-Based Vouchers from the Detroit Housing Commission (DHC)

Funding Information

Grant Number	HUD Program	Program Name	
M1001	Public Housing	Project-Based Voucher Program	$0.00
M24MC260202	Community Planning and Development (CPD)	HOME Program	$1,490,600.00

Estimated Total HUD Funded Amount: $1,490,600.00

Estimated Total Project Cost [24 CFR 58.2 (a) (5)]: $58,872,100.00

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
Historic Preservation	The City has determined that the Undertaking may have an adverse effect on the Brewster Wheeler Archaeology District (BWAD). The City, MSHDA,The City has determined that the Undertaking may have an adverse effect on the Brewster Wheeler Archaeology District (BWAD). The City, MSHDA, DCH SHPO and MHT (signatories) and the ACHP agree that the Undertaking shall be implemented in accordance with the following stipulations over a period of up to seven (7) years: I. Phase III Archaeological Data Recovery, conducted in accordance with the Archaeology Data Recovery Plan. II. Oral History Documentation will be compiled III. A Final Technical Report will be provided at the end of mitigation activities IV. Public Education Material will be created to reach the broader public.

	Based on the response, the review is in compliance with this section. Document and upload the signed Memorandum of Agreement (MOA) or Standard Mitigation Measures Agreement (SMMA) below.
Contamination and Toxic Substances	Response activities to mitigate unacceptable exposures include excavation and exposure barriers (hardscape/engineered barriers).
Noise Abatement and Control	The building materials are relied upon as barriers to mitigate noise. The HUD STraCAT electronic tool was utilized to conduct a site-specific noise assessment. The assessment indicated the wall assemblies meet required attenuation. Wall construction components include 4'' face brick; Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud. Window construction includes vinyl windows.

Project Mitigation Plan

Refer to the attached Mitigation Plan for a summary of the response activity or continuing obligation, required activities, responsible party, timing, costs and required follow up.

Mitigation Plan - Brewster I II III 05012025.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

Preparer Signature: DocuSigned by: Kim Siegel 9390B097C5434FC... **Date:** 5/13/2025

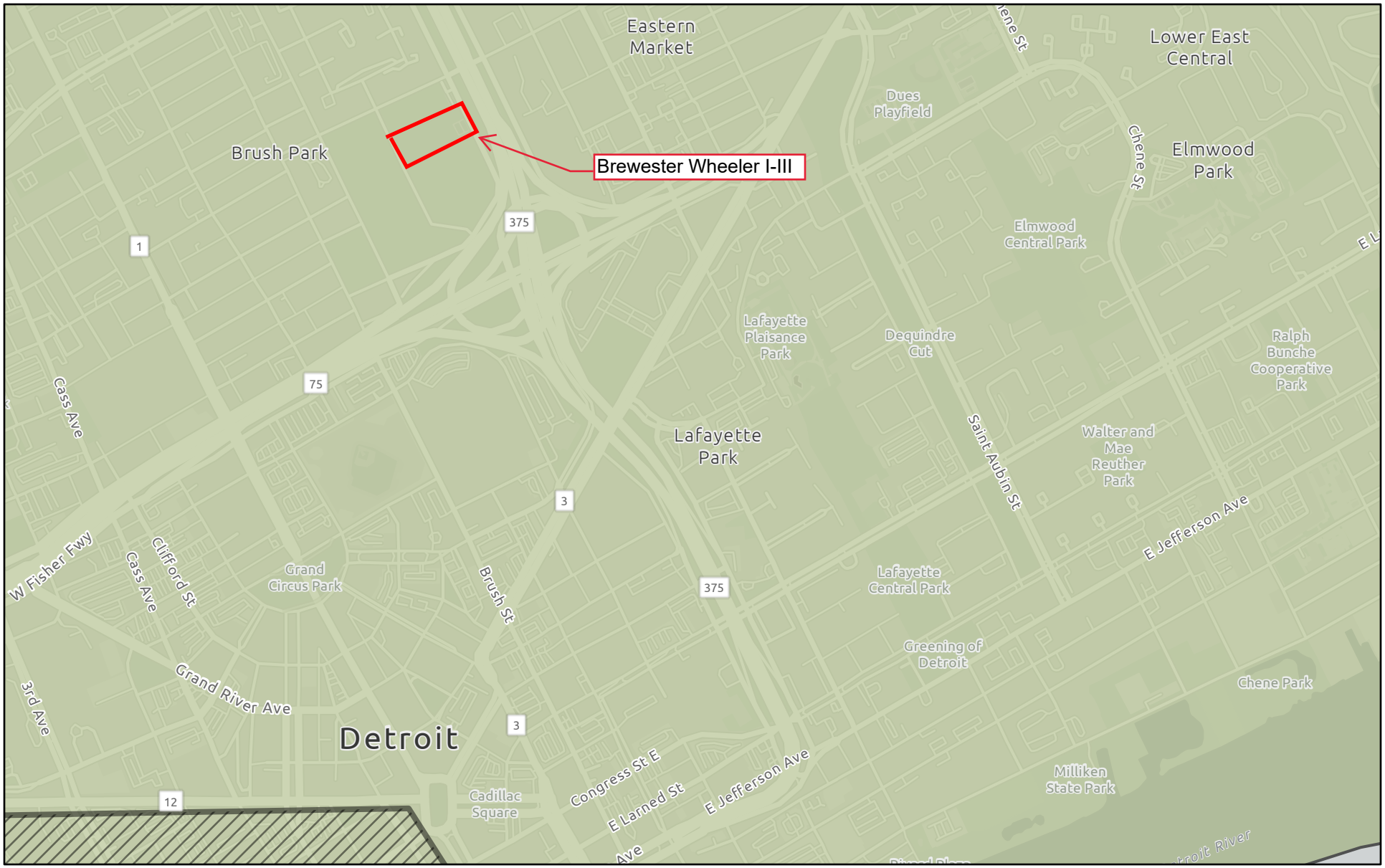
Name / Title/ Organization: Kim Siegel / / DETROIT

Certifying Officer Signature: DocuSigned by: E17050515DAF4C9... **Date:** 5/13/2025

Name/ Title: Julie Schneider, Director, Housing and Revitalization Department

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environment Review Record (ERR) for the activity / project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

Air Monitoring Sites



5/8/2024, 4:16:59 PM

1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

Area Designations - 2015 Ozone Standard

Attainment/Maintenance

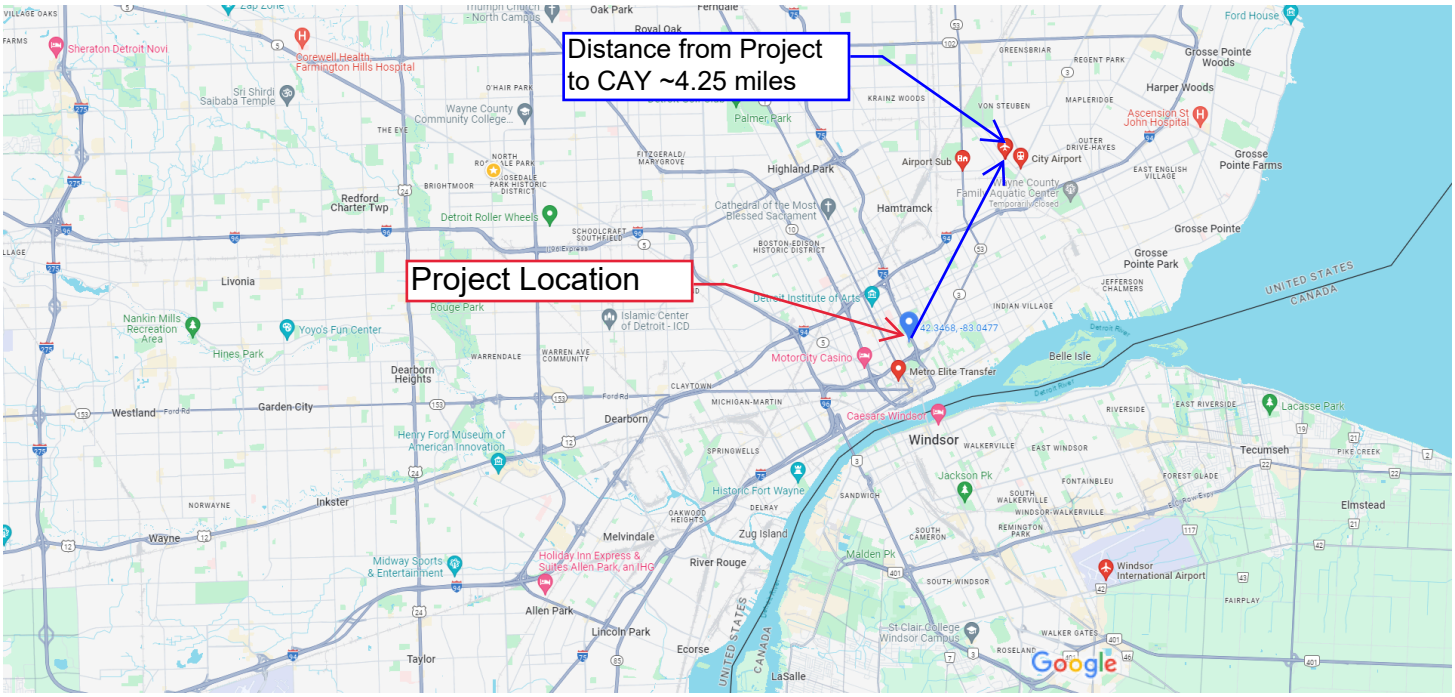
Primary Sulfur Dioxide National Ambient Air Quality Standard Nonattainment Areas - 2010 - Sulfur Dioxide Non Attainment Areas

Esri Community Maps Contributors, City of Windsor, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/

EGLE

Airports

Distance from Project to Selfridge Air National Guard ~20 miles NE



Map data ©2024 Google 2 mi

Rating Hours All filters

Results

Coleman A. Young International Airport
4.4 (51)
International airport · 11499 Conner St

"Great airport near the city."

Windsor International Airport
4.1 (360)
International airport · 3200 County Rd 42 Unit #200

"Small airport, easy to maneuver around, amm main airlines represented."

Detroit Metropolitan Wayne County Airport
4.3 (18,486)
International airport
Airport with a vibrant, musical tunnel

"Like most large airports."

Bishop International Airport
4.5 (1,366)
International airport · 3425 Bristol Rd

"Small international airport serving, Allegiant, American, and United."

U.S. Fish and Wildlife Service

Coastal Barrier Resources System Mapper Documentation

CBRS Units

Otherwise Protected Area
System Unit
CBRS Buffer Zone
-83.047891, 42.34676

0 65 130 260 390 ft

1:4,514

The pin location displayed on the map is a point selected by the user. Failure of the user to ensure that the pin location displayed on this map correctly corresponds with the user supplied address/location description below may result in an invalid federal flood insurance policy. **The U.S. Fish and Wildlife Service (Service) has not validated the pin location with respect to the user supplied address/location description below. The Service recommends that all pin locations be verified by federal agencies prior to use of this map for the provision or denial of federal funding or financial assistance**. Please note that a structure bisected by the Coastal Barrier Resources System (CBRS) boundary (i.e., both "partially in" and "partially out") is within the CBRS and therefore affected by CBRA's restrictions on federal flood insurance. A pin placed on a bisected structure must be placed on the portion of the structure within the unit (including any attached features such as a deck or stairs).

User Name: Julie Pratt
User Organization: ECS
User Supplied Address/Location Description: Sanctuary at Brewster
Pin Location: Outside CBRS
Pin Flood Insurance Prohibition Date: N/A
Pin System Unit Establishment Date: N/A

The user placed pin location is not within the CBRS. The official CBRS maps are accessible at https://www.fws.gov/library/collections/official-coastal-barrier-resources-system-maps.

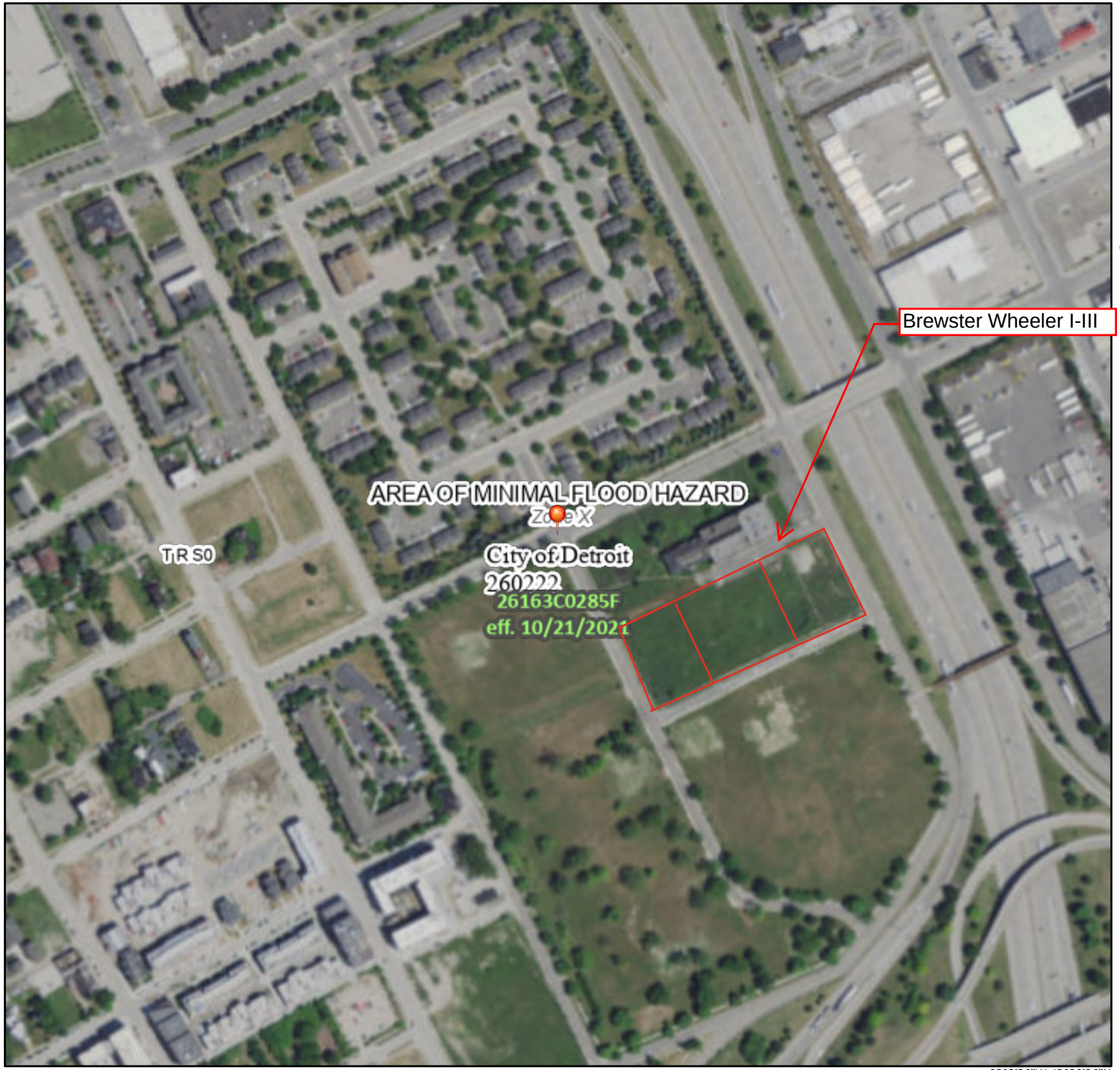
The CBRS information is derived directly from the CBRS web service provided by the Service. This map was exported on 5/11/2024 and does not reflect changes or amendments subsequent to this date. The CBRS boundaries on this map may become superseded by new boundaries over time.

This map image may be void if one or more of the following map elements do not appear: basemap imagery, CBRS unit labels, prohibition date labels, legend, scale bar, map creation date. For additional information about flood insurance and the CBRS, visit: https://www.fws.gov/node/263838.

National Flood Hazard Layer FIRMette

FEMA

83°3'13"W 42°21'2"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

83°2'36"W 42°20'36"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- 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 *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- 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
- 513 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

N

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 5/11/2024 at 7:36 PM 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.

Attainment Status for the National Ambient Air Quality Standards

EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

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

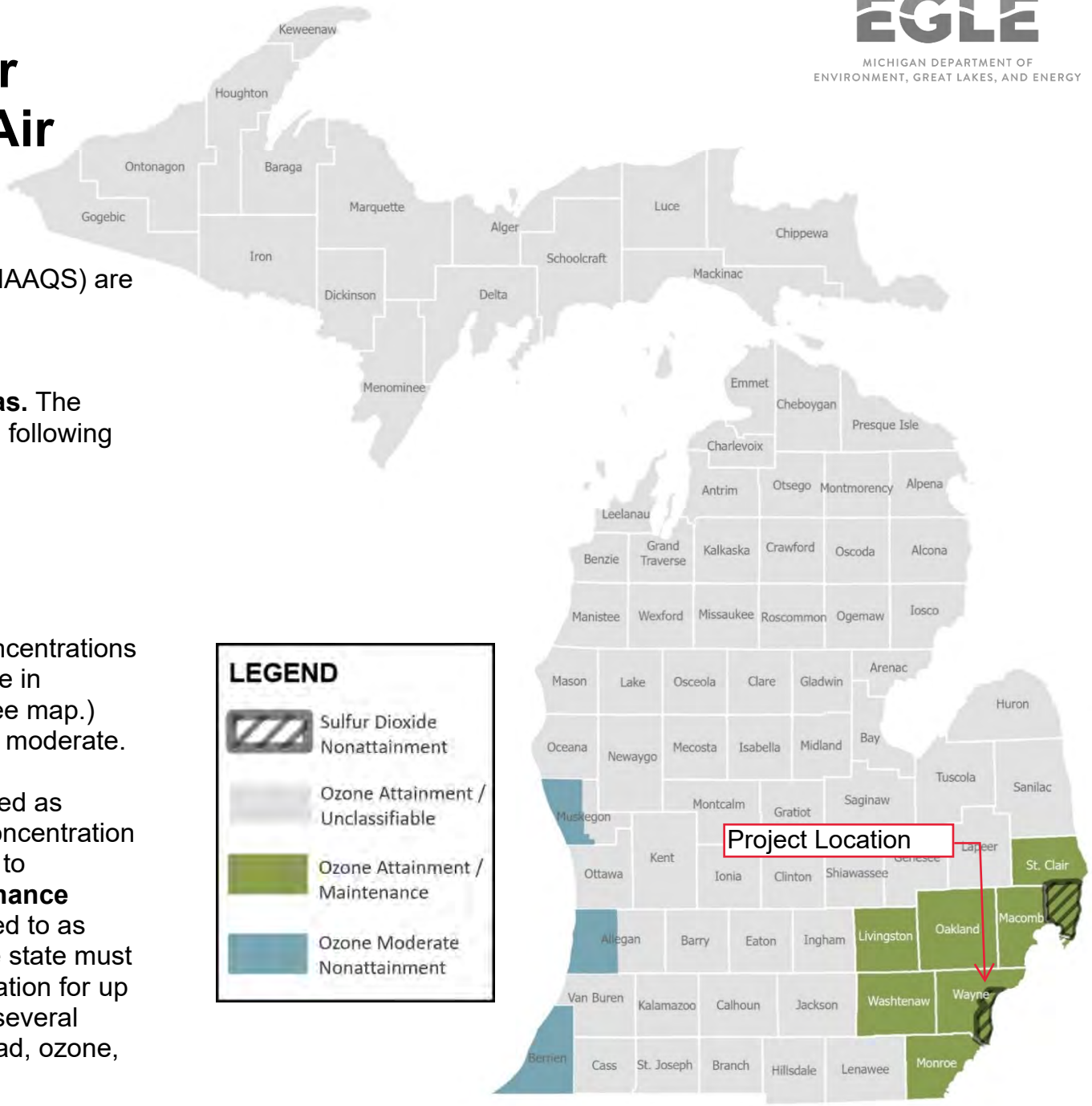
Areas of the state that are below the NAAQS concentration level are called **attainment areas.** The entire state of Michigan is in attainment for the following pollutants:

- Carbon Monoxide (CO)
- Lead (Pb)
- Nitrogen Dioxide (NO2)
- Particulate Matter (PM10 & PM2.5)

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.*



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

Updated July 2023

Close-Up Maps of Partial County Nonattainment Areas

Sulfur Dioxide Nonattainment Areas

St. Clair County

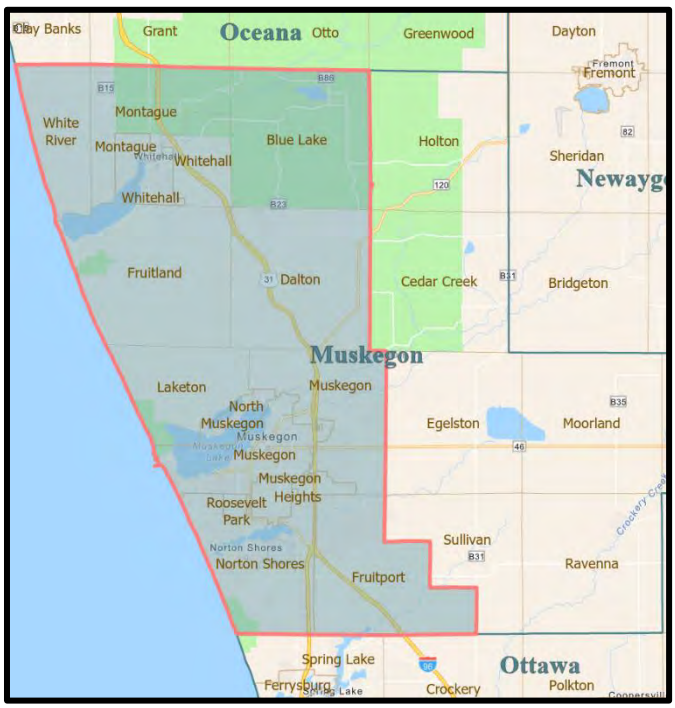
Wayne County

Project is located outside of the non-attainment area

Ozone Moderate Nonattainment Areas

Allegan County

Muskegon County



EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Updated July 2023

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION

GRETCHEN WHITMER
GOVERNOR

PHILLIP D. ROOS
DIRECTOR

March 12, 2025

Julie Pratt
Environmental Consulting Solutions
523 West Sunnybrook Drive
Royal Oak, Michigan 48073

Via Email Only

Dear Julie Pratt:

Subject: Brewster Wheeler Phases I, II, III and The Sanctuary at Brewster (Phase IV)

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 ozone standard; and thus, general conformity must be evaluated when completing construction projects of a given size and scope. EGLE has completed the required SIP submittals for this area and on May 19, 2023, the United States Environmental Protection Agency (USEPA) redesignated the seven-county southeast Michigan area (including Wayne County) from nonattainment to attainment/maintenance. General conformity does, however, still require an evaluation during the maintenance period. For this evaluation, EGLE considered the following information from the 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 Brewster Wheeler Phases I, II, III and The Sanctuary at Brewster (Phase IV) Project proposed to be completed with federal grant monies, including the new construction of four phases of multifamily residential apartments. The project involves four separate phases of new construction to be completed on a currently vacant 6.27-acre "parent parcel" located at 2900 St. Antoine in Detroit, Michigan. The four phases of construction include associated parking and are detailed below:

- Phase I - New construction, 4-story residential building, approximate 13,144 square foot (ft^2) footprint (commercial plus 8 ground floor residential units; floors 2 through 4 consisting of 14 residential apartment units per floor).
- Phase II - New construction, 4 story residential building, approximate 13,273 ft^2 footprint (community space plus 11 ground floor residential units; floors 2 through 4 consisting of 14 residential apartment units per floor)

- Phase III - New construction, 4-story residential building, approximate 13,218 ft^2 footprint (community space plus 8 ground floor residential units; floors 2 through 4 consisting of 15 residential apartment units per floor).
- Phase IV - New construction, 4-story residential building, approximate 11,594 ft^2 footprint (community space plus 11 ground floor residential units; floors 2 through 4 consisting of 18 residential apartment units per floor).

The project will be funded by two Housing and Urban Development funding programs; City of Detroit and Michigan State Housing Development Authority will be providing funding on one or more of the phases. The project is expected to commence in Spring 2025 and construction is estimated to continue through 2026.

In reviewing the *"Air Quality and Greenhouse Gas Study: Uptown Orange Apartments in Orange, California,"* dated December 2012, prepared for KTGY 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 Brewster Wheeler Phases I, II, III and The Sanctuary at Brewster (Phase IV) Project proposed for completion in Wayne County, Michigan, 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,

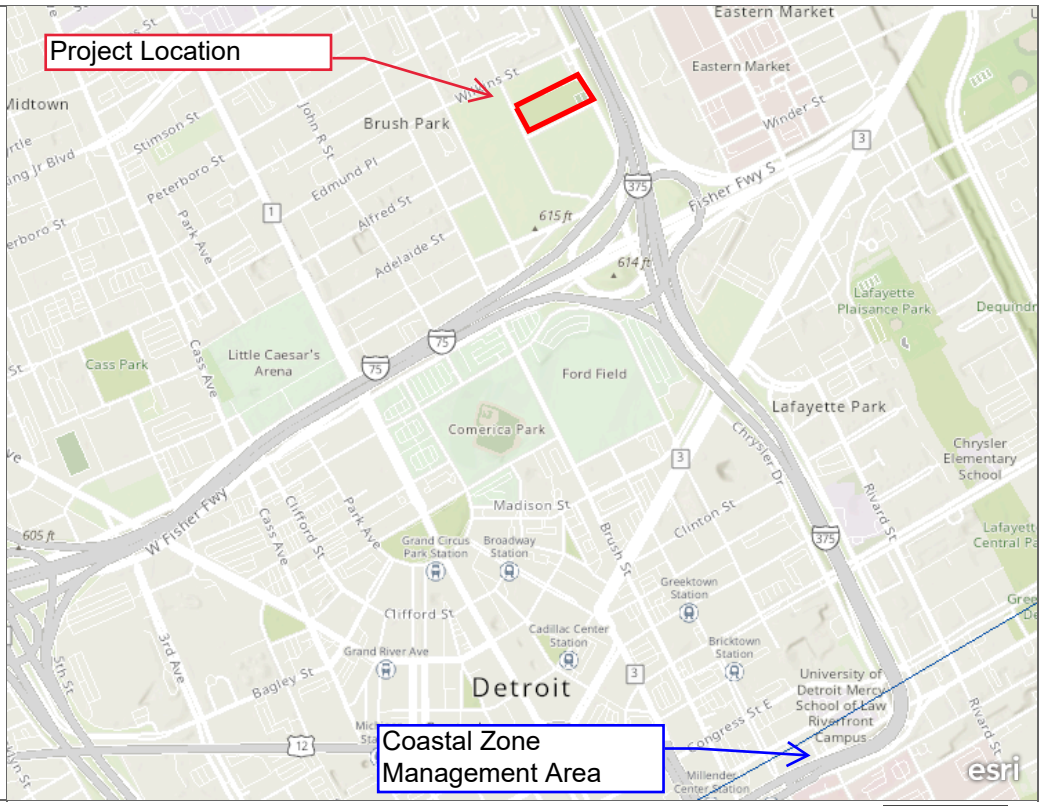
Breanna Bukowski

Breanna Bukowski
Environmental Quality Analyst
Air Quality Division

cc: Michael Leslie, USEPA Region 5
Kim Siegel, City of Detroit, Housing and Revitalization Department
Michael Vollick, Michigan State Housing Development Authority

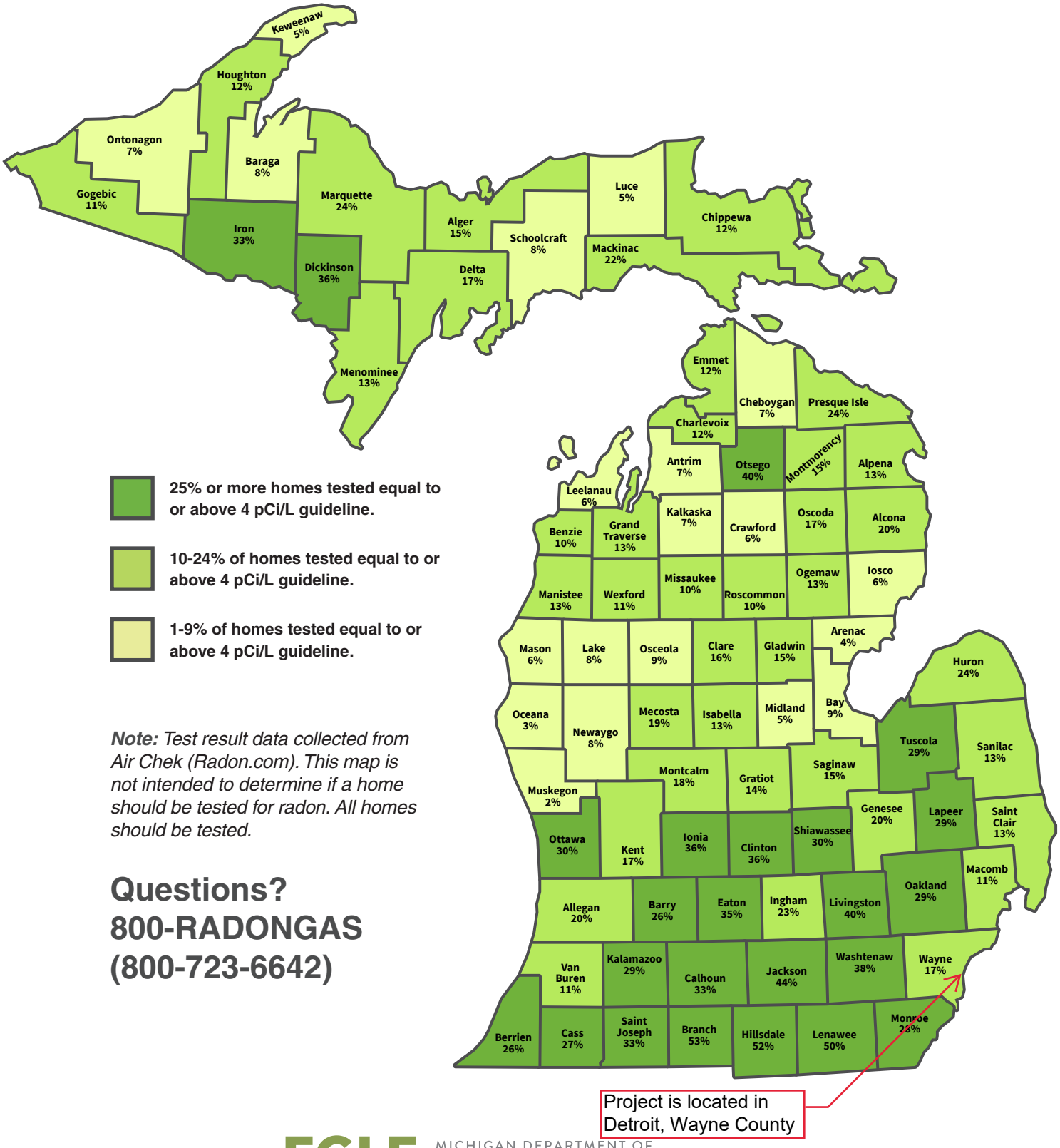
Coastal Zone Management Areas

Coastal Zone Management Areas



A detailed digital geographic representation of the coastal zone management boundary applied under the Coastal Zone Management Act of 1972 (P.L. 92-583) within the State of Michigan.

Percentage of Elevated Radon Test Results by County



Note: *Test result data collected from Air Chek (Radon.com). This map is not intended to determine if a home should be tested for radon. All homes should be tested.*

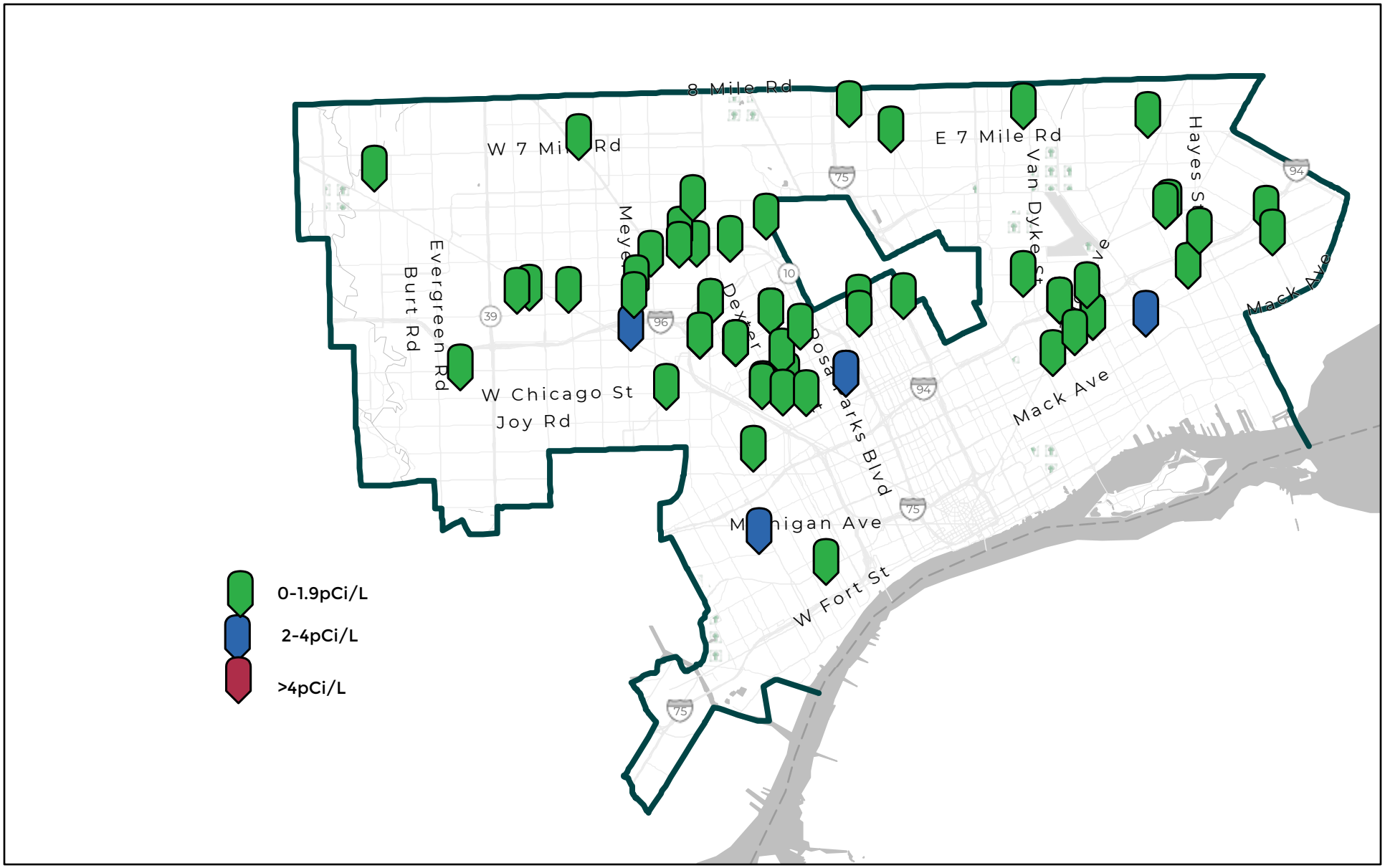
Questions?
800-RADONGAS
(800-723-6642)

EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

800-662-9278 | Michigan.gov/radon

12/2019

HRD Indoor Radon Map



4/18/2024

1:216,371

0 1.25 2.5 5 mi

0 2.25 4.5 9 km

The City of Detroit Housing and Revitalization Department (HRD) collects radon data from some HUD funded programs. This data is shown on the HRD Indoor Radon Map. The number of lab tests collected is 59 and the average level of radon detected is 0.74pCi/L. This is below the recommended mitigation level of 4pCi/L. The map is updated approximately every 6 months since testing began in November of 2023.

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

In Reply Refer To: 04/17/2025 20:06:03 UTC
Project Code: 2025-0085010
Project Name: Brewster Wheeler I, II and III

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:

Official Species List
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.

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 IPaC website (https://ipac.ecosphere.fws.gov/) at regular intervals during project planning and implementation. To update an Official Species List in IPaC: from the My Projects page, find the project, expand the row, and click Project Home. In the What's Next box on the Project Home page, there is a Request Updated List button to update your species list. Be sure to select an "official" species list for all projects.

Consultation requirements and next steps
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 two approaches to evaluating the effects of a project on listed species.

Approach 1. Use the All-species Michigan determination key in IPaC. This tool can assist you in making determinations for listed species for some projects. In many cases, the determination key

will provide an automated concurrence that completes all or significant parts of the consultation process. Therefore, we strongly recommend screening your project with the **All-Species Michigan Determination Key (Dkey)**. For additional information on using IPaC and available Determination Keys, visit https://www.fws.gov/media/mifo-ipac-instructions (and click on the attachment), or for a video overview, please visit: https://www.youtube.com/watch?v=FfcerNCiL0I. Please carefully review your Dkey output letter to determine whether additional steps are needed to complete the consultation process.

Approach 2. Evaluate the effects to listed species on your own without utilizing a determination key. Once you obtain your official species list, you are not required to continue in IPaC, although in most cases using a determination key should expedite your review. If the project is a Federal action, you should review our section 7 step-by-step instructions before making your determinations: https://www.fws.gov/office/midwest-region-headquarters/midwest-section-7-technical-assistance. If you evaluate the details of your project and conclude "no effect," document your findings, and your listed species review is complete; you do not need our concurrence on "no effect" determinations. If you cannot conclude "no effect," you should coordinate/consult with the Michigan Ecological Services Field Office. The preferred method for submitting your project description and effects determination (if concurrence is needed) is electronically to EastLansing@fws.gov. Please include a copy of this official species list with your request.

For all **wind energy projects**, 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.

Migratory Birds
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 prohibits the take and disturbance of eagles without a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at https://www.fws.gov/program/eagle-management 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/partner/council-conservation-migratory-birds.

We appreciate your consideration of threatened and endangered species during your project

planning. Please include a copy 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
- Bald & Golden Eagles
- 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

Project Code: 2025-0085010
Project Name: Brewster Wheeler I, II and III
Project Type: Federal Grant / Loan Related
Project Description: Redevelopment of currently vacant land with new multi-family housing developments.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.34640895,-83.0467864475387,14z

Counties: Wayne County, Michigan

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 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 Fisheries[1], 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 *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949 General project design guidelines: https://ipac.ecosphere.fws.gov/project/OLIEA4MVEZCGRIGQW5V6X7NSOA/documents/generated/6982.pdf	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions: ▪ 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) *Sistrurus catenatus* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ For all Projects: Project is within EMR Range Species profile: https://ecos.fws.gov/ecp/species/2202 General project design guidelines: https://ipac.ecosphere.fws.gov/project/OLIEA4MVEZCGRIGQW5V6X7NSOA/documents/generated/5280.pdf	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Eastern Prairie Fringed Orchid *Platanthera leucophaea*	Threatened

NAME	STATUS

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/601

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

---

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

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* 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

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

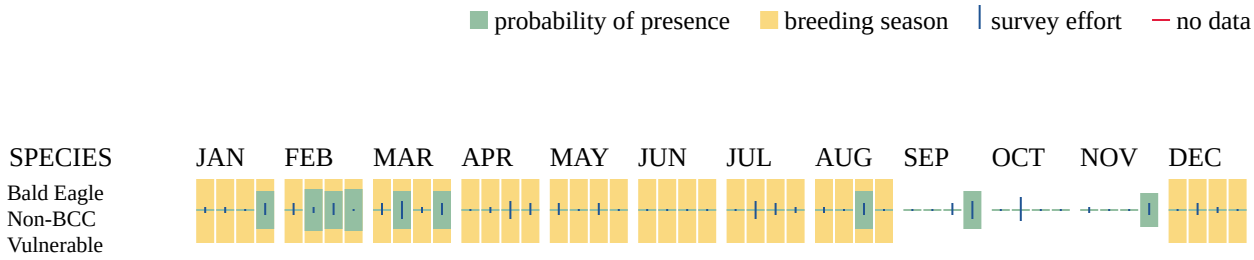
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* 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
Black-billed Cuckoo *Coccyzus erythropthalmus* 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
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9643	Breeds May 20 to Aug 10
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

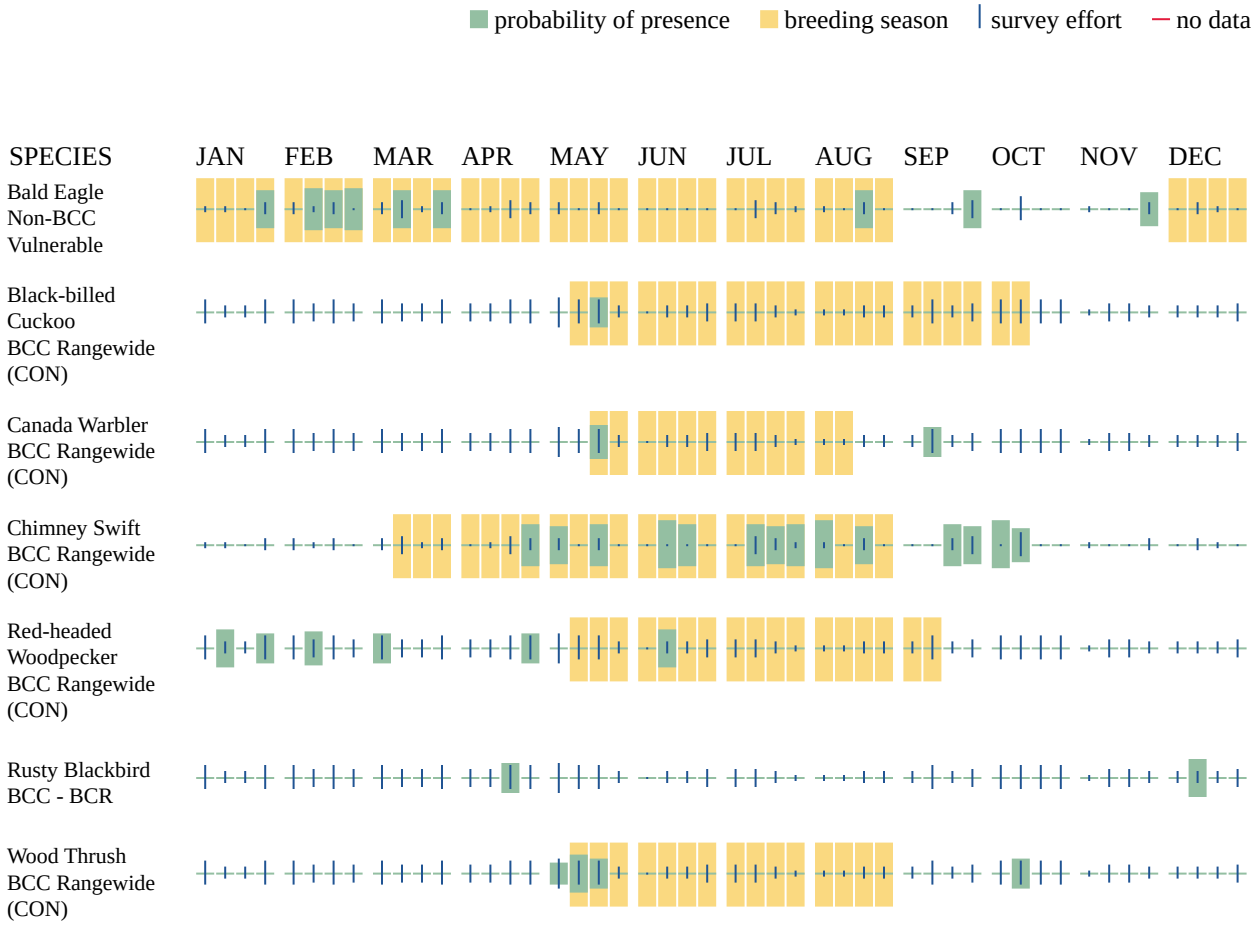
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds

- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

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.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

100 Mack Ave

Imagery ©2025 Airbus, CNES / Airbus, Maxar Technologies, Map data ©2025 500 ft

100 Mack Ave

Building

Directions | Save | Nearby | Send to phone | Share

100 Mack Ave, Detroit, MI 48201

Photos

Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD-Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☑ **No:** ☐
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☑
Is the container diked?	**Yes:** ☐ **No:** ☐
What is the volume (gal) of the container?	2000
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	275.44
ASD for Thermal Radiation for People (ASDPPU)	369.16
ASD for Thermal Radiation for Buildings (ASDBPU)	69.27
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options (/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

pose an unacceptable risk and no further sampling or mitigation is necessary. As such, a volatilization to indoor air pathway risk is not present and a VEC has been ruled out.

9.10 Aboveground Storage Tanks

HMA utilized the EDR Database Report, Google Earth™ aerial imagery, and observations from the site reconnaissance to evaluate the presence of ASTs in the vicinity of the Subject Property. No ASTs were identified within a 1,000-foot radius from the Subject Property. The nearest AST identified by EDR is one 2,000-gallon diesel fuel AST situated over 2,000 feet to the northwest of the Subject Property, at the American Red Cross addressed as 100 Mack Avenue.

HMA utilized the HUD electronic Acceptable Separation Distance (ASD) assessment tool to confirm the acceptable separation distance (ASD). Using both pressurized and non-pressurized container assumptions, the Subject Property is situated beyond the ASD radius of 369.16 feet. A copy of the ASD documentation is included in Appendix 10.7F.

9.11 Lead in Drinking Water

Compliance with Michigan's revised Lead and Copper rule (EGLE) is required by MSHDA for all municipally supplied and Type I Community Water supply systems. HMA reviewed the Water Supply Lead Results provided by the Michigan Department of Health and Human Services. Based on the results, the City of Detroit (Public Water Supply ID MI0001800) last monitoring event ended on December 31, 2023, and the lead 90th percentile was reported as 9 parts per billion (ppb), which is below the Action Level Exceedance (ALE) of 15 ppb. The copper 90th percentile was reported as 0.11 parts per million (ppm), which is below the ALE of 1.3 ppb. The next sampling event was scheduled for September 30, 2024. The most recent Detroit Water Quality Report is provided as Appendix 10.7G.

9.12 Mold

As there are no structures currently located on the Subject Property, mold observations were not conducted.

Search

Soil Reports

Open All | Close All

- AOI Inventory
- Building Site Development
- Construction Materials
- Disaster Recovery Planning
- **Land Classifications**
  - Conservation Tree and Shrub Suitability Groups
  - Forage Suitability Groups
  - Hydric Soil List - All Components
  - Hydric Soils
  - Land Capability Classification
  - NCCPI Overall
  - Prime and other Important Farmlands

View Description | View Soil Report

Options

This report has no options.

View Description | View Soil Report

  - Taxonomic Classification of the Soils
- Land Management
- Recreational Development
- Sanitary Facilities
- Soil Chemical Properties
- Soil Erosion
- Soil Health
- Soil Physical Properties
- Soil Qualities and Features
- Vegetative Productivity
- Waste Management
- Water Features
- Water Management

Soil Map

Scale (not to scale)

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

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular sc
The soil surveys that comprise your AOI were mapped at 1:12,000. The design of map units and the level of detail shown in the resulting
map are dependent on that map scale.

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

Report — Prime and other Important Farmlands

Wayne County, Michigan

Map Symbol	Map Unit Name	Farmland Classification
MidaaA	Midtown gravelly-artifactual sandy loam, 0 to 2 percent slopes	Not prime farmland
MiduaB	Midtown-Urban land complex, 0 to 4 percent slopes	Not prime farmland

Description — Prime and other Important Farmlands

Prime and Important Farmland

This table lists the map units in the survey area that are considered important farmlands. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

For some of the soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

In some areas that are not identified as having national or statewide importance, land is considered to be *farmland of local importance* for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

Housing and Revitalization Department

Coleman A. Young Municipal Center
2 Woodward Avenue. Suite 908
Detroit, Michigan 48226

Phone: 313.224.6380
Fax: 313.224.1629
www.detroitmi.gov

March 13, 2025

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 the Sanctuary at Brewster, located at 2900 St. Antoine St. 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.

MHT Housing Inc. proposes new development of the affordable housing development commonly referred to as The Sanctuary at Brewster in Detroit Michigan - Phase IV (Phases I-III were included in the initial Section 106 application and resulting Memorandum of Agreement but are included in a separate Environmental Assessment). The development, located at 2900 St. Antoine Street, Detroit, Michigan, is in the Brush Park area in the currently vacant lot just west of the Brewster Recreation Building (657 Brewster Street). The Brewster Recreation Building, adjacent to the northeast, is currently undergoing rehabilitation without federal funds (Brewster-Wheeler housing project – Phase V).

The new development will occupy the former playfields northwest of the Brewster Recreation Building. The Direct Area of Potential Effect (APE) includes a vacant lot in an urban setting adjacent to the Brewster Wheeler Recreation Center Local Historic District. The new parking lot associated with the Sanctuary development project extends into the district's boundaries and has received a Certificate of Appropriateness from the Detroit Historic District Commission. Because the proposed buildings, parking lots, and landscaping have similar massing, heights, and materials to other new buildings in the neighborhood, and due to the amount of vacant land surrounding the APE, there is limited potential to affect the setting, atmosphere, feeling, or characteristics of properties beyond the immediate surroundings. Therefore the project will not adversely affect the Brewster Wheeler Recreation Center Local Historic District.

Per Stipulation VI of Programmatic Agreement (PA), the proposed undertaking qualified for review by SHPO's archaeologist and consultation with Tribes. A desktop archaeology assessment of the project area was completed by Misty Jackson of Arbre Croche Cultural Resources, LLC. The archaeological assessment found that the Project area exhibited a high degree of sensitivity for 19th- and 20th-century archaeological resources. Jackson recommended Phase I archaeological

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test trenching to identify, delineate and evaluate such resources. The SHPO concurred with these recommendations in a letter dated March 22, 2024.

On March 24, 2024, the Michigan State Housing Development Authority (MSHDA) initiated Tribal Consultation with the following Tribes:

Forest County Potawatomi Community of Wisconsin
Hannahville Indian Community
Lac du Flambeau Band of Lake Superior Chippewa Indians
Little Traverse Bay Bands of Odawa Indians
Menominee Indian Tribe of Wisconsin
Miami Tribe of Oklahoma
Pokagon Band of Potawatomi Indians, Michigan and Indiana
Sault Ste. Marie Tribe of Chippewa Indians
Seneca Cayuga Nation

The Forest County Potawatomi Community (FCPC) and Pokagon Band of Potawatomi Indians Tribal Historic Preservation Officers responded with a finding of No Historic Properties affected of significance to the FCPC and requested to remain as a consulting party for this project.

In April 2024, MHT retained The Mannik & Smith Group, Inc. (MSG) to prepare a Phase I archaeological trenching plan and to conduct the trenching for all four development phases. The trenching plan was approved by the SHPO in a letter dated May 8, 2024. MSG subsequently completed the archaeological trenching from May 28-June 19, 2024.

The Phase I archaeological trenching report for the Sanctuary at Brewster was submitted to the City and the SHPO in July 2024. This report documented 12 archaeological sites (20WN1278-20WN1289) representing late 19th – late 20th-century residential, commercial, industrial, and institutional occupation of the Project Area. MSG evaluated these sites against the NRHP eligibility criteria (36 CFR 60.4) and found that sites 20WN1278, 20WN1279, 20WN1280, 20WN1283, 20WN1284, 20WN1286, 20WN1287, 20WN1288, and 20WN1289 appear to be eligible under Criteria A (association with significant events, themes, or broad patterns of American history) and D (information potential) for their association with the themes of immigration/migration (and specifically the First Great Migration) and industrialization in Detroit and their ability to yield significant archaeological data relevant to the study of these themes. MSG therefore recommended a finding of Adverse Effect (36 CFR 800.5 ((b)) to these sites from the proposed construction of the Sanctuary at Brewster. The City's Staff Archaeologist, Samuel Burns and SHPO concurred with this recommendation in a letter dated August 13, 2024.

In October of 2024, the City reviewed a formal assessment of effects prepared by MSG on behalf of MHT. MSG recommended that all of the identified sites within the Sanctuary at Brewster and Brewster Wheeler I, II and III Project Areas be considered as an archaeological district (the Brewster Wheeler Archaeological District). MSG further recommended Phase III data recovery excavations, public outreach to descendant communities (including the collection of oral histories and historical documents), and the preparation of public educational materials such as a historical

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display or interpretive signage for installation in the rehabilitated Brewster Wheeler Recreation Center as appropriate forms of mitigation for the adverse effect to the archaeological sites in the Brewster Wheeler Archaeological District. The City concurred with the findings and recommendations of the assessment of effects report in a letter dated October 14, 2024.

The City of Detroit initiated additional consultation regarding the Adverse Effect Finding. In a letter dated December 19, 2024, the Advisory Council on Historic Preservation (ACHP) declined the invitation to consult on the development of a Memorandum of Agreement to resolve the Adverse effect on the Brewster Wheeler Archaeology District. On January 16, 2025, a consultaiton meeting was held to discuss proposed mitigation measures. Representatives from the City of Detroit, MHT, MSHDA, MHT, the Detroit Housing Commission, SHPO, MSG, Forest County Potawatomi, Wayne State University, Jewish Historical Society, and the Michigan Historic Preservation Network were in attendance. No objections to the proposed MOA stipulations for mitigation of the adverse effect were received.

As of March 13, 2025, the MOA is in its final version awaiting signatures from project stakeholders. A copy of the MOA will be included in the Environmental Assessment as an ongoing environmental compliance mitigation measure.

This project has been given an **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. The following conditions must be met in order to mitigate the adverse effect:

- Signatures to finalize the Memorandum Of Agreement Between The Michigan State Historic Preservation Officer, and The City Of Detroit, Michigan, and The Michigan State Housing Development Authority, and The Detroit Housing Commission and MHT Housing, Inc., Regarding The Sanctuary At Brewster Wheeler and Brewster Wheeler I-III Developments In The City Of Detroit Michigan are collected.
- The stipulations outlined in the March 2025; MOA are carried out accordingly.
- Pursuant to 36 CFR § 800.6(b)(1)(iv), the final MOA is filed with the ACHP at the conclusion of the consultation process.
- In the event of an unanticipated discovery during construction, the unanticipated discoveries plan is followed.

If you have any questions, you may direct them to the Historic Preservation Compliance Specialist at Ciavattonet@detroitmi.gov.

Sincerely,

Tiffany Ciavattone

Tiffany Ciavattone

Housing and Revitalization Department

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Historic Preservation Compliance Specialist
City of Detroit
Housing & Revitalization Department

MEMORANDUM OF AGREEMENT
BETWEEN
MICHIGAN STATE HISTORIC PRESERVATION OFFICER
AND
CITY OF DETROIT
AND
MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY
AND
DETROIT HOUSING COMMISSION
AND
MHT HOUSING, INC.,
REGARDING THE SANCTUARY AT BREWSTER AND BREWSTER WHEELER I, II, AND III DEVELOPMENT PROJECTS IN THE CITY OF DETROIT, MICHIGAN

RECITALS

WHEREAS, pursuant to 24 C.F.R. § 58, the United States Department of Housing and Urban Development ("**HUD**") has delegated the responsibility for compliance with the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108) and its implementing regulations (36 C.F.R. Part 800) ("**Section 106**") to the City of Detroit (the "**City**"), acting through the Housing and Revitalization Department as a recipient of HUD funds; and

WHEREAS, a Programmatic Agreement was executed on December 21, 2022, between the City, the State Historic Preservation Officer (the "**SHPO**"), and the Advisory Council on Historic Preservation (the "**ACHP**"), as amended, for the administration of HUD funding; and

WHEREAS, the City plans to use Community Development Block Grant funds to support the *Sanctuary at Brewster and the Brewster Wheeler I, II, and III Development Projects* (the "**Undertaking**"); and

WHEREAS, the Undertaking will include the construction of four development projects known as The Sanctuary at Brewster, Brewster Wheeler I, Brewster Wheeler II, and Brewster Wheeler III, by MHT Housing, Inc. ("**MHT**"), and located at 2900 Saint Antoine Street, 671 Alfred Street, 651 Alfred Street, and 631 Alfred Street, respectively, in the City of Detroit, Wayne County, Michigan (the "**Subject Property**"); and

WHEREAS, the City has defined the Undertaking's Area of Potential Effect as being roughly bounded by Wilkins Street to the north, Chrysler Service Drive to the east, Alfred Street to the south, and Saint Antoine Street to the west; and

WHEREAS, the City has determined that the Undertaking may have an adverse effect on the Brewster Wheeler Archaeology District (the "**BWAD**"), which meets the criteria for listing in the National Register of Historic Places, and has consulted with the SHPO pursuant to 36 C.F.R. Part 800, the regulations implementing Section 106; and

WHEREAS, the City has consulted with the 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, and Seneca Cayuga Nation, for which the BWAD may have religious and cultural significance; and

WHEREAS, the City has consulted with the Michigan Historic Preservation Network, Black Bottom Archives, Jewish Historical Society of Michigan, Wayne State University Anthropology, and other City departments and agencies, including the Planning & Development Department, Historic Designation Advisory Board, and the District 5 Department of Neighborhoods, regarding the effects of the Undertaking on historic properties and has invited them to sign this Memorandum of Agreement ("**MOA**" or "**Agreement**") as concurring parties (collectively, the "**Concurring Parties**"); and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1), the City has notified the ACHP of its adverse effect determination with specified documentation, and the ACHP has chosen **not** to participate in the consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii).

NOW THEREFORE, the City, Michigan State Housing Development Authority, Detroit Housing Commission, SHPO, MHT (individually, a "**Signatory**" and, collectively, the "**Signatories**"), agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the Undertaking on historic properties.

STIPULATIONS

The City shall ensure that the following measures are carried out to avoid, minimize, or mitigate the adverse effects on historic properties. These measures should be directed by a professional who meets the Secretary of the Interior's 36 CFR Part 61 qualification standards:

I. PHASE III ARCHAEOLOGICAL DATA RECOVERY.

MHT will cause its consultant to lead a Phase III Archaeological Data Recovery ("**ADR**") to recover sufficient archaeological data to address research questions relevant to important historic contexts, and to provide information and materials useful for public-facing educational materials. The City and the SHPO have reviewed and approved an **Archeology Data Recovery Plan** (the "**ADRP**"), which is attached hereto as Exhibit A and incorporated by reference. Excavations will focus on the 19 sites identified in the ADRP that retain sufficient physical integrity for ideal data recovery. ADR excavations will commence separately at each Subject Property. Additional research in local archives to find more site-specific information sources such as property deeds, newspaper articles, photograph collections will be researched to support excavation context and documentation efforts. ADR will result in the post fieldwork executive summaries for each phase to confirm that the ADR excavations were completed in accordance with the ADRP and that no further excavations will be required. Artifacts from the excavation will be processed by and donated to the Wayne State University Grosscup Museum, or other satisfactory repository, as

determined by the City. Any changes to the ADRP will require further coordination and approval through the City and the SHPO.

II. ORAL HISTORY DOCUMENTATION

MHT will cause its consultant to create Oral history documentation. MHT will cause its consultant to identify and solicit participants willing to sit for interviews on the history of the Subject Property, the Brewster Wheeler Recreation Center, the Brewster-Douglass housing projects, Paradise Valley, Brush Park, or other relevant historical contexts. Audio and/or video recordings of the interviews will be taped (with the participants' informed consent) and transcribed. Oral history documentation will be provided in conjunction with the ADR executive summaries.

III. TECHNICAL REPORT

MHT will cause its consultant to compile the results of the archival research, oral history documentation, ADR excavations, lab processing/cataloging, and artifact/soil analyses in a draft technical report (the "**Technical Report**"). To facilitate inter-site comparisons and provide a holistic analysis of the BWAD, MHT will cause its consultant to produce the Technical Report that includes the Subject Property. The Technical Report will include updated SHPO Terrestrial Archaeological Site Inventory Forms for all sites within the BWAD as an appendix. The MHT will submit a draft of the Technical Report to the City and the SHPO for review and comment. Any comments will be incorporated into the final Technical Report.

IV. PUBLIC EDUCATION MATERIAL

MHT will cause its consultant to use the results of the archival research, oral history documentation, ADR excavations, lab processing/cataloging, and artifact/soil analyses to design up to three interpretive panels (the "**Panels**") presenting information about the history and archaeology of the BWAD and Paradise Valley. The City and the SHPO will provide comments on the location and final design of the Panels within thirty (30) calendar days of submittal. MHT will place the Panels within the Subject Projects. If the Panels are placed outdoors, they should be composed of durable materials. MHT will remain responsible for the long-term maintenance of the interpretive panels.

In addition, MHT will cause its consultant to collaboratively create, either on its own or by subcontract, a dynamic deep map (the "**Deep Map**") based on historic spatial data infrastructure programming software. The Deep Map will be published as an interactive website presenting information from the archival research, oral history documentation, ADR excavations, lab processing/cataloging, and artifact/soil analyses. Publication and longevity of the website will be determined through consultation between MHT, the City, and the SHPO to ensure the interactive web presentation is available to a wider public audience.

V. DURATION

This MOA will be effective as of the date upon which it has been duly signed and executed by an authorized representative of each Signatory (the "**Effective Date"**).

This MOA will expire upon the completion of its terms, or within a period of seven (7) years from the Effective Date, whichever occurs first. Prior to such time, the City may consult with the other Signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation IX.

VI. POST-REVIEW DISCOVERIES

If properties that may be historically significant or have unanticipated effects on historic properties are encountered during the Undertaking, MHT shall implement the **Brewster Wheeler Archaeology District Unanticipated Discovery Plan** of this MOA, which is attached hereto as Exhibit B and incorporated by reference.

VII. MONITORING AND REPORTING

Each year following the Effective Date of this MOA until it expires pursuant to Stipulation V or is terminated pursuant to Stipulation X, MHT or their consultant shall provide all Signatories to this MOA a summary report (the "**Annual Report**") detailing work undertaken pursuant to its terms. The Annual Report shall include any scheduling changes proposed, problems encountered, and disputes or objections received in MHT's efforts to carry out the terms of this MOA.

MHT shall provide the City with a final report (the "**Final Report**") within thirty (30) calendar days of the completion of the Stipulations within this MOA which details all the work completed on the Subject Property. The Final Report will be reviewed by the City's Preservation Specialist and then forwarded to the Signatories. If the Final Report is found to be incomplete or includes discrepancies, it will be returned to MHT for revision and resubmittal within thirty (30) calendar days.

VIII. DISPUTE RESOLUTION

Should any of the Signatories (the "**Objecting Signatory**") object (the "**Objection**") at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the Objecting Signatory shall consult with the other Signatories to resolve the Objection. If the Objecting Signatory determines that the Objection cannot be resolved, the Objecting Signatory shall:

A. Forward all documentation relevant to the Objection, including the Objecting Signatory's proposed resolution, to the ACHP. The ACHP shall provide the Objecting Signatory with its advice on the resolution of the Objection within thirty (30) calendar days of receiving adequate documentation. After considering the ACHP's advice and prior to reaching a final decision on the Objection, the Objecting Signatory shall prepare a written response that takes into account any timely advice or comments regarding the Objection from the ACHP, the other Signatories, MHT, and/or the Concurring Parties. The Objecting Signatory shall then provide the ACHP, the other Signatories, MHT and the Concurring Parties with a copy of the written response. The Objecting Signatory will then proceed according to the final decision of the ACHP.

B. If the ACHP does not provide its advice regarding the Objection within thirty (30) calendar days, the City may make a final decision on the Objection and proceed accordingly. Prior to reaching such a final decision, the City shall prepare a written response that takes into account any timely comments regarding the Objection from the Signatories and the Concurring Parties and provide them and the ACHP with a copy of such written response.

C. The City's responsibilities to carry out other actions subject to the terms of this MOA that are not the subject of the Objection will remain unchanged.

IX. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all Signatories. The amendment will be effective on the date a copy signed by all the Signatories is filed with the ACHP.

X. TERMINATION

If any Signatory determines it cannot implement the terms of this MOA, they may propose that this MOA be terminated ("**Terminating Party**"). The Terminating Party shall provide a notice to all the remaining Signatories outlining (1) the reasons for the proposed termination, and (2) provide sixty (60) calendar days (or a shorter time period, if agreed to by all Signatories) to agree to an amendment as outlined in Stipulation IX. If an amendment cannot be reached after the sixty (60) day time period has elapsed, then the Terminating Party may terminate the MOA upon written notification to the other Signatories.

Once the MOA is terminated, but before work may continue on the Undertaking, the City must either (a) execute a new memorandum of agreement pursuant to 36 C.F.R. § 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 C.F.R. § 800.7. The City shall notify the Signatories as to the course of action it will pursue.

EXECUTION

Execution of this MOA by the Signatories and implementation of its terms is evidence that the City has considered the effects of this Undertaking on historic properties and afforded the ACHP an opportunity to comment.

This MOA may be executed in counterparts which, taken together, shall constitute a single agreement. Electronically transmitted signature pages shall be effective to bind a Signatory to this Agreement.

IN WITNESS WHEREOF, the Signatories, by and through their authorized officers and representatives, have executed this MOA as follows:

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[*Signature pages to follow*]

SIGNATORY:

MICHIGAN STATE HISTORIC PRESERVATION OFFICER

By: **Ryan M. Schumaker**

Title: State Historic Preservation Officer

Date: 4/30/2025

Signature: DocuSigned by: Ryan Schumaker 5B352B082B2D449...

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[*Signature page to follow*]

SIGNATORY:

CITY OF DETROIT

By: Julie Schneider

Its: Director, Housing and Revitalization Department

Date: 4/28/2025

Signature: DocuSigned by: E17650515DAF4C9...

APPROVED BY CORPORATION COUNSEL PURSUANT TO SECTION 7.5-206 OF THE 2012 CHARTER OF THE CITY OF DETROIT

By: Signed by: Bruce Goldman 9820EED23EEC4A1... Date: 4/29/2025

Corporation Counsel
City of Detroit Law Department

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[*Signature page to follow*]

SIGNATORY:

THE MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY

By: _Geoffrey Ehnis-Clark_____

Title: __Director of In-House Legal Services__

Date: _____

Signature: Geoffrey Ehnis-Clark

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[*Signature page to follow*]

SIGNATORY:

DETROIT HOUSING COMMISSION

By: JAMES ARTHUR JEMISON

Title: Executive Director

Date: 4/25/2025

Signature: Signed by: F67597E11B2540A...

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[*Signature page to follow*]

SIGNATORY:

MHT HOUSING, INC.

By: T. Van Fox

Title: President

Date: April 24, 2025

Signature: T. Van Fox

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[*Signature page to follow*]

IPAC USER CONTACT INFORMATION

Agency: ECS
Name: Julie Pratt
Address: 523 W. Sunnybrook Drive
City: Royal Oak
State: MI
Zip: 48034
Email jpratt@environmentalconsultingsolutions.com
Phone: 5864247355

During the site reconnaissance, overhead power distribution lines were observed in connection with light posts on the northern portion of the Subject Property, along the south side of Brewster Street, and adjoining the Subject Property to the east, along Chrysler Drive. As these are believed to be distribution lines, they are suspected to be less than 60 kV. The nearest transmission line was observed to be located approximately 250 feet north of the Subject Property, along the southern edge of the Wilkins Street right-of-way. According to DTE Energy the voltage of the DE primary running along Wilkins between the Chrysler Service Drive and John R to be 4800v. Based on the observed pole height and the relative distance from the Subject Property, HMA believes set-back requirements are not necessary at this time.

9.6.2 EMF-Cell Antennae Array

Federal Communications Commission (FCC) websites were used to locate nearby cell antennae arrays. According to FCC, the closest cell arrays are located at 575 East Canfield and 541 Madison Avenue, both located between one half and one mile from the Subject Property. HMA did not observe any current building-mounted cell phone antennae at the Subject Property or in the immediate vicinity, and HMA is not aware of proposed plans for any building mounted cell phone arrays. Should an array be proposed, documentation (Radio Frequency Safety Study) will be required demonstrating compliance with FCC requirements.

9.7 High Pressure Buried Gas Lines

MSHDA will require new construction projects to comply with setback requirements when sites are located within 1,000 feet from a buried high-pressure gas transmission line. Evidence of high pressure buried gas pipelines was not observed on or within the immediate vicinity of the Subject Property during the site reconnaissance. Furthermore, an evaluation of the National Pipeline Mapping System (NPMS) indicated that there is not any high pressure buried gas pipelines within six miles of the Subject Property, thus, setbacks are not required at this time. A copy of the NPMS map is included as Appendix 10.7D.

9.8 Noise Analysis

According to MSHDA, a noise assessment is required for sites located within 1) 1,000 feet of a limited access highway or “busy roadway”; 2) 3,000 feet of a railroad line; or 3) 15 miles of a civil or military airport. The noise assessment was completed following the procedures contained in the “Housing and Urban Development (HUD) Noise Guidebook”. A copy of the supporting noise analysis documentation is included in Appendix 10.7E.

The Subject Property is located adjacent to Chrysler Drive, a service drive for the I-75 Freeway which has a posted speed limit of 25 mph, and within 1,000 feet of the I-75 Freeway, which has a posted speed limit of 55 mph and the I-375 connector, which has a posted speed limit of 40 mph. Therefore, nearby busy roads are a suspected noise source to the Subject Property.

Based on reviewing topographic maps and observations from the site reconnaissance, no active railroads are believed to be located within 3,000 feet of the Subject Property. One railroad line is depicted on topographic maps approximately 2,555 feet to the northeast from the Subject Property; however, based on aerial photographs, this railroad is believed to be inactive and has been converted into a walking trail. Therefore, railroad lines are not considered a suspected noise source to the Subject Property.

HMA searched for civil and/or military airports within 15 miles of the Subject Property and evaluated the Michigan list of National Plan of Integrated Airport Systems (NPIAS) Airports. The following airports were identified within 15 miles from the Subject Property:

AIRPORTS WITHIN 15 MILES OF SUBJECT PROPERTY			
Airport	Distance/Direction	Contour Available	Noise Source
Coleman Young International Airport	4.2 Miles NE	No	No
Windsor International Airport	6.15 Miles SE	No	No

Although noise contour maps were unavailable for these airports, HMA utilized the National Transportation Noise Map, prepared by the U.S. Department of Transportation Bureau of Transportation Statistics (BTS), which indicated that none of the nearby airports appear to be a potential noise source to the Subject Property.

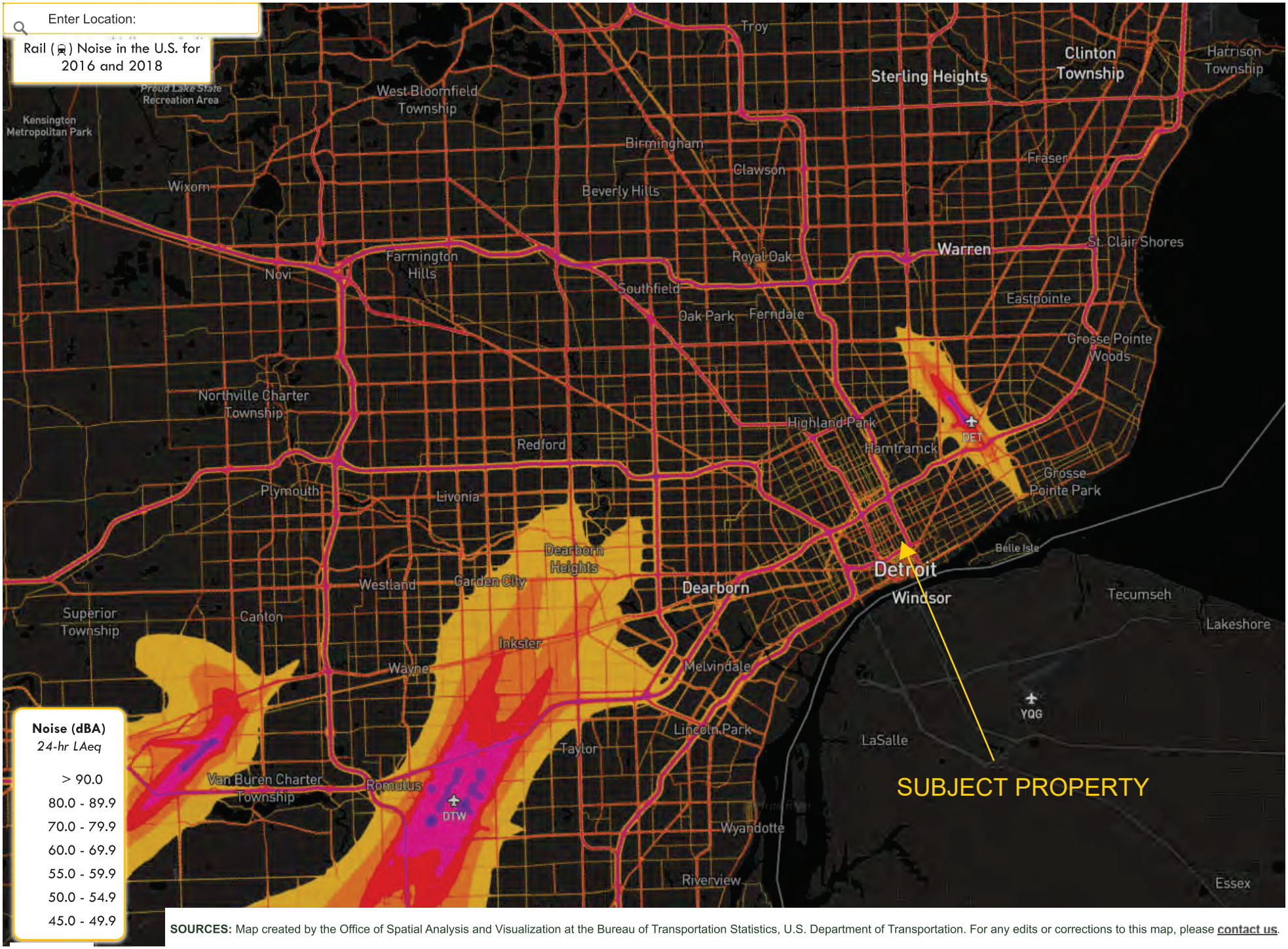
Based on the potential noise sources (i.e, nearby busy roads), HMA utilized the online HUD Day/Night Level (DNL) Calculator to generate an expected DNL. The Noise Assessment Location (NAL) correlated with the southeast corner of the proposed building footprint. The Southeast Michigan Council of Governments (SEMCOG) Traffic Volume Map was used for the average annual daily traffic (AADT). Both directions of traffic[2] were assessed as applicable, and values were reflective of 10-year traffic projections[3].

The DNL level was calculated to be 76 decibels (dB) which exceeds the HUD Noise Guideline of 65dB. It should be noted that the calculation uses various assumptions and estimations. Based on the exceeding DNL calculation, further noise assessments and/or noise mitigation controls were recommended. Concept Design Studios completed HUD STraCAT calculations for units A through I, utilizing the proposed building materials of 4" face brick one course, exterior siding – 2"insulation board and sheathing- 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gypsum boards screwed to stud and vinyl windows, which indicated that interior noise standards have been met.

9.9 Assessment of Potential Vapor Encroachment Conditions (VECs)

HMA conducted a Tier I and non-invasive Tier II Vapor Encroachment Screening (VES) of the Subject Property in general accordance with the guidelines established by the ASTM Standard Guide for Vapor

[2] Assumption: medium truck and heavy truck uses were calculated at 4% of total traffic, each.
[3] Assumption: 10-year traffic projections were estimated as a 1% increase every year.



SOURCES: Map created by the Office of Spatial Analysis and Visualization at the Bureau of Transportation Statistics, U.S. Department of Transportation. For any edits or corrections to this map, please **contact us**.

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Brewster Wheeler I
Record Date	10/12/2023
User's Name	Pamela Wheeler

Road # 1 Name:	**Chrysler Drive**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	20	20	20
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	385	17	17
Night Fraction of ADT	15	15	15
Road Gradient (%)			1
Vehicle DNL	53	49	62
Calculate Road #1 DNL	63	Reset	

Road # 2 Name:	**I-75 Freeway Southbound**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	130	130	130
Distance to Stop Sign			
Average Speed	55	55	55
Average Daily Trips (ADT)	54567	2372	2372
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	69	65	73
Calculate Road #2 DNL	75	Reset	

Road # 3 Name:	**I-75 Northbound**

Road #3

Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	216	216	216
Distance to Stop Sign			
Average Speed	55	55	55
Average Daily Trips (ADT)	43179	1877	1877
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	65	61	68
Calculate Road #3 DNL	70	Reset	

Road # 4 Name:	**Gratiot Conn/ S I-375 Ramp**

Road #4

Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	711	711	711
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	297	13	13
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	32	29	38
Calculate Road #4 DNL	40	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	○Yes ○No
Combined DNL for all Road and Rail sources	**76**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
  - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Brewster Wheeler, Detroit, Michigan

SUMMARY OF NOISE ASSESSMENT TRAFFIC ASSUMPTIONS														
Street	**Source**	**Traffic Count**		**Projected Increase**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Chrylser Drive/I-75 Service Drive (25 mph)	MDOT AADT Map	Total	418	1%	422	426	431	435	439	444	448	453	457	462
		Cars	385	1%	388	392	396	400	404	408	412	416	421	425
		Medium Trucks	17	1%	17	17	17	17	18	18	18	18	18	18
		Heavy Trucks	17	1%	17	17	17	17	18	18	18	18	18	18
I-75 Freeway South Bound (55 mph)	MDOT AADT Map	Total	59,312	1%	59,905	60,504	61,109	61,720	62,338	62,961	63,590	64,226	64,869	65,517
		Cars	54,567	1%	55,113	55,664	56,220	56,783	57,351	57,924	58,503	59,088	59,679	60,276
		Medium Trucks	2372	1%	2,396	2,420	2,444	2,469	2,494	2,518	2,544	2,569	2,595	2,621
		Heavy Trucks	2372	1%	2,396	2,420	2,444	2,469	2,494	2,518	2,544	2,569	2,595	2,621
I-75 Freeway North Bound (55 mph)	MDOT AADT Map	Total	46,934	1%	47,403	47,877	48,356	48,840	49,328	49,821	50,320	50,823	51,331	51,844
		Cars	43,179	1%	43,611	44,047	44,488	44,933	45,382	45,836	46,294	46,757	47,225	47,697
		Medium Trucks	1877	1%	1,896	1,915	1,934	1,954	1,973	1,993	2,013	2,033	2,053	2,074
		Heavy Trucks	1877	1%	1,896	1,915	1,934	1,954	1,973	1,993	2,013	2,033	2,053	2,074
Gratiot Conn/ S 1-375 Ramp (40 mph)	MDOT AADT Map	Total	323	1%	326	329	333	336	339	343	346	350	353	357
		Cars	297	1%	300	303	306	309	312	315	319	322	325	328
		Medium Trucks	13	1%	13	13	13	13	14	14	14	14	14	14
		Heavy Trucks	13	1%	13	13	13	13	14	14	14	14	14	14

Notes:

Traffic count is based on two-way counts

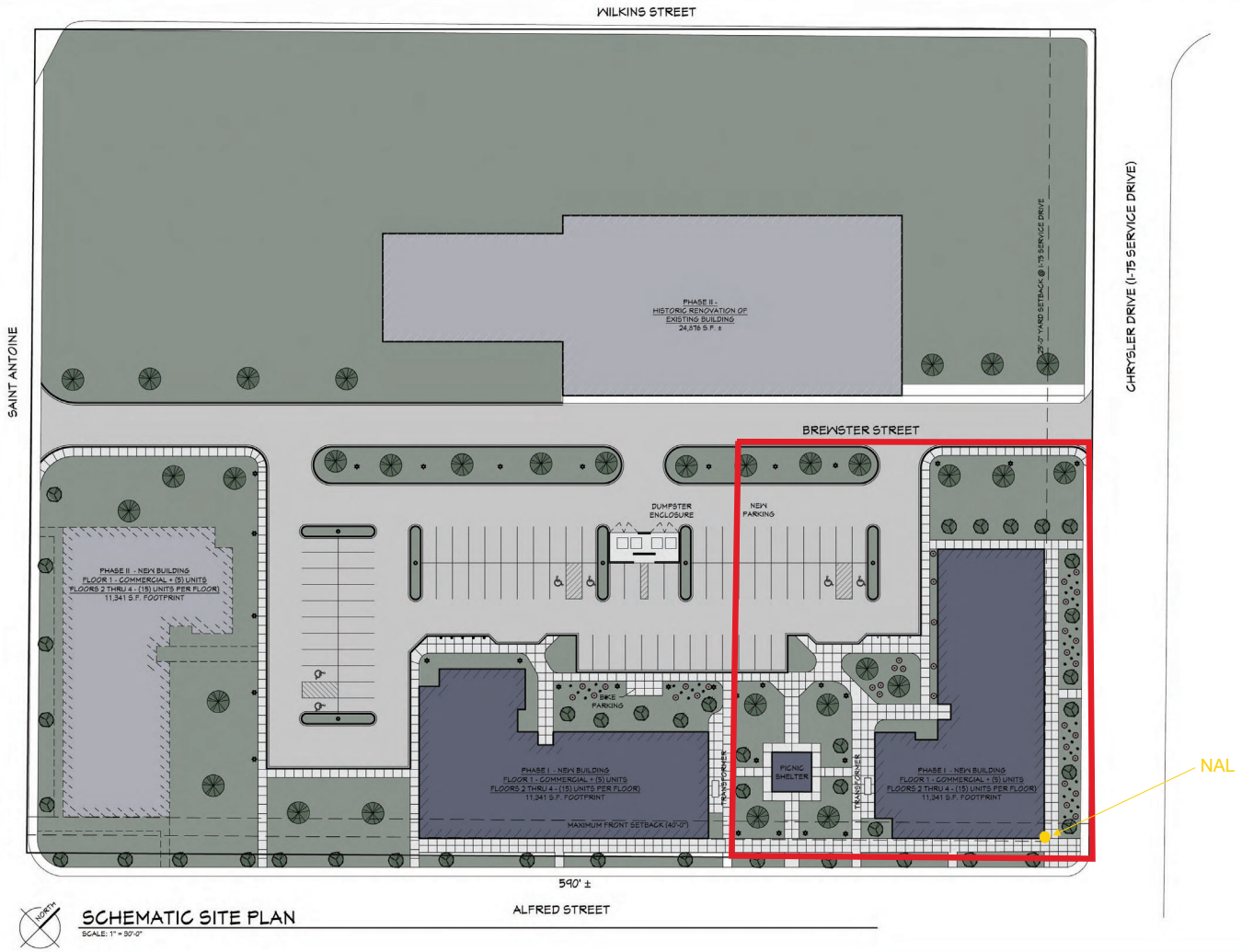
Truck breadown percentages in an urban environment assumes 92% auto, 4% medium trucks, and 4% heavy trucks

Project traffic growth is assumed as 1% increase per year

	MDOT	I	II	III
Chrylser Service Drive	418 (2021)	20 feet	130 feet	458 feet
I-75 S	59312 (2022)	130 feet	300 feet	580 feet
I-75 N	46934 (2022)	216 feet	407 feet	670 feet
S-1375 Ramp	323 (2022)	711 feet	878 feet	900 feet

CDS
CONCEPT DESIGN STUDIO, INC.

BRUSH PARK DEVELOPMENT



SCHEMATIC SITE PLAN
SCALE: 1" = 30'-0"

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler I, LDHA

Sponsor/Developer

MHT Housing

Location

671 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

76

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	234	45

Add new wall

	234 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	40	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	234 ft^2
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	1	**40 ft^2**	**17.09%**
Doors:	0	**0 ft^2**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**76**
Combined STC for wall assembly:	**36.17**
Required STC rating:	**34**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance
Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler I, LDHA

Sponsor/Developer

MHT Housing

Location

671 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

76

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	301	45

Add new wall

	301 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	65	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	301 ft^2
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	1	**65 ft^2**	**21.59%**
Doors:	0	**0 ft^2**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**76**
Combined STC for wall assembly:	**35.28**
Required STC rating:	**34**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance
Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler I, LDHA

Sponsor/Developer

MHT Housing

Location

671 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

76

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud	234	45

Add new wall

	234 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	1	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	234 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	2	**40 ft²**	**17.09%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**76**
Combined STC for wall assembly:	**36.17**
Required STC rating:	**34**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler I, LDHA

Sponsor/Developer

MHT Housing

Location

671 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

76

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	342	45

Add new wall

	342 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	40	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	342 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	1	**40 ft²**	**11.7%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**76**
Combined STC for wall assembly:	**37.57**
Required STC rating:	**34**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler I, LDHA

Sponsor/Developer

MHT Housing

Location

671 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

76

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	387	45

Add new wall

	387 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	65	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	387 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	1	**65 ft²**	**16.8%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**76**
Combined STC for wall assembly:	**36.24**
Required STC rating:	**34**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

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How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance
Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler I, LDHA

Sponsor/Developer

MHT Housing

Location

671 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

76

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud	301	45

Add new wall

301 Sq. Feet **45**

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	1	15	29
Vinyl Window	1	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	301 ft^2
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	3	**55 ft^2**	**18.27%**
Doors:	0	**0 ft^2**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**76**
Combined STC for wall assembly:	**35.92**
Required STC rating:	**34**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

During the site reconnaissance, overhead power distribution lines were observed in connection with light posts on the northern portion of the Subject Property, along the south side of Brewster Street. As these are believed to be distribution lines, they are suspected to be less than 60 kV. The nearest transmission line was observed to be located approximately 250 feet north of the Subject Property, along the southern edge of the Wilkins Street right-of-way. According to DTE Energy the voltage of the DE primary running along Wilkins between the Chrysler Service Drive and John R to be 4800v. Based on the information from DTE, 48kv (current condition) is less than 60kv (max). Based on the observed pole height and the relative distance from the Subject Property, HMA believes set-back requirements are not necessary at this time.

9.6.2 EMF-Cell Antennae Array

Federal Communications Commission (FCC) websites were used to locate nearby cell antennae arrays. According to FCC, the closest cell arrays are located at 575 East Canfield and 541 Madison Avenue, both located between one half and one mile from the Subject Property. HMA did not observe any current building-mounted cell phone antennae at the Subject Property or in the immediate vicinity, and HMA is not aware of proposed plans for any building mounted cell phone arrays. Should an array be proposed, documentation (Radio Frequency Safety Study) will be required demonstrating compliance with FCC requirements.

9.7 High Pressure Buried Gas Lines

MSHDA will require new construction projects to comply with setback requirements when sites are located within 1,000 feet from a buried high-pressure gas transmission line. Evidence of high pressure buried gas pipelines was not observed on or within the immediate vicinity of the Subject Property during the site reconnaissance. Furthermore, an evaluation of the National Pipeline Mapping System (NPMS) indicated that there is not any high pressure buried gas pipelines within six miles of the Subject Property, thus, setbacks are not required at this time. A copy of the NPMS map is included as Appendix 10.7D.

9.8 Noise Analysis

According to MSHDA, a noise assessment is required for sites located within 1) 1,000 feet of a limited access highway or “busy roadway”; 2) 3,000 feet of a railroad line; or 3) 15 miles of a civil or military airport. The noise assessment was completed following the procedures contained in the “Housing and Urban Development (HUD) Noise Guidebook”. A copy of the supporting noise analysis documentation is included in Appendix 10.7E.

The Subject Property is located within 130-feet of the Chrysler Drive, a service drive for the I-75 Freeway which has a posted speed limit of 25 mph, and within 1,000 feet of the I-75 Freeway, which has a posted speed limit of 55 mph and the I-375 connector, which has a posted speed limit of 40 mph. Therefore, nearby busy roads are a suspected noise source to the Subject Property.

Based on reviewing topographic maps and observations from the site reconnaissance, no active railroads are believed to be located within 3,000 feet of the Subject Property. One railroad line is depicted on topographic maps approximately 2,555 feet to the northeast from the Subject Property; however, based on aerial photographs, this railroad is believed to be inactive and has been converted into a walking trail. Therefore, railroad lines are not considered a suspected noise source to the Subject Property.

HMA searched for civil and/or military airports within 15 miles of the Subject Property and evaluated the Michigan list of National Plan of Integrated Airport Systems (NPIAS) Airports. The following airports were identified within 15 miles from the Subject Property:

AIRPORTS WITHIN 15 MILES OF SUBJECT PROPERTY			
Airport	Distance/Direction	Contour Available	Noise Source
Coleman Young International Airport	4.2 Miles NE	No	No
Windsor International Airport	6.15 Miles SE	No	No

Although noise contour maps were unavailable for these airports, HMA utilized the National Transportation Noise Map, prepared by the U.S. Department of Transportation Bureau of Transportation Statistics (BTS), which indicated that none of the nearby airports appear to be a potential noise source to the Subject Property.

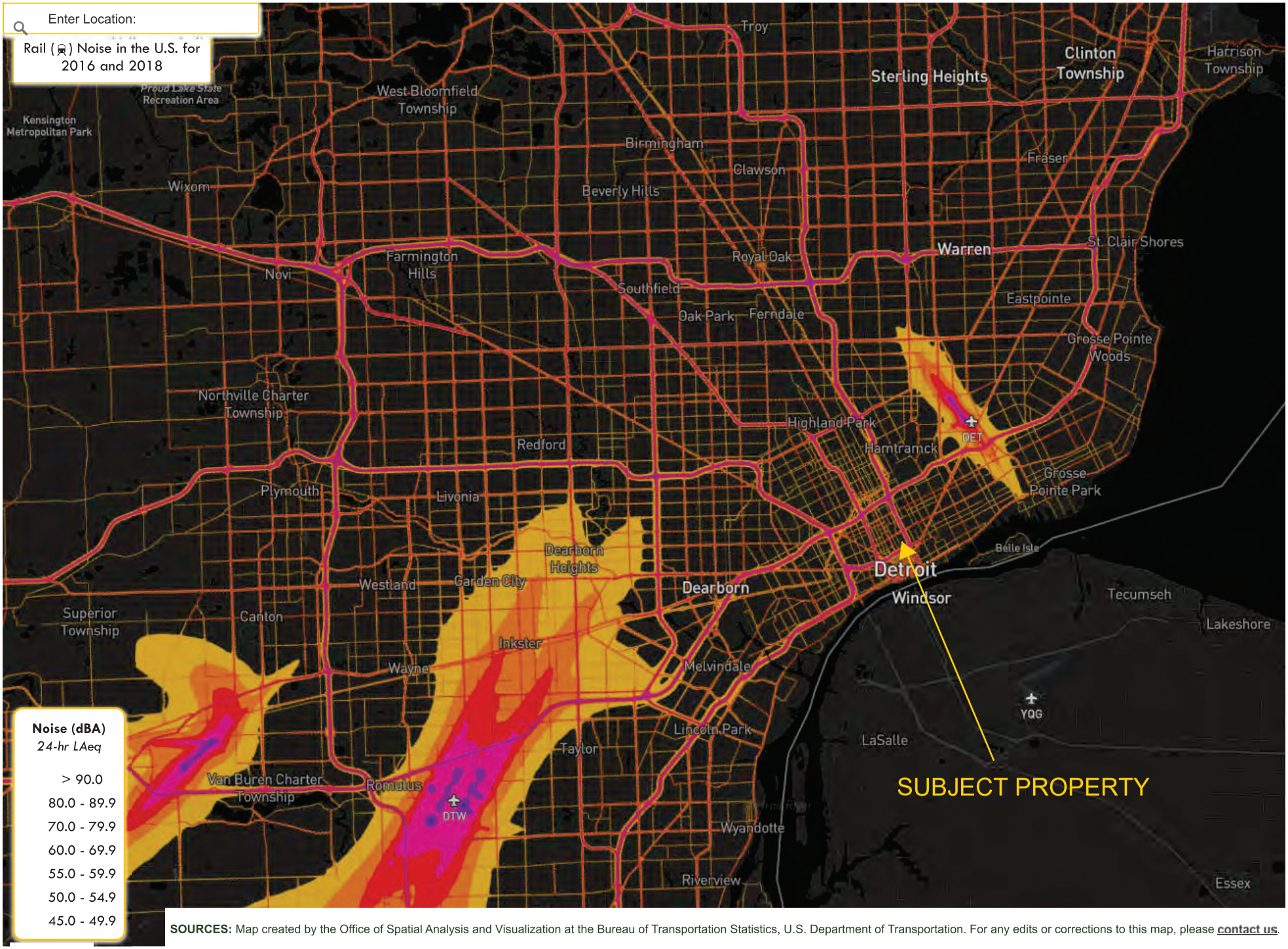
Based on the potential noise sources (i.e, nearby busy roads), HMA utilized the online HUD Day/Night Level (DNL) Calculator to generate an expected DNL. The Noise Assessment Location (NAL) correlated with the southeast corner of the proposed building footprint. The Southeast Michigan Council of Governments (SEMCOG) Traffic Volume Map was used for the average annual daily traffic (AADT). Both directions of traffic[2] were assessed as applicable, and values were reflective of 10-year traffic projections[3].

The DNL level was calculated to be 71 decibels (dB) which exceeds the HUD Noise Guideline of 65dB. It should be noted that the calculation uses various assumptions and estimations. Based on the exceeding DNL calculation, further noise assessments and/or noise mitigation controls were recommended. Concept Design Studios completed HUD STraCAT calculations for units A through I, utilizing the proposed building materials of 4" face brick one course, exterior siding – 2"insulation board and sheathing- 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gypsum boards screwed to stud and vinyl windows, which indicated that interior noise standards have been met.

9.9 Assessment of Potential Vapor Encroachment Conditions (VECs)

HMA conducted a Tier I and non-invasive Tier II Vapor Encroachment Screening (VES) of the Subject Property in general accordance with the guidelines established by the ASTM Standard Guide for Vapor

[2] Assumption: medium truck and heavy truck uses were calculated at 4% of total traffic, each.
[3] Assumption: 10-year traffic projections were estimated as a 1% increase every year.



SOURCES: Map created by the Office of Spatial Analysis and Visualization at the Bureau of Transportation Statistics, U.S. Department of Transportation. For any edits or corrections to this map, please **contact us**.

Brewster Wheeler, Detroit, Michigan

SUMMARY OF NOISE ASSESSMENT TRAFFIC ASSUMPTIONS														
Street	**Source**	**Traffic Count**		**Projected Increase**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Chrylser Drive/I-75 Service Drive (25 mph)	MDOT AADT Map	Total	418	1%	422	426	431	435	439	444	448	453	457	462
		Cars	385	1%	388	392	396	400	404	408	412	416	421	425
		Medium Trucks	17	1%	17	17	17	17	18	18	18	18	18	18
		Heavy Trucks	17	1%	17	17	17	17	18	18	18	18	18	18
I-75 Freeway South Bound (55 mph)	MDOT AADT Map	Total	59,312	1%	59,905	60,504	61,109	61,720	62,338	62,961	63,590	64,226	64,869	65,517
		Cars	54,567	1%	55,113	55,664	56,220	56,783	57,351	57,924	58,503	59,088	59,679	60,276
		Medium Trucks	2372	1%	2,396	2,420	2,444	2,469	2,494	2,518	2,544	2,569	2,595	2,621
		Heavy Trucks	2372	1%	2,396	2,420	2,444	2,469	2,494	2,518	2,544	2,569	2,595	2,621
I-75 Freeway North Bound (55 mph)	MDOT AADT Map	Total	46,934	1%	47,403	47,877	48,356	48,840	49,328	49,821	50,320	50,823	51,331	51,844
		Cars	43,179	1%	43,611	44,047	44,488	44,933	45,382	45,836	46,294	46,757	47,225	47,697
		Medium Trucks	1877	1%	1,896	1,915	1,934	1,954	1,973	1,993	2,013	2,033	2,053	2,074
		Heavy Trucks	1877	1%	1,896	1,915	1,934	1,954	1,973	1,993	2,013	2,033	2,053	2,074
Gratiot Conn/ S 1-375 Ramp (40 mph)	MDOT AADT Map	Total	323	1%	326	329	333	336	339	343	346	350	353	357
		Cars	297	1%	300	303	306	309	312	315	319	322	325	328
		Medium Trucks	13	1%	13	13	13	13	14	14	14	14	14	14
		Heavy Trucks	13	1%	13	13	13	13	14	14	14	14	14	14

Notes:

Traffic count is based on two-way counts

Truck breadown percentages in an urban environment assumes 92% auto, 4% medium trucks, and 4% heavy trucks

Project traffic growth is assumed as 1% increase per year

	MDOT	I	II	III
Chrylser Service Drive	418 (2021)	20 feet	130 feet	458 feet
I-75 S	59312 (2022)	130 feet	300 feet	580 feet
I-75 N	46934 (2022)	216 feet	407 feet	670 feet
S-1375 Ramp	323 (2022)	711 feet	878 feet	900 feet

Day/Night Noise Level (DNL) Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Brewster Wheeler II
Record Date	10/12/2023
User's Name	Pamela Wheeler

Road # 1 Name:	**Chrysler Drive**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	130	130	130
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	425	18	18
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	41	37	51
Calculate Road #1 DNL	51	Reset	

Road # 2 Name:	**I-75 Freeway Southbound**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑

Effective Distance	300	300	300
Distance to Stop Sign			
Average Speed	55	55	55
Average Daily Trips (ADT)	60276	2621	2621
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	64	60	68
Calculate Road #2 DNL	70	Reset	

Road # 3 Name:	**I-75 Freeway Northbound**

Road #3

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	407	407	407
Distance to Stop Sign			
Average Speed	55	55	55
Average Daily Trips (ADT)	47697	2074	2074
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	61	57	65
Calculate Road #3 DNL	67	Reset	

Road # 4 Name:	**Gratiot Conn/ S I-375 Ramp**

Road # 4 Name:	Gratiot Conn/ I-375 Ramp

Road #4

Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	878	878	878
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	328	14	14
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	31	28	37
Calculate Road #4 DNL	39	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	○Yes ○No
Combined DNL for all Road and Rail sources	**71**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

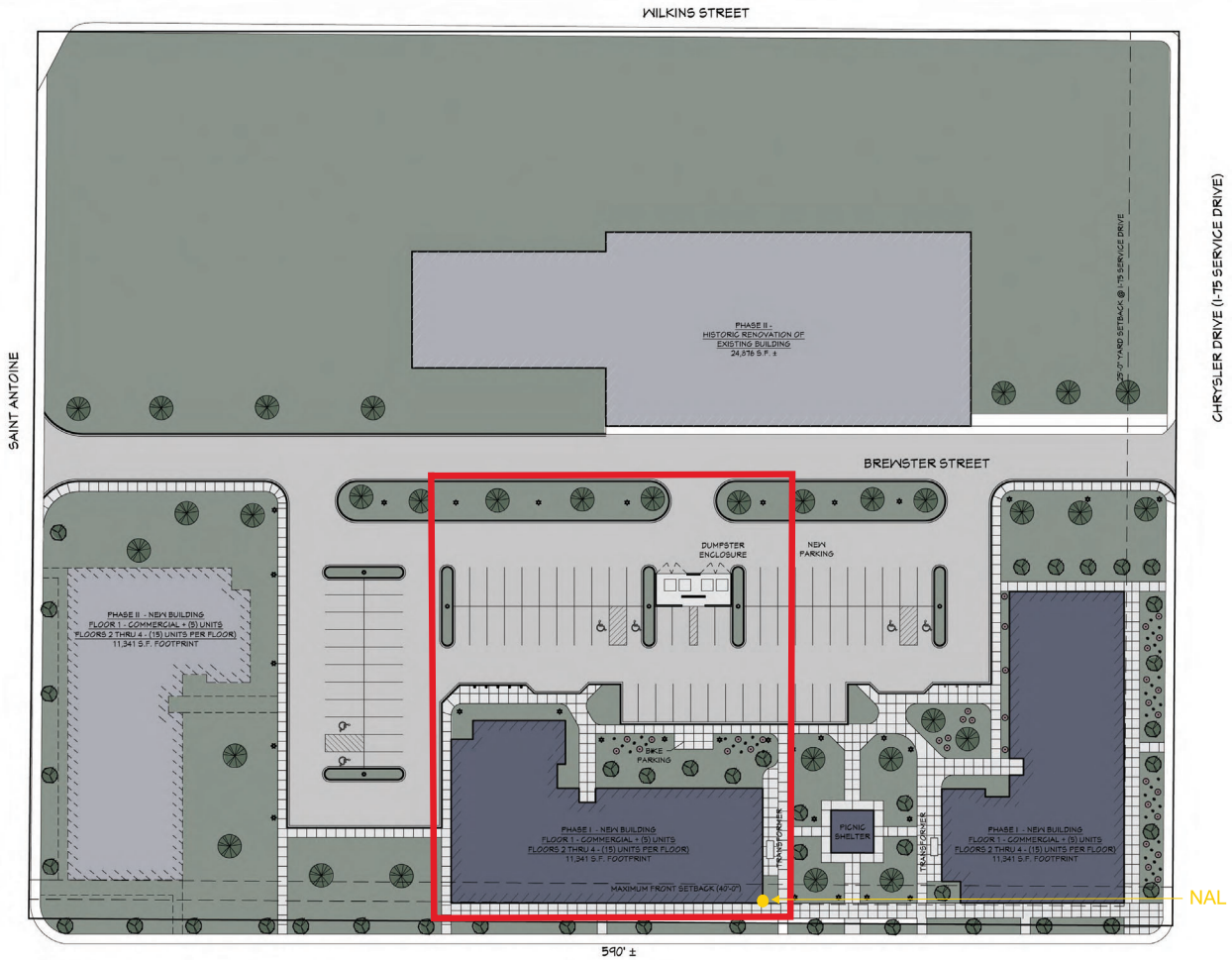
Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

CDS
CONCEPT DESIGN STUDIO, INC.

BRUSH PARK DEVELOPMENT



NORTH

SCHEMATIC SITE PLAN

SCALE: 1" = 30'-0"

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

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How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler II, LDHA

Sponsor/Developer

MHT Housing

Location

651 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

71

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	225	45

Add new wall

	225 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	1	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	225 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	2	**40 ft²**	**17.78%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**71**
Combined STC for wall assembly:	**36.02**
Required STC rating:	**30**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

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How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler II, LDHA

Sponsor/Developer

MHT Housing

Location

651 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

71

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	540	45

Add new wall

	540 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	2	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	540 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	?	**55 ft²**	**10.19%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**71**
Combined STC for wall assembly:	**38.05**
Required STC rating:	**30**
Does wall assembly meet requirements”	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation" Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 163on center to 243can increase the STC from 2-5dB.
- Adding a 23air space can provide ?dB more attenuation.
- Increasing a wall's air space from ?3to 63can reduce noise levels by an additional 5dB.
- Adding a layer of ½3gypsum board on "Z3furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½3gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 13rockwool acoustical blanket adds ?dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

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Location, Noise Level and Wall Configuration to Be Analyzed
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Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

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Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler II, LDHA

Sponsor/Developer

MHT Housing

Location

651 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

71

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	: 06	45

Add new wall

	306 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	2	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area[2]	: 06 ft?
Wall STC[2]	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows[2]	:	**55 ft²**	**17.97%**
Doors[2]	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB)[2]	**71**
Combined STC for wall assembly[2]	**35.98**
Required STC rating[2]	**30**
Does wall assembly meet requirements”	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation" Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example[2]

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 163on center to 243can increase the STC from 2-5dB.
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- Increasing a wall's air space from : 3to 63can reduce noise levels by an additional 5dB.
- Adding a layer of ½3gypsum board on "Z3furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½3gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 13rockwool acoustical blanket adds : dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler II, LDHA

Sponsor/Developer

MHT Housing

Location

651 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

71

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud	225	45
4" face brick one course	275	**45**

Add new wall

	500 Sq. Feet	**45**

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	3	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	500 ft^2
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	4	**70 ft^2**	**14%**
Doors:	0	**0 ft^2**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**71**
Combined STC for wall assembly:	**36.92**
Required STC rating:	**30**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

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How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler II, LDHA

Sponsor/Developer

MHT Housing

Location

651 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

71

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud	234	45

Add new wall

	234 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	1	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	234 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	2	**40 ft²**	**17.09%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**71**
Combined STC for wall assembly:	**36.17**
Required STC rating:	**30**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
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Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler II, LDHA

Sponsor/Developer

MHT Housing

Location

651 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

71

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud	306	45

Add new wall

	306 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	2	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	306 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	3	**55 ft²**	**17.97%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**71**
Combined STC for wall assembly:	**35.98**
Required STC rating:	**30**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

During the site reconnaissance, overhead power distribution lines were observed along the western edge of the Subject Property along St. Antoine Street. As these are believed to be distribution lines, they are suspected to be less than 60 kV. The nearest transmission line was observed to be located approximately 250 feet north of the Subject Property, along the southern edge of the Wilkins Street right-of-way. According to DTE Energy the voltage of the DE primary running along Wilkins between the Chrysler Service Drive and John R to be 4800v. Based on the observed pole height and the relative distance from the Subject Property, HMA believes set-back requirements are not necessary at this time.

9.6.2 EMF-Cell Antennae Array

Federal Communications Commission (FCC) websites were used to locate nearby cell antennae arrays. According to FCC, the closest cell arrays are located at 575 East Canfield and 541 Madison Avenue, both located between one half and one mile from the Subject Property. HMA did not observe any current building-mounted cell phone antennae at the Subject Property or in the immediate vicinity, and HMA is not aware of proposed plans for any building mounted cell phone arrays. Should an array be proposed, documentation (Radio Frequency Safety Study) will be required demonstrating compliance with FCC requirements.

9.7 High Pressure Buried Gas Lines

MSHDA will require new construction projects to comply with setback requirements when sites are located within 1,000 feet from a buried high-pressure gas transmission line. Evidence of high pressure buried gas pipelines was not observed on or within the immediate vicinity of the Subject Property during the site reconnaissance. Furthermore, an evaluation of the National Pipeline Mapping System (NPMS) indicated that there is not any high pressure buried gas pipelines within six miles of the Subject Property, thus, setbacks are not required at this time. A copy of the NPMS map is included as Appendix 10.7D.

9.8 Noise Analysis

According to MSHDA, a noise assessment is required for sites located within 1) 1,000 feet of a limited access highway or "busy roadway"; 2) 3,000 feet of a railroad line; or 3) 15 miles of a civil or military airport. The noise assessment was completed following the procedures contained in the "Housing and Urban Development (HUD) Noise Guidebook". A copy of the supporting noise analysis documentation is included in Appendix 10.7E.

The Subject Property is located within 458 feet of the Chrysler Drive, a service drive for the I-75 Freeway which has a posted speed limit of 25 mph, and within 1,000 feet of the I-75 Freeway, which has a posted speed limit of 55 mph and the I-375 connector, which has a posted speed limit of 40 mph. Therefore, nearby busy roads are a suspected noise source to the Subject Property.

Based on reviewing topographic maps and observations from the site reconnaissance, no active railroads are believed to be located within 3,000 feet of the Subject Property. One railroad line is depicted on topographic maps approximately 2,555 feet to the northeast from the Subject Property; however, based on aerial photographs, this railroad is believed to be inactive and has been converted into a walking trail. Therefore, railroad lines are not considered a suspected noise source to the Subject Property.

HMA searched for civil and/or military airports within 15 miles of the Subject Property and evaluated the Michigan list of National Plan of Integrated Airport Systems (NPIAS) Airports. The following airports were identified within 15 miles from the Subject Property:

AIRPORTS WITHIN 15 MILES OF SUBJECT PROPERTY			
Airport	Distance/Direction	Contour Available	Noise Source
Coleman Young International Airport	4.2 Miles NE	No	No
Windsor International Airport	6.15 Miles SE	No	No

Although noise contour maps were unavailable for these airports, HMA utilized the National Transportation Noise Map, prepared by the U.S. Department of Transportation Bureau of Transportation Statistics (BTS), which indicated that none of the nearby airports appear to be a potential noise source to the Subject Property.

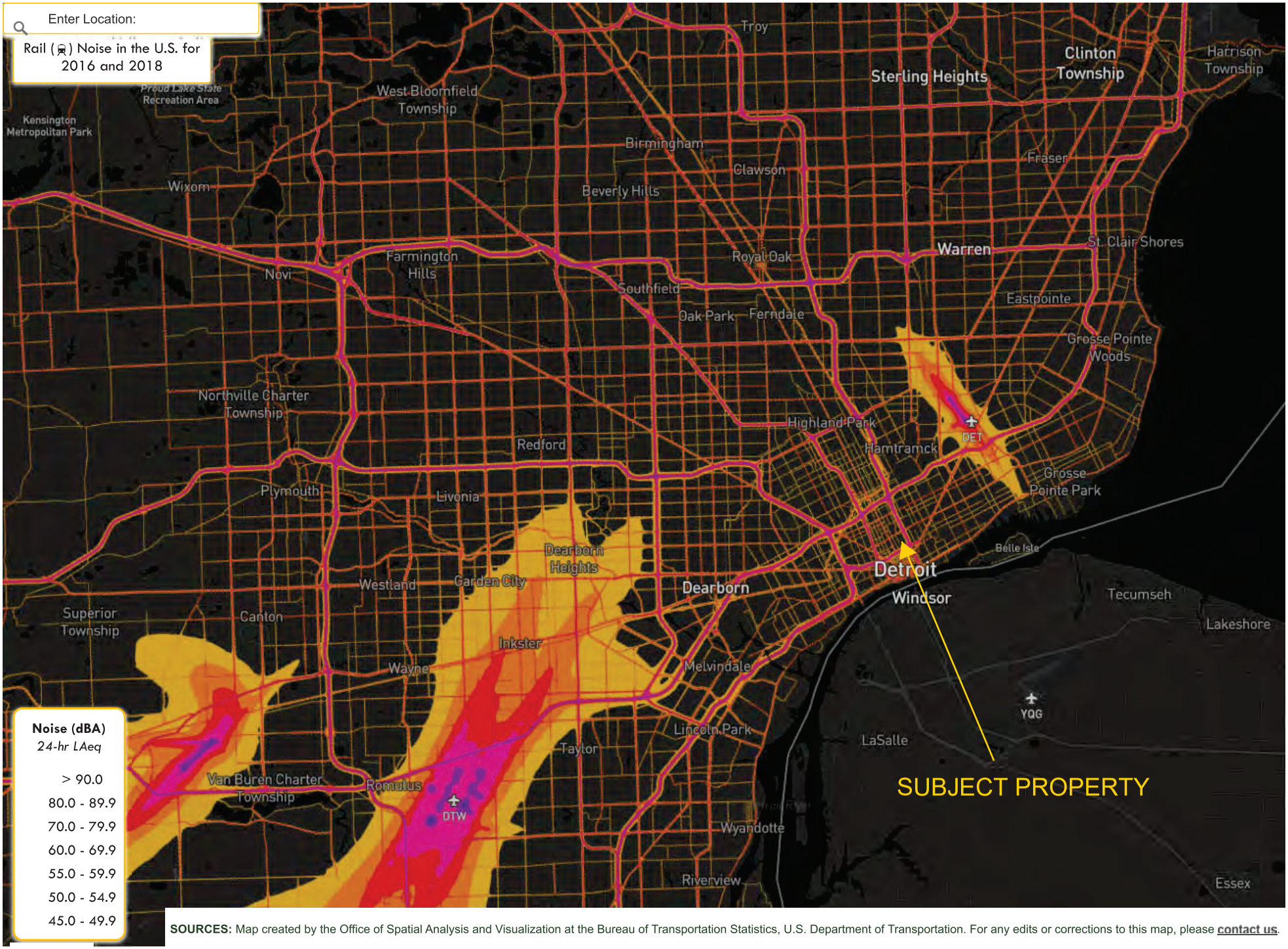
Based on the potential noise sources (i.e, nearby busy roads), HMA utilized the online HUD Day/Night Level (DNL) Calculator to generate an expected DNL. The Noise Assessment Location (NAL) correlated with the eastern edge of the proposed building footprint. The Southeast Michigan Council of Governments (SEMCOG) Traffic Volume Map was used for the average annual daily traffic (AADT). Both directions of traffic[2] were assessed as applicable, and values were reflective of 10-year traffic projections[3].

The DNL level was calculated to be 67 decibels (dB) which exceeds the HUD Noise Guideline of 65dB. It should be noted that the calculation uses various assumptions and estimations. Based on the exceeding DNL calculation, further noise assessments and/or noise mitigation controls were recommended. Concept Design Studios completed HUD STraCAT calculations for units A through J, utilizing the proposed building materials of 4" face brick one course, exterior siding – 2"insulation board and sheathing- 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gypsum boards screwed to stud and vinyl windows, which indicated that interior noise standards have been met.

9.9 Assessment of Potential Vapor Encroachment Conditions (VECs)

HMA conducted a Tier I and non-invasive Tier II Vapor Encroachment Screening (VES) of the Subject Property in general accordance with the guidelines established by the ASTM Standard Guide for Vapor

[2] Assumption: medium truck and heavy truck uses were calculated at 4% of total traffic, each.
[3] Assumption: 10-year traffic projections were estimated as a 1% increase every year.



SOURCES: Map created by the Office of Spatial Analysis and Visualization at the Bureau of Transportation Statistics, U.S. Department of Transportation. For any edits or corrections to this map, please **contact us**.

Day/Night Noise Level (DNL) Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Brewster Wheeler III
Record Date	10/03/2023
User's Name	Pamela Wheeler

Road # 1 Name:	**Chrysler Drive**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	458	458	458
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	425	18	18
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	33	29	42
Calculate Road #1 DNL	43	Reset	

Road # 2 Name:	**I-75 Freeway Southbound**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑

Effective Distance	580	580	580
Distance to Stop Sign			
Average Speed	55	55	55
Average Daily Trips (ADT)	60276	2621	2621
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	60	56	63
Calculate Road #2 DNL	65	Reset	

Road # 3 Name:	**I-75 Freeway Northbound**

Road #3

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	670	670	670
Distance to Stop Sign			
Average Speed	55	55	55
Average Daily Trips (ADT)	47697	2074	2074
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	58	54	61
Calculate Road #3 DNL	63	Reset	

Road # 4 Name:	**Gratiot Conn/ S I-375 Ramp**

Road # 4 Name:	Gratiot Conn/ I-375 Ramp

Road #4

Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	900	900	900
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	328	14	14
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	31	28	37
Calculate Road #4 DNL	38	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	○Yes ○No
Combined DNL for all Road and Rail sources	**67**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD-Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☑ **No:** ☐
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☑
Is the container diked?	**Yes:** ☐ **No:** ☐
What is the volume (gal) of the container?	2000
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	275.44
ASD for Thermal Radiation for People (ASDPPU)	369.16
ASD for Thermal Radiation for Buildings (ASDBPU)	69.27
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options (/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD-Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	2000
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	
ASD for Thermal Radiation for People (ASDPPU)	369.16
ASD for Thermal Radiation for Buildings (ASDBPU)	69.27
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options (/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler III

Sponsor/Developer

MHT Housing

Location

631 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

67

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	234	45

Add new wall

	234 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	1	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	234 ft^2
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	2	**40 ft^2**	**17.09%**
Doors:	0	**0 ft^2**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**67**
Combined STC for wall assembly:	**36.17**
Required STC rating:	**25**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

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How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance
Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler III

Sponsor/Developer

MHT Housing

Location

631 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

67

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	306	45

Add new wall

	306 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	2	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	306 ft^2
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	3	**55 ft^2**	**17.97%**
Doors:	0	**0 ft^2**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**67**
Combined STC for wall assembly:	**35.98**
Required STC rating:	**25**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

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How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance
Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler III

Sponsor/Developer

MHT Housing

Location

631 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

67

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud	234	45

Add new wall

	234 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	1	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	234 ft^2
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	2	**40 ft^2**	**17.09%**
Doors:	0	**0 ft^2**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**67**
Combined STC for wall assembly:	**36.17**
Required STC rating:	**25**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

Overview

The Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door Sound Transmission Classification (STC) values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value.

How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance
Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler III

Sponsor/Developer

MHT Housing

Location

631 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

67

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
4" face brick one course	396	45

Add new wall

	396 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	2	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	396 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	3	**55 ft²**	**13.89%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**67**
Combined STC for wall assembly:	**36.94**
Required STC rating:	**25**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

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How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler III

Sponsor/Developer

MHT Housing

Location

631 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

67

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud	315	45

Add new wall

	315 Sq. Feet	45

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	2	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	315 ft^2
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	3	**55 ft^2**	**17.46%**
Doors:	0	**0 ft^2**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**67**
Combined STC for wall assembly:	**36.09**
Required STC rating:	**25**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
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Overview

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How to Use This Tool

Location, Noise Level and Wall Configuration to Be Analyzed
STraCAT is designed to calculate the attenuation provided by the wall assembly for one wall of one unit. If unit exterior square footage and window/door configuration is identical around the structure, a single STraCAT may be sufficient. If units vary, at least one STraCAT should be completed for each different exterior unit wall configuration to document that all will achieve the required attenuation. Additionally, if attenuation is not based on a single worst-case NAL, but there are multiple NALs which require different levels of attenuation around the structure, a STraCAT should be completed for each differing exterior wall configuration associated with each NAL.

Exterior wall configurations associated with an NAL include those with parallel (facing) or near-parallel exposure as well as those with perpendicular exposure. When a façade has parallel or perpendicular exposure to two or more NALs, you should base the required attenuation on the NAL with the highest calculated noise level. For corner units where the unit interior receives exterior noise through two facades, the STraCAT calculation should incorporate the area of wall, window and door materials pertaining to the corner unit's total exterior wall area (i.e., from both walls).

Information to Be Entered
Users first enter basic project information and the NAL noise level that will be used as the basis for required attenuation. This noise level must be entered in whole numbers. STraCAT users then enter information on wall, window and door component type and area. Again, as noted above, the wall, window and door entries are based on one unit, and one wall (except for corner units as discussed above). The tool sums total wall square footage based on the combined area of walls, doors and windows for the façade being evaluated.

Users may input STC values for materials in one of two ways. The tool includes a dropdown menu of common construction materials with STC values prefilled. If selected construction materials

manually. Verification of the component STC must be included in the ERR. Documentation includes the architect or construction manager's project plans showing wall material specifications. For new construction or for components that will be newly installed in an existing wall, documentation also includes the manufacturer's product specification sheet (cut sheet) documenting the STC rating of selected doors and windows.

Required STC Rating and Determination of Compliance

Finally, based on project information entered the tool will indicate the required STC rating for the wall assembly being evaluated and whether or not the materials specified will produce a combined rating that meets this requirement. Note that for noise levels above 75 dB DNL, either HUD (for 24 CFR Part 50 reviews) or the Responsible Entity (for 24 CFR Part 58 reviews) must approve the level and type of attenuation, among other processing requirements. Required attenuation values generated by STraCAT for NALs above 75 dB DNL should therefore be considered tentative pending approval by HUD or the RE.

Part I - Description

Project

Brewster Wheeler III

Sponsor/Developer

MHT Housing

Location

631 Alfred Street, Detroit, MI

Prepared by

Concept Design Studio

Noise Level

67

Date

2/12/2025

Primary Source(s)

Interstate

Part II - Wall Components

Wall Construction Detail	Area	STC
Exterior Siding - 2" insulation board + sheathing - 2x6 wood studs @ 16" o.c., fiberglass insulation 5-1/2", 5/8" gyp. bd. screwed to stud	405	45

Add new wall

	405 Sq. Feet	**45**

Window Construction Detail	Quantity	Sq Ft/Unit	STC
Vinyl Window	1	25	29
Vinyl Window	2	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	405 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	3	**55 ft²**	**13.58%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**67**
Combined STC for wall assembly:	**37.03**
Required STC rating:	**25**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

For example:

- Staggering the studs in a wall offers approximately 4dB of additional protection.
- Increasing the stud spacing from 16" on center to 24" can increase the STC from 2-5dB.
- Adding a 2" air space can provide 3dB more attenuation.
- Increasing a wall's air space from 3" to 6"can reduce noise levels by an additional 5dB.
- Adding a layer of ½" gypsum board on "Z" furring channels adds 2dB of attenuation.
- Using resilient channels and clips between wall panels and studs can improve the STC from 2-5dB.
- Adding a layer of ½" gypsum board on resilient channels adds 5dB of attenuation.
- Adding acoustical or isolation blankets to a wall's airspace can add 4-10dB of attenuation.
- A 1" rockwool acoustical blanket adds 3dB to the wall's STC.
- Filling the cells of lightweight concrete masonry units with expanded mineral loose-fill insulation adds 2dB to the STC.

Sound Transmission Classification Assessment Tool (STraCAT)

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Add new wall

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Vinyl Window	1	25	29
Vinyl Window	3	15	29

Add new window

Door Construction Detail	Quantity	Sq Ft/Unit	STC

Add new door

Part III - Results

Wall Statistics

Stat	Value
Area:	540 ft²
Wall STC:	45

Aperture Statistics

Aperture	Count	Area	% of wall
Windows:	4	**70 ft²**	**12.96%**
Doors:	0	**0 ft²**	**0%**

Evaluation Criteria

Criteria	Value
Noise source sound level (dB):	**67**
Combined STC for wall assembly:	**37.2**
Required STC rating:	**25**
Does wall assembly meet requirements?	**Yes**

Print

Part 4 - Tips

What do you do if the preferred wall design is not sufficient to achieve the required attenuation? Another wall design with more substantial materials will work, but may not be the most cost-effective solution. Try adding some other elements for just a little more attenuation.

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ArcGIS Web AppBuilder

9/29/2022, 2:08:29 PM

1:4,622,324

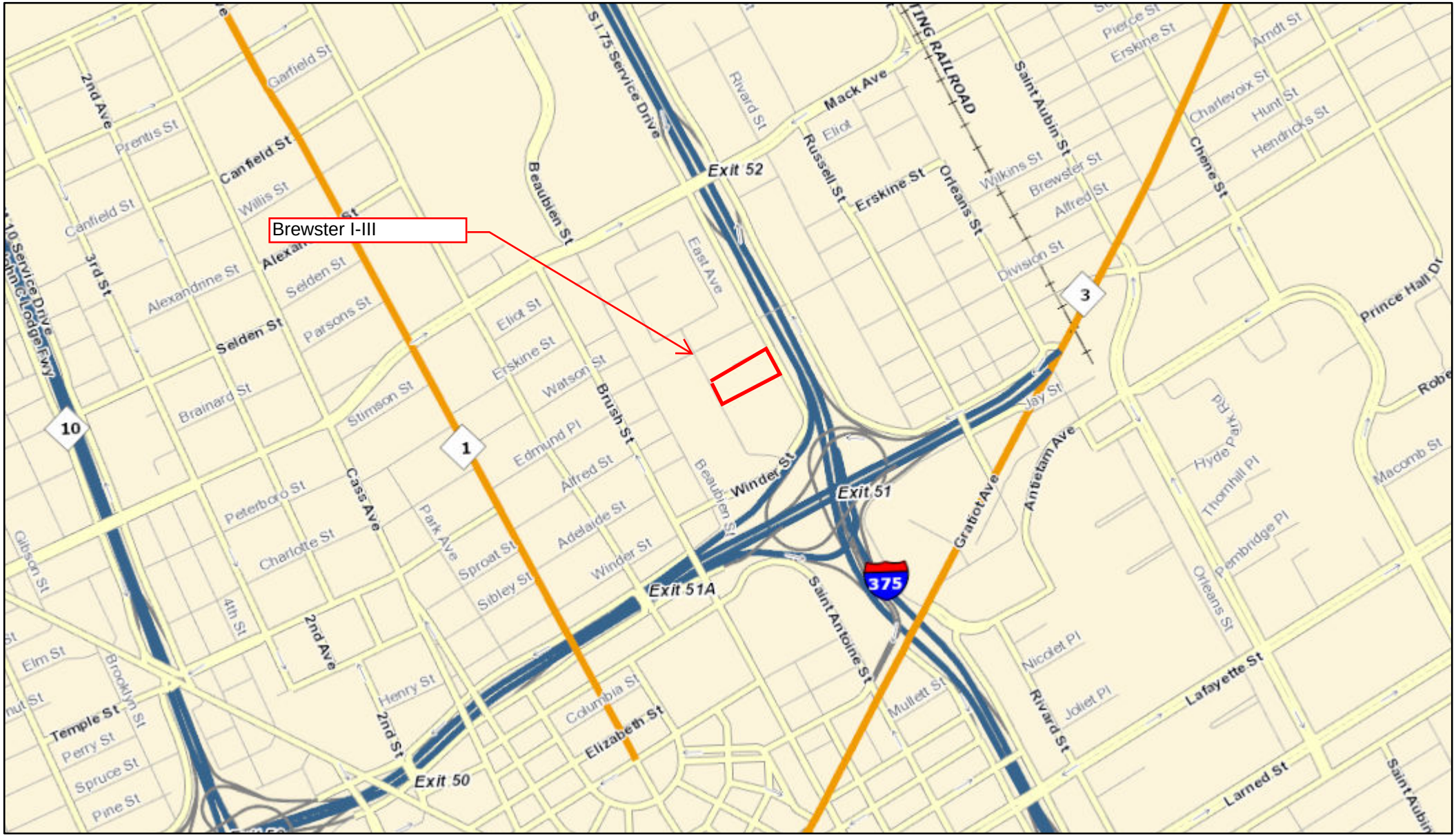
Sole_Source_Aquifers

0 25 50 100 mi

0 45 90 180 km

Esri, HERE, Garmin, NGA, USGS, NPS

Wetlands Map Viewer



May 11, 2024

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

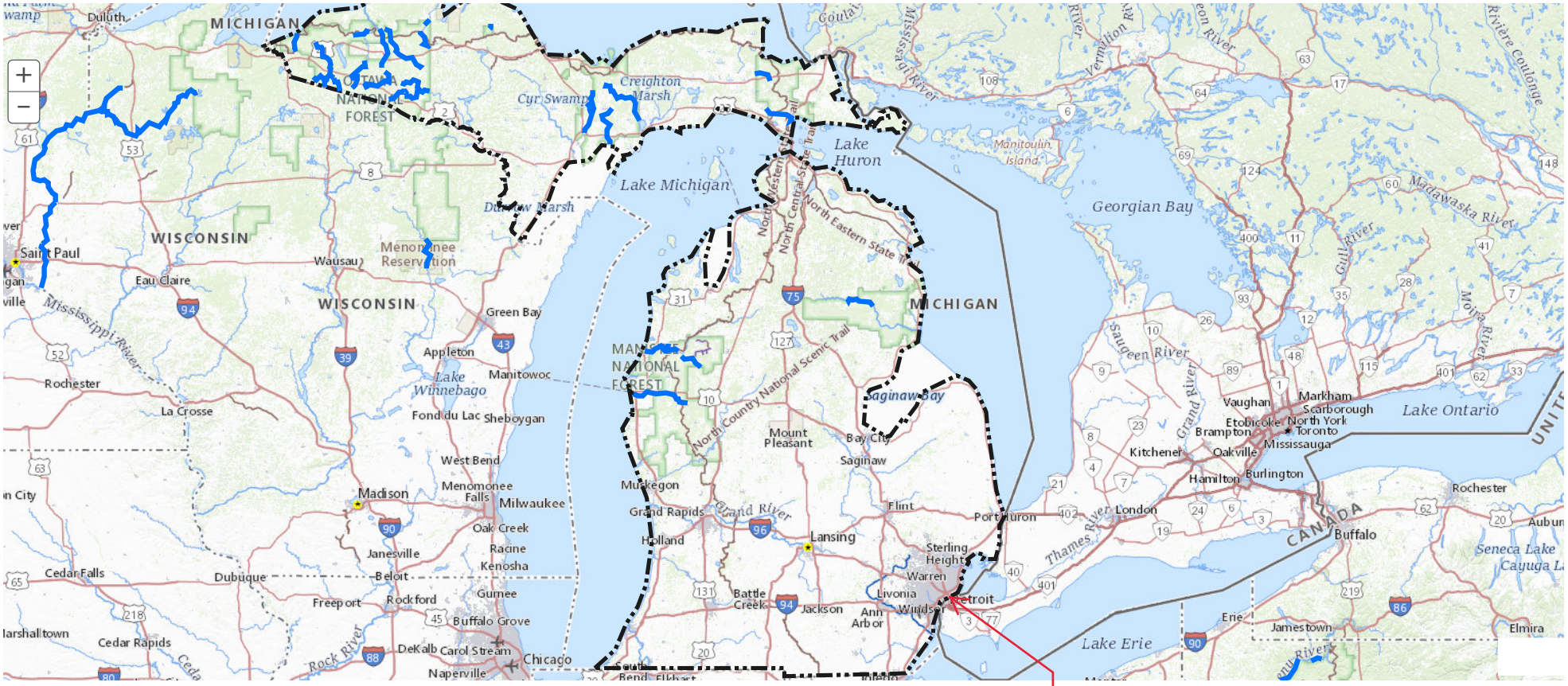
1:14,302

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

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

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



Project is not located in proximity to designated Wild and Scenic Rivers

Legend

EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Detroit, MI

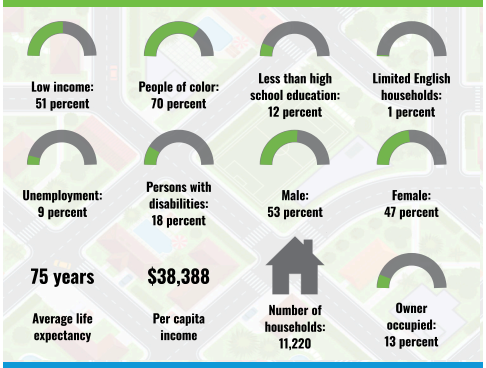
1 mile Ring around the Area
Population: 20,600
Area in square miles: 3.30

A3 Landscape

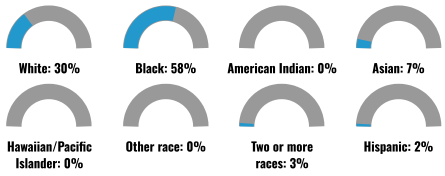
LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	92%
Spanish	1%
Other Indo-European	3%
Chinese (including Mandarin, Cantonese)	1%
Arabic	1%
Total Non-English	8%

COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE

LIMITED ENGLISH SPEAKING BREAKDOWN

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

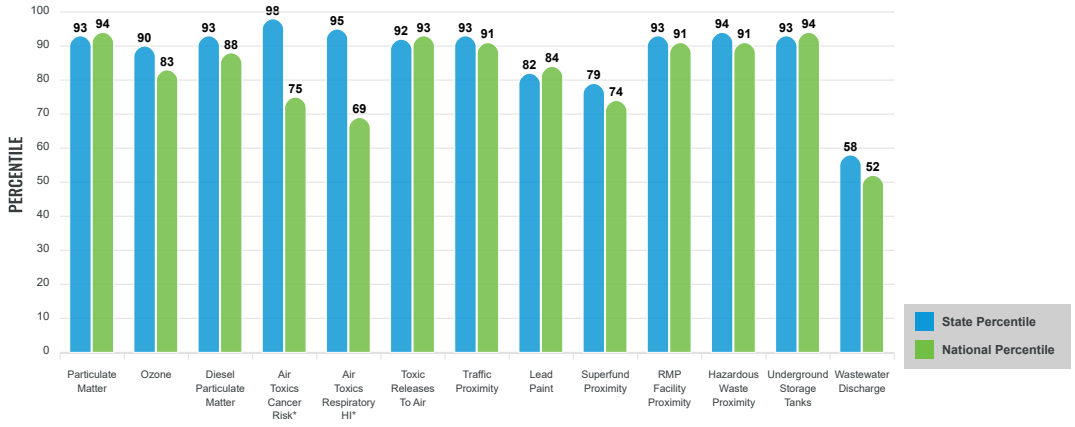
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

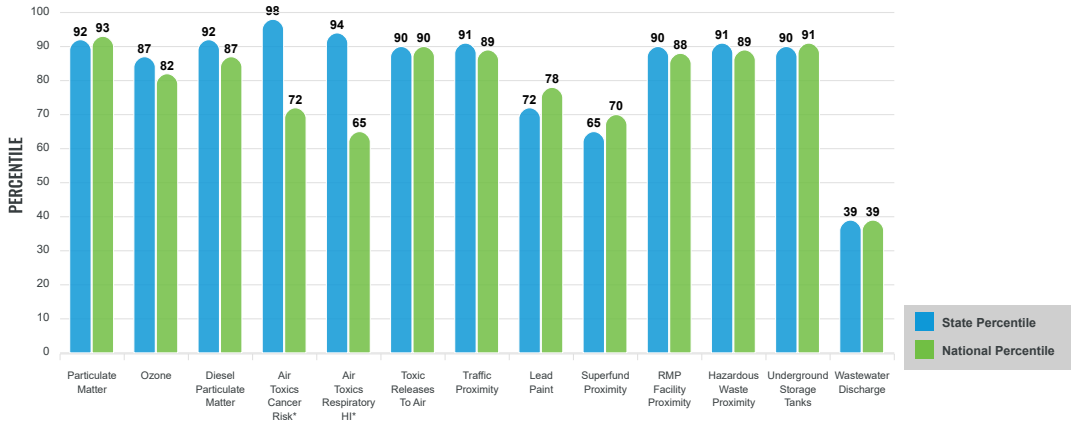
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 1 mile Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	10.5	8.51	97	8.08	97
Ozone (ppb)	62.8	60	74	61.6	61
Diesel Particulate Matter (µg/m^3)	0.361	0.183	98	0.261	78
Air Toxics Cancer Risk* (lifetime risk per million)	26	19	14	25	5
Air Toxics Respiratory HI*	0.29	0.2	11	0.31	4
Toxic Releases to Air	4,600	2,500	89	4,600	85
Traffic Proximity (daily traffic count/distance to road)	590	120	96	210	92
Lead Paint (% Pre-1960 Housing)	0.43	0.38	61	0.3	68
Superfund Proximity (site count/km distance)	0.05	0.15	39	0.13	43
RMP Facility Proximity (facility count/km distance)	0.91	0.31	91	0.43	86
Hazardous Waste Proximity (facility count/km distance)	4.2	1.1	96	1.9	86
Underground Storage Tanks (count/km^2)	52	8	99	3.9	99
Wastewater Discharge (toxicity-weighted concentration/m distance)	2.8E-05	0.13	22	22	22
SOCIOECONOMIC INDICATORS					
Demographic Index	60%	28%	88	35%	83
Supplemental Demographic Index	19%	14%	81	14%	77
People of Color	70%	26%	88	39%	78
Low Income	51%	31%	82	31%	82
Unemployment Rate	9%	7%	75	6%	78
Limited English Speaking Households	1%	2%	75	5%	58
Less Than High School Education	12%	9%	75	12%	65
Under Age 5	4%	5%	48	6%	46
Over Age 64	15%	18%	44	17%	48
Low Life Expectancy	22%	20%	68	20%	71

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 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.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	2
Water Dischargers	3
Air Pollution	7
Brownfields	18
Toxic Release Inventory	3

Other community features within defined area:

Schools	12
Hospitals	10
Places of Worship	15

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	No

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 1 mile Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	22%	20%	68	20%	71
Heart Disease	7.3	6.6	68	6.1	74
Asthma	14.1	11.6	88	10	98
Cancer	5.3	6.6	15	6.1	29
Persons with Disabilities	18.4%	14.6%	75	13.4%	80

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	3%	7%	30	12%	27
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	20%	14%	74	14%	74
Lack of Health Insurance	6%	5%	64	9%	45
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 1 mile Ring around the Area