

## Appendix D – Environmental Resources Reviewed

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CS: 39041

JN: 127489

REVIEW SUMMARY - November 08, 2018

**Location:**

I-94 BL (Stadium Dr and Michigan Ave) from Oliver St to Harrison St, City of Kalamazoo, Kalamazoo County

**Scope:**

**\*\*This scoping is in preparation for a potential PEL and construction. Please be as detailed as possible\*\***

JN 127489: Environmental Study (PEL) to determine the corridor configuration and maintenance of traffic concepts

JN 131203 and JN 200244: Funding sources for PEL study.

**Base Plan Date:** 10/02/2015

**Plan Completion Date:** 09/30/2016

Factor	Review Complete	Further Information Required	Project Evaluation/ Mitigation Requirements
Social	03/23/2016		<p>No impact. Fee ROW and/or easement(s) and/or grading permit(s) may be required. If the purchase of ROW is necessary, there should be no long-term adverse impacts provided that all State and Federal guidelines and regulations pertaining to real estate acquisition are followed [including the Uniform Relocation Assistance and Real Property Acquisition Act of 1970*]. If more than two residential units are acquired, causing residents to be relocated, or a single business is displaced, then FHWA coordination is required. If the property is occupied, then a relocation plan is required. Access to businesses/properties must be maintained throughout the project. Additionally, if pedestrian facilities are currently present, adjacent pedestrian facilities will be required, where and when possible, if there will be any sidewalk work/replacement.</p> <p>* The Uniform Relocation Assistance and Real Property Acquisition Act of 1970 provides for uniform and equitable treatment of persons displaced from their homes, businesses, or farms by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally listed programs. Whenever acquiring real property for a program or project by a federal agency displaces anyone, the agency shall reimburse and provide relocation planning, assistance coordination, and advisory services.</p>

Factor	Review Complete	Further Information Required	Project Evaluation/ Mitigation Requirements
Agriculture	03/17/2016		<p><b>FARMLAND PROTECTION POLICY ACT (FPPA)</b>  No impact. This project will require fee, grade permit, consent to grade and/or easement right-of-way from non Agriculture or Forestry zoned property. Since the impacted parcels are not in Agriculture or Forestry zoning districts then no Farmland Conversion Impact Rating form (AD-1006/CPA106) will be required to be submitted to the United States Department of Agriculture/Natural Resources Conservation Service</p> <p>(USDA/NRCS) for review under FPPA. There are no agriculture or forestry zoned parcels in the city of Kalamazoo. A zoning map for the project area is available in ProjectWise:</p> <p>pw:\\HCS591PWISPA901.som.ad.state.mi.us:MDOTProjectWise\Documents\Southwest Region\Kalamazoo TSC\127489\Pre-Construction\Environmental\Kalamazoo city of Zoning Map.pdf</p> <p>If additional ROW is added and greater than one (1) acre of Agriculture and/or Forestry zoned property will be impacted, then the project will require a reevaluation by the Michigan Department of Transportation (MDOT) Environmental Section. A form AD-1006/CPA106 will be required to be submitted to the USDA/NRCS.</p> <p><b>FARMLAND DEVELOPMENT RIGHTS AGREEMENT (PA116)</b>  No impact. This project is expected to require fee, grade permit, consent to grade and/or easement right-of-way. A Michigan Department of Agriculture (MDA) PA116 database inquiry was conducted and no PA116 enrolled parcels have been identified in the listed Town, Range, Sections.</p> <p>If the project expands outside of the listed Town, Range, Sections and ROW is added then this project will require reevaluation by the MDOT Environmental Section.</p>

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4(f)/6(f)		<p>12/19/17 worked on adding details. Need to finish KVRT details, Western's 4(f) properties on Stadium, and remaining maps. SEU</p> <p>12/8/17 Began documenting in ECO. Waiting to see if consultant will be checking on the parcel situation at College Park. Otherwise, working on writing up each location. Draft list started in write-up box. SEU</p> <p>10/11/15-Started to research. aml</p>	<p>Per Kzoo website - All Kalamazoo city park hours are 8am to dusk. City parks are open during the spring, summer, and fall months from May 1st through October 1st.</p> <p>Lovell Park is located on the south side of Lovell Street, west side of Michigan, west of the RR tracks, east of Edred Street.</p> <p>The Kalamazoo Downtown Trailway runs along Acadia Creek waterbody from Eleanor Street to Westnedge.</p> <p>College Park is located on the west side of Michigan, south side of Academy Street. The property runs approximately 2/3 of the distance between Academy and Lovell. There is the potential that the parcel is indeed two parcels with the private college owning the one closest to the corner of Academy and Michigan.</p> <p>W. Main Park is located on the north side of Main Street, west side of Elm Street, east/south side of RR tracks</p> <p>MLK Memorial Park is located on the east side of Church Street, west side of Rose Street, just on the north side of the RR tracks.</p> <p>Arcadia Creek Festival Place is located on the west side of Edwards Street, north side of Water Street, east side of Eleanor Street, and south side of</p> <p>Rose Park/Veterans Memorial is located on the north side of Michigan Avenue, across from where King highway (BL) comes into intersection with Michigan, adjacent to the Kalamazoo River</p> <p>Golf Course is located on the west side of the Kalamazoo river, south of Michigan Avenue, east of King Hwy (BL), extending south beyond the study area.</p> <p>WMU properties on Stadium</p> <p>Bronson Park is located on the east side of Park St, south side of Academy Street, west side of Ross Street, and north side of South Street</p> <p>Harrison Park is located on the east side of Harrison Road, north/west side of Gull Rd, south of North Street.</p> <p>Verburg Park is located south of Paterson Street, East of Harrison Street, north of Gull Rd, west of the Kalamazoo River</p> <p>WMU Stuff adjacent by Howard Street from previous recent JN Kalamazoo River Valley Trail system (both new on our route and the system by the Kzoo River) attach plans from Region: Start on east side of Kzoo study area - the Trail runs immediately along the Kalamazoo River adjacent/within the golf course property, crosses under Michigan over Kzoo river bridge, continues into Rose/Veterans Memorial Park. A section then runs north from there over a ped bridge over the river, then west out to Harrison, then north up over the RR tracks, it then runs east into the city's brownfield development parcel, then follows the river, crosses Gull Road and up into Verburg Park (a part of this section is also called the Joack Coombs Trailway), it continues north outside of the review area.</p> <p>Kalamazoo Valley Community College Arcadia Commons Campus green space is located north of Water Street, west of the Kzoo mall, and east of Rose Street. This may not be considered 4(f), cannot find KVCC recreational plans. Additional research would need to be done into the campus plan to determine if protected under Section 4(f).</p> <p>Woodward School for Technology and Research and associated recreational features are located east of Stuart Avenue, south of North Street, and east of Woodward Avenue (just north of the project review area).</p>

Factor	Review Complete	Further Information Required	Project Evaluation/ Mitigation Requirements
Historic	03/15/2016		<p>Possible significant impact.</p> <p>There are many National Register listed and eligible historic districts and individual properties located adjacent to the proposed project. Any easement and/or fee ROW purchase (or donation), widening, radius improvements, or other proposed work outside the existing curb at any historic property will involve both formal SHPO consultation and likely Section 4(f) impacts. Major changes to the existing roadway, like a cycle track, streetscape, etc., will also involve SHPO consultation. An</p> <p>adverse effect determination under Section 106 of the National Historic Preservation Act is possible. The chosen preferred alternative could also result in the need for an individual Section 4(f) document to address things like ROW acquisition and potential constructive use impacts.</p> <p>There are also a large number of buildings and neighborhoods that have never been surveyed for National Register eligibility. A survey will be necessary, and due to the large area this will need to be done by a consultant. The completion of the survey will be required for the full assessment of proposed project impacts. The survey will cover the entire project area.</p> <p>The known National Register listed properties/districts are outlined below.</p> <p>Known National Register listed properties/districts (this list is incomplete, and will remain incomplete until the full survey of the area is finished and approved by the SHPO). Partial map from City of Kalamazoo is in PW at <a href="pw:\HCS591PW\SPA901.som.ad.state.mi.us:MDOTProjectWise\Document s\Southwest Region\Kalamazoo TSC\127489 - PEL (Stadium from Oliver to Riverside).\Pre-Construction\Environmental\JN 127489 Kalamazoo partial map of historic districts.pdf">pw:\HCS591PW\SPA901.som.ad.state.mi.us:MDOTProjectWise\Document s\Southwest Region\Kalamazoo TSC\127489 - PEL (Stadium from Oliver to Riverside).\Pre-Construction\Environmental\JN 127489 Kalamazoo partial map of historic districts.pdf</a>:</p> <ol style="list-style-type: none"> <li>1. Stuart Neighborhood Historic District (both original listing and Boundary Increase)</li> <li>2. South Street Historic District</li> <li>3. South Street Local Historic District</li> <li>4. East Campus (WMU) Historic District</li> <li>5. Bronson Park Historic District</li> <li>6. Haymarket Historic District (including Boundary Increase)</li> <li>7. Rickman House at 345 North Burdick, a Local Historic District</li> <li>8. Railroad Depot on the N side of Kalamazoo Ave. at the NW quad of Burdick</li> <li>9. Masonic Temple Building at 309 N. Rose</li> <li>10. Lawrence and Chapin Building at 201 N. Rose</li> <li>11. Gilbert House at 415 W. Lovell</li> </ol>

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Archaeology	04/11/2016		Detailed land use history for historic and prehistoric archaeological sites will be required to assess archaeological sensitivity within Study Area and determine areas where significant impacts may need to be addressed. Land use history will be combined with above-ground research in a consultant study.
Wetlands	03/17/2016		<p>There are very few wetlands in the vicinity of the project limits. If work takes place in any wetland then a MDEQ Part 303 permit will be applied for by the Region Permit Specialist. Wetland mitigation will also be required for all wetland impacts. There is also the potential for a U.S. Army Corps of Engineers (USACE) Section 404 or Section 10 permits and/or coordination with the U.S. Coast Guard. Wetland impacts are unlikely. Maps showing the locations of regulated features is available in ProjectWise:</p> <p>pw:\\HCS591PWISPA901.som.ad.state.mi.us:MDOTProjectWise\Document s\Southwest Region\Kalamazoo TSC\127489\Pre-Construction\Environmental\JN 127489 Map wetland stream floodplain.pdf</p> <p>pw:\\HCS591PWISPA901.som.ad.state.mi.us:MDOTProjectWise\Document s\Southwest Region\Kalamazoo TSC\127489 - PEL (Stadium from Oliver to Riverside).\Pre-Construction\Environmental\JN 127489 Map 2 wetland stream floodplain.pdf</p> <p>pw:\\HCS591PWISPA901.som.ad.state.mi.us:MDOTProjectWise\Document s\Southwest Region\Kalamazoo TSC\127489 - PEL (Stadium from Oliver to Riverside).\Pre-Construction\Environmental\JN 127489 Map 3 wetland stream floodplain.pdf</p> <p>If work is added in any wetland then a MDEQ Part 303 permit will be required. There is also the potential for a U.S. Army Corps of Engineers (USACE) Section 404 or Section 10 permit and/or coordination with the U.S. Coast Guard.</p>

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Streams	03/17/2016		<p>The project crosses Arcadia Creek 3 times, the Kalamazoo River and Portage Creek. If the proposed work impacts a stream, lake or drain then a MDEQ Part 301 permit will be required and applied for by the Region Permit Coordinator. There is also the potential for a U.S. Army Corps of Engineers (USACE) Section 404 or Section 10 permits and/or coordination with the U.S. Coast Guard. Maps showing the locations of regulated features is available in ProjectWise:</p> <p>pw:\\HCS591PW\\SPA901.som.ad.state.mi.us:MDOTProjectWise\\Documents\\Southwest Region\\Kalamazoo TSC\\127489\\Pre-Construction\\Environmental\\JN 127489 Map wetland stream floodplain.pdf</p> <p>pw:\\HCS591PW\\SPA901.som.ad.state.mi.us:MDOTProjectWise\\Documents\\Southwest Region\\Kalamazoo TSC\\127489 - PEL (Stadium from Oliver to Riverside).\\Pre-Construction\\Environmental\\JN 127489 Map 2 wetland stream floodplain.pdf</p> <p>pw:\\HCS591PW\\SPA901.som.ad.state.mi.us:MDOTProjectWise\\Documents\\Southwest Region\\Kalamazoo TSC\\127489 - PEL (Stadium from Oliver to Riverside).\\Pre-Construction\\Environmental\\JN 127489 Map 3 wetland stream floodplain.pdf</p>
Floodplains	03/17/2016		<p>The project falls in a lot of floodplain area from Arcadia Creek, the Kalamazoo River and Portage Creek. If cut or fill is required at any floodplain area then a MDEQ Part 31 permit will be required and applied for by the Region Permit Coordinator. There is also the potential for a U.S. Army Corps of Engineers (USACE) Section 404 or Section 10 permits and/or coordination with the U.S. Coast Guard. Maps showing the locations of regulated features is available in ProjectWise:</p> <p>pw:\\HCS591PW\\SPA901.som.ad.state.mi.us:MDOTProjectWise\\Documents\\Southwest Region\\Kalamazoo TSC\\127489\\Pre-Construction\\Environmental\\JN 127489 Map wetland stream floodplain.pdf</p> <p>pw:\\HCS591PW\\SPA901.som.ad.state.mi.us:MDOTProjectWise\\Documents\\Southwest Region\\Kalamazoo TSC\\127489 - PEL (Stadium from Oliver to Riverside).\\Pre-Construction\\Environmental\\JN 127489 Map 2 wetland stream floodplain.pdf</p> <p>pw:\\HCS591PW\\SPA901.som.ad.state.mi.us:MDOTProjectWise\\Documents\\Southwest Region\\Kalamazoo TSC\\127489 - PEL (Stadium from Oliver to Riverside).\\Pre-Construction\\Environmental\\JN 127489 Map 3 wetland stream floodplain.pdf</p>

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NPDES	04/14/2016		<p>If this project includes earth disturbance of greater than one (1) acre, PA 451, Part 31 requires that a Storm Water Certified Operator conducts inspections of soil erosion and sedimentation control measures on a weekly basis or within 24 hours of a storm event. The Certified Storm Water Operators are also required to maintain inspections logs and make them available to resource agencies as requested. If the project involves greater than five (5) acres of earth disturbance, a Notice of Coverage form will need to be submitted to the Michigan Department of Environmental Quality. Please contact Tom Killingsworth if you have any questions.</p>
Endangered Species -03/15/2016 Flora			<p>South west of Howard Street to Arcadia Creek there is a known population of <i>Silphium integrifolium</i> (Rosinweed), State Threatened. This species has been previously mapped by MDOT as well as the suitable habitat at this location. In two areas the plants are located within 6 feet of Stadium Drive. This site is also signed and is enrolled in MDOT's Protected Area Program. If work off the existing pavement will be required in this area then field surveys will be required to determine</p> <p>potential impacts to the species and its habitat. If the species will be impacted then a Michigan Endangered Species Permit will be required. I do not see a problem in obtaining that permit but some mitigation for the species and loss of habitat may be required. One good option would be a prairie restoration project in the Arcadia Prairie located between Stadium Drive and WMU's Campus. This could be a partnership between MDOT, WMU, CSX and the Power company that owns the over head lines. Several acres of prairie could be restored fairly easily and at low cost which would also benefit the maintenance requirements of several of these partners.</p> <p>No impact. There are three locations for listed species south west of the project along Stadium Drive. These are well known protected areas within MDOT ROW. These sites and species will not be impacted by the proposed work activities. This highly urban project corridor is all mowed and maintained and has little to no preferred habitat for these species. Based on this review, no further field surveys or coordination with the MDNR or the USFWS is required. If the project limits are changed to include work SW of Oliver St then the project will need to be re-evaluated for potential impacts to listed species and their habitats.</p>



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			<p>Sites are numbered from southwest to northeast</p> <p>A 1983 record for Starry campion (<i>Silene stellata</i>) State Threatened, exists 2 miles southeast of the project, On the north side of Asylum lake, south of apartment #4239. T2S, R11W, Section 30. Starry campion occurs in dry, open woodlands on sandy soils, dry-mesic forest on or just above the upper margin of river floodplains, and savanna and prairie remnants in the southern Lower Peninsula. Survey July 1st to August 31st.</p> <p>A record (first observed 1940 last observed 1980) for Leiberg's panic grass (<i>Dichanthelium leibergii</i>) State Threatened exists 1.14 miles southwest of the project, on the south side of Stadium Drive about 0.25 mile west of Howard Street. Atop a steep bank just west of the Kalamazoo Child Guidance Center. T2S, R11W, Section 29. Leiberg's panic-grass is found in dry to wet-mesic prairies, savannas, and openings in oak forest. Survey June 1st to Aug 31st.</p> <p>A record (first observed 1962 last observed 1980) for Rosinweed (<i>Silphium integrifolium</i>) State Threatened, exists .87 miles southwest of the project, Along both sides of Stadium Drive from Oliver Street to the Child Guidance Center. T2S, R11W, Section 20. Occurs in sedge and grass-dominated prairie remnants along roads and railroad tracks or in cemeteries, in wet-mesic prairies and fens on peaty mucks and loams, and on dry-mesic to mesic loams and sandy loams. Survey July 1st to September 30th</p> <p>A record (first observed 1926 last observed 1963) for Leiberg's panic grass (<i>Dichanthelium leibergii</i>) State Threatened exists .7 miles southwest of the project, Northeast of the intersection of Stadium Drive and Vander Geissen Road on an old roadbed along the MCRR tracks. T2S, R11W, Section 20. Leiberg's panic-grass is found in dry to wet-mesic prairies, savannas, and openings in oak forest. Survey June 1st to Aug 31st.</p> <p>A 1980 record for Rattlesnake-master or button snakeroot (<i>Eryngium yuccifolium</i>) State Threatened exists .52 miles southwest of the project, Along the southeast side of Stadium Drive 300 yards northeast of Howard Street. T2S, R11W, Section 20. Occurs in sedge and grass-dominated portions of prairie fen complexes, including thickets along stream drainages. Also found in sandy soils and wet prairies in former oak savannas and oak barrens, often occurring in small remnants along power lines and railroad rights-of-way. The species likely occurred historically in a variety of prairie and savanna habitats. Survey July 1st to September 30th.</p> <p>A record (first observed 1970 last observed 1980) for Compass Plant (<i>Silphium laciniatum</i>) State Threatened exists .47 miles southwest of the project, Between the RR tracks and Stadium Drive SE of the Western Michigan University campus. N of Howard Street. T2S, R11W, Section 20. Compass-plant occurs in mesic and dry-mesic prairie remnants, although the majority of extant populations appear to be waifs in degraded habitats along rights-of-way outside the core range of the species. Survey July 1st to August 31st.</p>

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Endangered Species - 06/02/2016 Fauna			<p>There is a nearby 2013 acoustic Northern Long-Eared Bat record on the Kalamazoo River within the scoping corridor. If any tree removals or clearing of trees greater than 3" diameter at breast height (dbh) will occur, then review by the MDOT Ecologist and consultation with the US Fish and Wildlife Service (USFWS) will be required. If suitable habitat is found, and the removals cannot take place between October 1 and March 31 (ie winter), a biological survey will be required. The survey will take place between the months of May and August at a cost to the project. If the survey results are negative, tree removals can occur any time of year. If the results are positive and cutting cannot be completed in the winter, formal consultation with FWS will be required taking from 12 to 18 months to complete.</p> <p>If work below the ordinary high water mark of the Kalamazoo River is planned, then a freshwater mussel survey and relocation may be required due to the upstream presence of state species of concern Elktote and state threatened Purple Wartyback. This crossing should first be reviewed by the MDOT ecologist during the summer to determine if suitable habitat and a community occurs at the crossing.</p> <p>If any substantial substructure or superstructure bridge work is proposed, then informal consultation will be required with the U.S. Fish and Wildlife Service (USFWS) due to the potential for roosting bats. This process typically requires 14 days but may be subject to longer timelines due to the proximity of the Northern Long-Eared Bat.</p> <p>Contact Jeff Grabarkiewicz, MDOT Ecologist, at (517) 335-2633 with questions.</p>

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Tree Removals	03/16/2016		<p>No impact. If tree removals are added:</p> <p>additional Endangered Species review and potential USFWS coordination is required.</p>
Detour	03/23/2016		<p>No impact. A detour may be required for work related to the scope of this project. If a detour is required, the following comment is offered: Although the detours will result in temporary inconveniences for travelers, such as longer travel times and distances, no long-term impacts are anticipated. Contact must be made locally concerning the detour route and the duration of the detour. Currently, there is no controversy concerning either impact. If controversy arises due to the duration of the detour, this project may need to be reevaluated. Currently, no upgrades are proposed, if upgrades become necessary, additional environmental review will be required. Additionally, coordination with emergency services, transit authorities and schools must take place concerning the dates and routes of the detour.</p>
Noise	03/15/2016		<p>Potential concern. There are noise sensitive land uses at W. South Street and Michigan Avenue (park and residences) and residences north of Main Street and Michigan Avenue within the area of potential effect. There are also neighborhoods around Michikal, Douglas, Kalamazoo and W. Main Street in the west side of the area of interest. There are also residences along Gull Street and Riverview Drive in the northeast section of the area of interest. If the project include the addition of a new through traffic lane, auxiliary lane or significant horizontal roadway realignment, then a noise analysis will be required for the entire project corridor.</p>

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Air Quality	03/15/2016		The study area is in attainment for criteria pollutants. However, the EPA is in review for area designations of the 2015 8-hour ozone standards and will announce the designations in October 2017. Kalamazoo County is projected to be designated as a non-attainment area for the standard. This will require that any transportation project meet regional conformity before being included in a regional transportation plan and transportation improvement plan.
Controversy	03/23/2016		No impact. Controversy is possible from the scope of work associated with this project. It is recommended that a public information meeting be held and possibly a stakeholder group be formed. The public meetings will help inform the concerned public and reduce controversy. If there is still controversy after the meeting, the project may need to be re-evaluated. Please contact Richard Bayus with any concerns at 517-373-8046.
Contamination	03/26/2016		<p>Based on a general Michigan Department of Environmental Quality (DEQ) database search, twenty seven (27) known contaminated sites were identified within or adjacent to the proposed project area. In addition, railroad grades are historically contaminated and the railroad bridge over Riverview Drive. A map showing the locations of the known contaminated sites is available in ProjectWise.</p> <p>It is recommended a Project Area Contamination Survey (i.e., PACS, Phase I Environmental Site Assessment) be conducted to confirm known, and identify potential sites of contamination. A PACS is necessary to purchase fee ROW, and may be necessary for grading permit/easement ROW. All contaminated media must be handled and disposed of appropriately in accordance with state and federal regulations.</p>

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Water Quality	03/23/2016		<p>Water Quality Concerns</p> <p>Lake Allegan (Kalamazoo River Impoundment) TMDL due to phosphorus covers entire project area.</p> <p>1. Portage Creek, 250 feet east of eastern terminus of project limits</p> <p>Restudy:</p> <p>Arcadia Creek runs parallel in the south direction to the project starting 520 feet north east of the Oliver Street/Stadium Drive. It crosses the road three times within the project zone: 500 feet north of Howard Street/Stadium Drive, 980 feet north of the previous crossing, and 660 feet south of Oliver Street/Stadium Drive.</p> <p>Kalamazoo River crosses the road 80 feet from Michigan/King intersection. It is impaired for other indigenous aquatic life and wildlife due to PCBs in the water column as well as mercury. Fish consumption is impaired due to PCBs in the water column and the tissue as well as mercury in the water column and dioxin.</p> <p>Compliance with MDOT's NPDES Stormwater Discharge Permit: Disturbed area is greater than or equal to 1 acre; therefore treatment of post-construction stormwater runoff must be evaluated. Water Quality concerns: 1) any new locations of paved surface, curb and gutter, or storm sewer that discharge to a waterbody by means other than sheetflow and/or vegetated ditches; 2) newly constructed or reconstructed stormwater outlets near a waterbody. Stormwater BMPs must be in place that will prevent or minimize water quality impacts, including, but not limited to, those from extreme flow rates and volumes. New controls may not be necessary if existing controls are evaluated and determined to be adequate to treat proposed runoff volume and prevent impacts. At a minimum, goals for treating stormwater runoff for all MDOT projects are: 1) eliminate direct discharges into receiving waterbodies; 2) reduce runoff velocities; and 3) reduce the amount of sediment entering the receiving waterbody. Refer to Chapters 8 and 9 in the MDOT Drainage Manual for BMP selection and design guidance. The plan for controlling stormwater must be coordinated with and approved by the Aquatic Resource Specialist in the Environmental Section prior to Plan Review. If stormwater controls are not feasible, then documentation of alternatives examined is required, including justification for why they were not feasible.</p> <p>New NPDES permit requirements will be in effect in fiscal year 2015 and will require treating the first one inch of runoff by removing 80% of total suspended solids. Any increase in impervious surface will require the retention of new stormwater up to the 2 year 24 hour storm event. All projects with construction starting in calendar year 2018 will be required to comply with the new permit post construction BMP standards. BMPs development must be coordinated with Barb Barton, Aquatic Resource Specialist.</p> <p>For additional information please contact Barb Barton, Aquatic Resource Specialist at (517) 241-2311.</p>

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Indirect/Cumulative	03/23/2016		<p>It is not anticipated that this project will have any long-term impacts. It is not anticipated that the proposed project will change land use patterns in the area and should have no impact on future development patterns. Although, past activity in the area, recent development trends, and local projects (non-MDOT projects) within the study area could create a cumulative impact , but the impact is likely to be a positive one; Cumulative effects resulting from known and anticipated actions in the area are expected to be minimal. Meetings early on with stakeholder groups should take place to try to figure out ways to minimize construction and/or detour impacts. The project is not likely to start changes and development beyond what is already existing or planned.</p>