Response Activity or Continuing Obligation	Required Activities	Party Responsible for Completing Activity	Timing of Activity	Cost	Required Follow- up or Reporting
ResAP – Clean Fill	Redevelopment of the Property will include the construction of buildings, installation of hard surfaces such as pavement, and landscaped areas. These will serve as exposure barriers and be maintained to mitigate direct contact with the known contaminated soil. All existing soils requiring excavation for construction of the building, installation of hard surfaces, and landscaping will be characterized and transported for disposal at a licensed disposal facility. The contamination soil will be covered with required subgrade material and a 4-inch concrete floor slab. These will serve an exposure barrier to mitigate contact with underlying contaminated soils in the building footprint areas. Hardscape areas will be comprised of: Hot-mix asphalt pavement Poured concrete pavement Poured concrete sidewalks Poured concrete slab-on-grade Precast paving stones Landscaped areas will include any or all of the following: Trees Shrubs Perennial plants Grass (lawn) Mulch Contaminated soil will be covered with a barrier comprised of four layers: 1. Visual demarcation fabric over the contaminated soils, such as TerraTex NO4E orange fabric or similar fabric followed by,	Contractor	During Construction	\$1,000,000	Include results in DDCC report.

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2. At least 12 to 18 inches of clean engineered fill and/or clean		
topsoil installed over the demarcation fabric followed by,		
3. Seed, sod, or mulch specified by a landscape architect		
A recreation area is proposed for the southern portion of the		
Property. The recreation area may contain lawn, picnic tables,		
or playground equipment. The ground surface in the		
recreation area may be finished with lawn, mulch, or a		
rubberized material. The total exposure barrier thickness in		
the recreation area will be 18 inches of clean engineered fill		
and/or topsoil.		
A combined 12 inches of clean fill and topsoil will be placed in		
areas of grass and perennials. A combined 18 inches of clean		
fill and topsoil will be placed in areas of shrubs, a combined 30		
inches of clean fill and topsoil will be placed in excavations for		
trees, and a combined 18 inches of clean fill and topsoil will be		
placed in recreation areas. The bottom of depth of clean fill		
placement in shrub and tree areas will be approximately 6		
inches below the bottom depth of the root ball.		
The site will be graded in a manner to provide an even surface		
for soil placement with at least a 2% slope to allow drainage		
and prevent ponding. Grading will not move contaminated soil		
beyond the horizontal extent defined in the design.		
The demarcation fabric will be a nonbiodegradable,		
nonwoven, geotextile comprised of polypropylene fibers.		
Clean soil will be placed in lifts, with each lift being compacted		
using heavy equipment to a compacted depth of 6 to 18		
inches, depending on future use, as detailed below. Topsoil		
will be placed in a 6-inch lift above the clean soil, seeded and		
properly maintained until a good grass cover is established.		
An estimated 900 cubic yards of engineered fill material and		
300 cubic yards of topsoil will be imported to the site. Prior to		
importing soil to the Property, each soil type will be		
demonstrated to be clean by analytical testing of samples		

	collected from the site of origin. The analytical testing will				
	document that the material does not contain compounds at				
	concentrations above the applicable generic direct contact				
	criteria or background levels. Three discrete soil samples will				
	be collected for each 500 cubic yards per soil type. The				
	samples will be analyzed for total VOCs, PAHs, and the				
	Michigan 10 metals.				
	Photographs will be taken to document the placement of the				
	demarcation layer and clean soil layer in all greenspace areas				
	at the Property. The thickness of the clean soil layer will be				
	documented by direct measurement (e.g., a ruler or tape				
	measure). After necessary compaction has been conducted,				
	measurements will be collected at a minimum rate of one per				
	200 square feet. A photograph of the ruler at each location will				
	be taken documenting a minimum depth of 12 to 30 inches of				
	soil. Photographs will be taken to document the placement of				
	the barrier in all greenspace areas. Approximately 125				
	confirmation measurements will be collected and				
	documented. Seed or sod will be placed over the topsoil layer				
	to establish vegetative cover.				
	A. Complete a DDCC report and submit to the City of				Provide report to
	Detroit Environmental Review Officer for review prior				HRD's ER Team
Documentation of	to submitting to EGLE. Engineering controls will		During		
Due Care	require an Operations and Maintenance plan.	Consultant	Construction	\$3,000	
Compliance	B. Additional requirements such as a Restrictive				
	Covenants and/or a recorded Notice to Title may be				
	requested depending on site conditions.				
	A. The work is conducted in accordance with the	General	Prior to		Submit work to
Section 106 –	specifications submitted to the Preservation Specialist	Contractor	Construction		Preservation
Conditional No	for review;			\$100	Specialist.
Adverse Effect	B. If archaeological materials are encountered during the				
Requirements	source of construction activities on the site, work will				
	stop immediately and the Preservation Specialist will				

	be contacted as required by the City's Programmatic Agreement, Stipulation IX; and C. If there is a change in the scope of work, those changes will be required to undergo additional Section 106 review prior to the execution of any work.	General Contractor	At any time		Notify Preservation Specialist
Section 106 – Unanticipated Discoveries Plan	Once construction has started, the SHPO approved Unanticipated Discoveries Plan shall be followed for the duration of the project.	Construction Crew, Foremen, Developer	During Construction	N/A	Unanticipated Discoveries Plan with SHPO approval
O&M Plan	Visual inspections of the landscaped and paved areas will be performed on a monthly basis after installation and until vegetation is established. Once vegetation is established, visual inspections will be conducted on a quarterly basis. If erosion or other damage that exposes the underlying dermal contact barrier (imported fill or demarcation fabric) or underlying fill is observed during routine grounds inspections, maintenance, or other site activities, the damaged area will be fenced, and access will be restricted until repaired. Fencing will remain in place and access will be restricted until the area is restored or repaired. Damage to the areas will be repaired/restored within two weeks or as soon as practical based on contractor availability. Naphthalene, 2-methylnapthalene, phenanthrene, and mercury were measured in fill soil at concentrations above Residential SSVIAC. Soil gas sample analytical results from within the footprints of proposed buildings A, B, and C for naphthalene, 2-methylnaphthalene, phenanthrene, and mercury were below laboratory reporting limits. The boring locations, soil gas well depths, and soil gas samples were collected in general accordance with EGLE's Dispersed Vapor Source in Urban Fill Under Part 201 guidance document (Dispersed Vapor Source guidance).	Contractor	Ongoing	N/A	N/A

Also, in accordance with the Dispersed Vapor Source guidance,		
the volatilization to indoor air risk associated with the		
proposed Building D footprint will be mitigated by removing		
the urban fill (where the potentially unacceptable		
concentrations of contaminants could not be adequately		
assessed, due to the relatively shallow depth of fill). The urban		
fill within this area extends to depths ranging from 2.5 to 3.8		
feet bgs. The urban fill was underlain by native sand and silt.		
The fill will be characterized and legally disposed of. The		
excavation extents will be observed and documented by SME.		
No contaminants were measured in soil concentrations		
exceeding volatile soil inhalation criteria or particulate soil		
inhalation criteria on the Property; therefore, no response		
activities are required.		

If unanticipated tanks, evidence of contamination, tanks, artifacts or bones are discovered during ground disturbing activities, work will be halted, and the Melissa Owsiany will be contacted immediately for further guidance on how to proceed. You can reach her at melissa.owsiany@detroitmi.gov.