

Capital Improvements Committee

July 24, 2018

MEETING SUMMARY

A meeting of the Capital Improvement Committee of Oshtemo Township was held on Tuesday, July 24, 2018 at 1:00 pm in the north conference room of Oshtemo Township, 7275 West Main Street, Kalamazoo, Michigan. Persons in attendance included Libby Heiny-Cogswell, Nancy Culp, Marc Elliott, Jamie Baker, Tom Wheat, Jim Hoekstra, and Dave Bushouse.

1. Welcome/Introductions/Call to Order: Dave Bushouse called the meeting to order and welcomed members and guests.
2. Meeting Summaries: The meeting summary for the April 17, 2018 meeting was reviewed. The meeting minutes were approved by members upon motion by Baker and support by Heiny-Cogswell.
3. Standard Specifications for Sidewalks: As a follow-up to the April CIC meeting, a proposed text change was provided to address heavily trafficked commercial properties. The proposed change allows an ADA-accessible route through the drive in lieu of a detached concrete sidewalk. The proposed change was approved for recommendation to the Township Board upon motion by Baker and support by Culp.
4. 2018 Roadway Project Additions: In late spring 2018, additional Act 51 monies were released to local agencies to further assist local governmental roadway maintenance. Oshtemo staff worked with RCKC managers to identify and adjust County local road projects in a manner that best used funds appropriated for Oshtemo. Proposed County local road project adjustments (substitution of Crystal Ln (2,213 ft.) for Maple Hill Dr. (510 ft.)) were presented to the Township Board on May 22nd. Four (4) new County primary road projects were selected by RCKC including 9th Street between West Main and H Ave, H Ave between Drake Road and 10th Street, Stadium Drive between 9th Street and 11th Street, and Stadium Drive between 6th Street and 8th Street. Hoekstra provided a progress update on each project: each project is complete or nearly complete requiring only new painting of travel lanes.
5. Solicitation of Bids for the installation of Water Service Connections: SWT Excavation has indicated they will not seek to continue their services contract when it expires on October 31, 2018. The Township is working with Prein&Newhof to prepare a new solicitation of bids for these services. To support a new services contract starting on November 1, 2018, the plan is to present the recommended service contract to the Township Board for approval at the October 9 Board Meeting. Therefore, the new services contract should go out for bid by late August.

6. Drake Road Non-Motorized Project – First Construction Segment: On behalf of Oshtemo Township, on July 17th RCKC submitted final commitment documents needed to receive grant funding from MDOT for a proposed non-motorized facility from W. Main St. to Green Meadow Drive. This proposed 6-ft sidewalk is being partly funded under the MAP-21 Transportation Alternatives Program (TAP). Final MDOT bid documents are being packaged for advertisement on August 3rd, a month later than planned. Due to the one month delay, the contractor may not construct the sidewalk this fall. The contractor may elect to remove trees and perform other site prep work in order to build the sidewalk in the Spring 2019. Delaying the construction until spring will have no impact on the cost of the sidewalk.

7. 2018 Non-Motorized Projects: Oshtemo is continuing work to complete the Drake Rd. facility from Green Meadow Drive to Stadium Drive. A second TAP project has been endorsed by MDOT between W. Michigan Ave. to Stadium Drive. A separate federal Transportation Safety Project is being pursued by the Township for the segment between Green Meadow Drive and W. Michigan Ave. The Safety Grant portion is delayed due to the requirement to obtain Amtrak approval for the railroad crossing. Members discussed the process for obtaining Amtrak approval for the railroad crossing which includes Amtrak redesigning the crossing for us. Amtrak has not provided a timeline for their review process.

Additionally, survey and design work is underway along Stadium Drive between 11th Street and 8th Street. The Stadium Drive sidewalk is planned for 2020 and is a joint project between the Township and the DDA. The Township portion has been awarded a grant by KATS for 2020. Prein&Newhof will assist in applying for a TAP grant for the DDA portion.

Several important steps have been completed to support a 10-foot bike path on the north side of KL Ave between Drake Road and Copper Beach. MDOT modified their US-131 bridge reconstruction design to accommodate the 10-foot path. It is still uncertain who will pay for the \$135,000 retaining wall. And easement discussions commenced with the Concord Place and Mt. Royal management company.

8. Sidewalks with Sewer: The Township Board continues its consideration of possible neighborhood sidewalks in conjunction with scheduled public sewer extensions. Baker summarized the resident meetings regarding the sidewalks and the June 12 Township Board meeting where the residents voiced their disapproval of the proposed sidewalks. The next step is for the Township Board to determine which roads will receive sidewalks and how to fund the sidewalks. This is expected to occur at the August 14 or August 28 Board meetings.

9. Sidewalk Policy Updates: Baker provided an update of the Go-Green! Oshtemo Non-Motorized Study Group initiative. The purpose of the study group is to develop an updated non-motorized facility plan with goals and action strategies to accomplish the non-motorized plan. The Township is working with non-motorized consultants, The Greenway Collaborative, who are non-motorized specialists. A draft version of the non-motorized plan, goals, and action strategies will be presented at a public open house on August 2 from 4-7 pm at the Township Hall.

Based on the results of Sidewalks with Sewer project and the Non-Motorized Study Group, Baker presented draft versions of the Oshtemo Complete Streets Policy (attached) and Oshtemo Road/Sidewalk Assessment Policy. The purpose of the draft versions is to inform Board members and Township staff of current policies, and initiate discussion of recommended changes to support recent Board discussions on sidewalks. For example, the current Township Complete Streets policy is really just a resolution in support of the Complete Streets concept. Baker modified the Portage Complete Streets policy to illustrate what an Oshtemo Complete Streets policy might look like. Section VII of the draft policy, provides the rationale for which streets will receive sidewalks and which ones may not.

Additionally, the Road/Sidewalk Assessment Policy requires residential property owners to contribute \$30 per foot of sidewalk and commercial property owners \$35 per foot. Recent Board discussions indicate that assessments are not desired for the sidewalks with sewers project. Therefore, the Board should waive the policy for this specific project and/or change the assessment policy to reflect the amount the Board expects the property owners to contribute to the sidewalk projects.

Members approved sending the draft Complete Streets Policy, with the changes discussed above, to the Township Board for consideration. Members recommended waiting on the Road/Sidewalk Assessment Policy until after the Board approves the Complete Streets policy and then how sidewalks will be funded. Then the Assessment Policy should be revised to reflect the funding decisions.

10. Public Sewer Extensions, Phase 1 Project Update: Members were briefed on project progress in financing, engineering-design, and easement acquisitions for the planned 2019 sewer extensions into developed neighborhoods. The USDA has informally stated that the plan is to fund Phase I of the project in 2019, but to accelerate Phase 3 and complete the loan procurement work with Phase 2 in 2020. Phase 1 engineering design is on schedule to be completed this fall. Engineering design of Phases 2 and 3 will start as soon as Phase 1 is complete and when monies are budgeted. Approximate easement locations for two lift stations have been identified and contacting the property owners for easement acquisition is starting.

11. Mandatory Sewer Connection Notifications: Staff summarized progress in its formal notifications and educational out-reach to properties now required to connect to available public sanitary sewer. Approximately 240 of the 320 notices have been issued at a rate of 30 notices per month. There are about 10 properties that have sewer mains adjacent to the property but no sewer leads were installed. The Public Works Department will budget in 2019 to install the sewer leads and issue the notices to these 10 properties in 2019. The sewer leads will be installed at the same time the property connects to the sewer with the Township paying for the sewer lead portion.

12. Oshtemo fire hydrant signs to be replaced with newer wire-whip flags: The Oshtemo Fire Department has initiated efforts to replace aging or damaged hydrant signs with preferred wire-whip flags. The FD is providing the labor for this task, with the flags being provided by the City. Oshtemo has requested guidance from the City so that identifiable hydrant deficiencies can be reported to the water department for maintenance.

13. Miscellaneous Project/Program Updates & General Information. An overview of current activities and project status will be presented, to include:

- KLA Group Public Water Extension & New Pressure Reduction Station – Since the water service connections to the houses finished in December 2017, restoration of lawns was delayed. Restoration continues and the Tree Replacement Plan Public Meeting is scheduled for July 25, 2018. The trees will be planted in late September or early October.
- BTR 2.0, Drake Road (WMU project with Oshtemo’s participation to extend public utilities) – WMU awaiting federal approval of project to start building infrastructure.
- MDOT US-131 bridge replacement over KL Ave – MDOT bridge design work continues with deadline to produce final drawings by September 2018. MDOT agreed to design a retaining wall for the non-motorized path; however, payment for the retaining wall is still unresolved.
- LED Street Lights Upgrade (to be included in 2019 budget) – Members discussed whether this project should remain with the Treasurer’s Office or be transferred to the Public Works Department. Topic was turned over to staff for internal discussions.
- Stormwater Asset Management and Wastewater (SAW) – Tom Wheat briefed the members on the SAW grant progress. His team of engineering interns continue to GPS locate all manhole covers and photograph the manhole interiors for condition assessments. This data gathering step of the SAW grant will continue for several more months.
- KATS/RCKC CIP Data Initiative (a prototype initiative using GIS technology to capture, communicate & coordinate planned (5-years) capital improvements within the public ROW) – In September 2018, the RCKC will present a pilot project to show all planned road right-of-way work on one GIS map. The data will include public and private company plans.

14. Member Comments and Information Items:

- RCKC is performing culvert inventory pilot project with Michigan Technological University. The location and condition assessment data will be added to RoadSoft, which Oshtemo has access to.
- Heiny-Cogswell discussed the financial audit recommendation to remove capital improvement items from the budget at the end of the year if they will not be completed. This will improve accuracy in the budgeting process of what is planned and what was actually completed.
- The RCKC asked the Townships to provide advance notice of issues to be discussed prior to the RCKC attending Board meetings annually.
- Consumers Energy is starting a demonstration project on Parkview Ave adjacent to US-131. The project is a giant battery to store electricity from the BTR solar farm.

15. Next Meeting: The next regularly scheduled meeting of the CIC for Oshtemo is October 16, 2018 at 1:00 pm.



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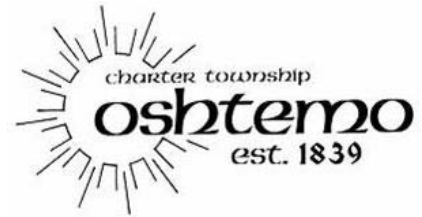
Capital Improvements Committee

*Tuesday, July 24, 2018
1:00 P.M.*

Meeting Agenda

1. Welcome/Introductions/Call to Order. The chair shall open the meeting and welcome members.
2. Meeting Summary. Members shall review a summary of the CIC meeting held April 17, 2018 (attached).
3. Standard Specifications for Sidewalks. As a follow-up to our last meeting, a proposed text change is provided to address heavily trafficked commercial properties. This change allows an ADA route through the drive in lieu of a detached concrete sidewalk. (draft revision attached)
4. 2018 Roadway Project Additions. In late spring additional Act 51 monies were released to local agencies to further assist local governmental roadway maintenance. Oshtemo staff worked with RCKC managers to identify and adjust County local road projects in a manner that best utilized funds appropriated by Oshtemo. Proposed County local road project adjustments (substitution of Crystal Ln (2,213 ft.) for Maple Hill Dr. (510 ft.) were presented to the Township Board on May 22nd. Four (4) new County primary road projects were selected RCKC. RCKC representatives shall be asked to provide a progress update. (see attached illustration)
5. Solicitation of Bids for the installation of Water Service Connections. SWT Excavation has indicated they will not seek to continue their services contract when it expires. The Township is working with Prein&Newhof to prepare a new solicitation of bids for these services.
6. Drake Road Non-Motorized Project – First Construction Segment. On behalf of Oshtemo Township, on July 17th RCKC submitted final commitment documents needed to receive grant funding from MDOT for a proposed non-motorized facility from W. Main St. to Green Meadows Rd. This proposed 6-ft sidewalk is being partly funded under the MAP-21 Transportation Alternatives Program (TAP). Final MDOT bid documents are being packaged for advertisement on August 3rd. (MDOT's June 7, 2018 project approval summary is attached.)
7. 2018 Non-Motorized Projects. Oshtemo is continuing work to complete the Drake facility from Green Meadows Rd. to Stadium Dr. A second TAP project has been endorsed by MDOT between W. Michigan Ave. to Stadium Dr. A separate federal Transportation Safety Project is being pursued by the Township for the segment between Green Meadows and W. Michigan. Additionally, survey and design work is underway along Stadium Dr. (see attached location map)
8. Sidewalks with Sewer: Board continues its consideration of possible neighborhood sidewalks in conjunction with scheduled public sewer extensions. Staff will summarize the on-going community discussions that this project consideration has spurred.
9. Sidewalk Policy Updates: Staff will describe related updates and policy reviews of non-motorized facilities, and the "Go-Green! Oshtemo" initiative. Draft versions of the Oshtemo Complete Streets Policy and Oshtemo Road/Sidewalk Assessment Policy are attached.

10. Public Sewer Extensions, Phase 1 Project Update. Members will be briefed on project progress in financing, engineering-design, and easement acquisitions for the planned 2019 sewer extensions into developed neighborhoods.
11. Mandatory Sewer Connection Notifications. Staff will summarize progress in its formal notifications and educational out-reach to properties now required to connect to available public sanitary sewer.
12. Oshtemo fire hydrant signs to be replaced with newer wire-whip flags. The Oshtemo Fire Department has initiated efforts to replace aging or damaged hydrant signs with preferred wire-whip flags. The FD is providing the labor for this task, with the flags being provided by the City. Oshtemo has requested guidance from the City so that identifiable hydrant deficiencies can be reported to the water department for maintenance.
13. Miscellaneous Project/Program Updates & General Information. An overview of current activities and project status will be presented, to include:
 - KLA Group Public Water Extension & New Pressure Reduction Station (restoration continues)
 - BTR 2.0, Drake Road (WMU project with Oshtemo's participation to extend public utilities)
 - MDOT US 131 bridge replacement over KL Ave (RCKC proceeding with 2018 work)
 - LED Street Lights Upgrade (to be included in 2018 budget)
 - Stormwater Asset Management and Wastewater (SAW)
 - KATS/RCKC CIP Data Initiative (a prototype initiative using GIS technology to capture, communicate & coordinate planned (5-years) capital improvements within the public ROW)
14. Member Comments & Information Items. Attendees will be asked to share items of interest to CIC members.
15. Next Meeting. The next regularly scheduled meeting of the Oshtemo Township Capital Improvements Committee (CIC) will be held October 16, 2018 at 1:00 PM.



Capital Improvements Committee

April 17, 2018

MEETING SUMMARY

A meeting of the Capital Improvement Committee of Oshtemo Township was held on Tuesday, April 17, 2018 at 1:00 pm in the main conference room of Oshtemo Township, 7275 West Main Street, Kalamazoo, Michigan. Persons in attendance included Libby Heiny-Cogswell, Marc Elliott, Jim Porter, Jamie Baker, Tom Wheat, Jim Hoekstra, Carl Benson, and Bernie Mein.

1. Welcome/Introductions/Call to Order: Libby Heiny-Cogswell called the meeting to order and welcomed members and guests.
2. Meeting Summaries: The meeting summary for the January 16, 2018 meeting was reviewed. The meeting minutes were approved by members upon motion by Mein and support by Baker.
3. Public Sewer Extensions, Phase 1 Project Update: Members were briefed on project progress in regard to financing, engineering-design, and easement acquisitions for the planned 2019 sewer extensions in the affected neighborhoods. The Township is still awaiting formal notification of funding from the USDA. Conceptual engineering design work has commenced for the six Phase I neighborhoods. The conceptual design work has enabled identification of the locations for the two sanitary sewer lift stations. The owners of the properties near the two lift stations will be approached to gauge interest in providing easements for the lift stations.
4. Potential Neighborhood Sidewalk Extensions: There is an opportunity to build sidewalks with the sewers in the affected neighborhoods. A preliminary concept plan was presented to the board on April 10th per the Board's inquiry to possibly fast-track select sidewalk projects. The Board requested meetings with the neighborhoods to solicit their input. The meetings with the residents are scheduled for early May.
5. Standard Specifications for Non-Motorized Facilities: The Township's specification for sidewalks is to extend the concrete walkway through driveways. The standard does not differentiate new construction from retrofit construction through existing drives. For retrofit construction, it was decided to extend the sidewalks through residential driveways; however, due to increased traffic at commercial driveways, it was decided not to extend the sidewalks through commercial driveways. Stopping the sidewalk at the commercial driveway will give a visual indication to the pedestrian to be more aware of vehicles crossing their walking path.

6. Drake Road Non-Motorized Project, W Main to Stadium Drive: Staff provided project updates on the three phases of the Drake Road non-motorized project. The northern portion, from West Main to Green Meadow, should be approved for funding and constructed this summer. The remaining two portions, Green Meadow to Stadium, are dependent on Amtrak's approval of the railroad crossing. The process to obtain Amtrak's approval could take years.

8. Mandatory Sewer Connection Notifications: Staff summarized the progress of the mandatory sewer connection notices. About 120 of 320 notices have been sent so far. Approximately 30 notices are sent per month to ensure staff have time to interact with each resident as they receive the notices.

9. Spring 2018 Hydrant Flushing Schedule: Staff presented a schedule and map of the City's 2018 hydrant flushing plan.

10. Go! Green Oshtemo: Members were briefed on a February "Go! Green Oshtemo" community input meeting which kicked-off a compressive planning project for parks. Non-motorized facilities and recreational trailway linkages are a major focus. Individual study groups for parks, non-motorized, cemeteries, and conservation will have kick-off meetings in April.

11. Miscellaneous Project/Program Updates & General Information. An overview of current activities and project status were presented, to include:

- KLA Group Public Water Extension & New Pressure Reduction Station
- BTR 2.0, Drake Road (WMU project with Oshtemo's participation to extend public utilities)
- Stadium Drive Non-Motorized Project, 8th St to 11th St. (potential for MDOT grants)
- MDOT US 131 bridge replacement over KL Ave (request for Oshtemo participation)
- LED Street Lights Upgrade
- Fire Department Project to Replace Hydrant Signs with Wire-Markers/Hydrant-Whips
- Stormwater Asset Management and Wastewater (SAW)
- KATS/RCKC CIP Data Initiative (a prototype initiative using GIS technology to capture, communicate & coordinate planned (5-years) capital improvements within the public ROW)

12. Member Comments and Information Items: No further comments were presented.

13. Next Meeting: The next regularly scheduled meeting of the CIC for Oshtemo is July 17, 2018 at 1:00 pm.



OSHTEMO TOWNSHIP SIDEWALK/SHARED-USE PATH CONSTRUCTION STANDARDS

Adopted August 9, 2016 Draft July 18, 2018

CONCRETE SIDEWALK CONSTRUCTION

The construction of Sidewalks and Shared-Use Paths within Oshtemo is managed through the Township's issuance of a Sidewalk/Non-Motorized Path Permit. The permitting process includes both a pre-pour inspection of the base and concrete forms, and a final project inspection for acceptance of the work. Concrete sidewalk shall conform to MDOT 2012 (or current edition) Standard Specifications for Construction Section 803, "Concrete Sidewalks, Sidewalk Ramps and Steps" and shall be a minimum of five (5) feet wide unless a different width is required by other Township ordinances or regulations.

Driveway Sidewalk Crossings

Where public sidewalks (AKA pedestrian route) cross residential driveways, the sidewalk shall be constructed of concrete through the driveway. Where a curb-line concrete gutter pan begins the driveway, the driveway apron between the curb and sidewalk shall also be constructed of concrete. Hot-Mix Asphalt (HMA) commercial driveways that lack a concrete roadway gutter, and which have greater than two lanes or heavy traffic may seek administrative approval to establish a pedestrian route over the driveway in lieu of placing a concrete walkway through the HMA material. When new sidewalks are extended through existing driveways, it shall be administratively determined by the Township to what extent the existing driveway pavements will need to be reconstructed in lieu of providing a pedestrian route over the pavement.

Grade

The sidewalk shall be constructed to match the existing grade, or as noted on the construction drawings. The sidewalk will have a transverse slope either toward or away from the road to maintain existing drainage patterns. Minor fills and cuts will be made in the field during construction to provide smooth transition of the sidewalk and maintain existing drainage patterns.

Sub-base Preparation

Existing vegetation shall be removed and topsoil excavated to provide a four (4") inch sand sub-base for the proposed sidewalk. The existing sand sub-base shall be compacted to ninety-five (95%) percent maximum unit weight in accordance with MDOT procedures. Where fill sand is required it shall be compacted to achieve ninety-five (95%) percent maximum unit weight in accordance with MDOT procedures.

Concrete

Concrete shall meet the requirements for Grade P1 Concrete or Grade S2 Concrete as specified in the MDOT Standard Specifications for Construction Section 601, "Portland Cement Concrete Pavements". Concrete shall be six sack limestone mix and shall be air-entrained and shall have a compressive strength of not less than 3,500 pounds per square inch, within twenty-eight (28) days of paving. Other materials shall meet the requirements of the applicable portions of the MDOT Standard Specifications for Construction. All concrete sidewalks shall be paved with a single course of concrete. Sidewalks through driveways shall be six (6") inches thick. All other walks shall be four (4") inches thick.

Joints

Full depth transverse expansion joints shall be constructed perpendicular to the surface of the sidewalk at intervals not to exceed fifty (50') feet. Expansion joint material shall be one-half (1/2") inch pre-molded expansion joints and shall be set 1/4" below the surface of the sidewalk. Sealing of joints will not be required. One (1") inch pre-molded expansion joints must be placed between the sidewalk and back-of-curb when sidewalk is constructed between the curb and building or other rigid structures. Sealing of joints will not be required. Transverse plane of weakness joints shall be true to line and grade, and shall be placed at four (4') foot intervals and shall be formed with a grooving tool. Planes of weakness joints shall be constructed to a depth of at least one (1") inch and a width of 1/8 inch to 1/4 inch. Sealing of joints will not be required.

Surface

The surface of the concrete shall be floated to a level uniform surface and left with a slightly rounded surface. The surface shall be roughened with mechanic's brush to prevent smooth and slippery surfaces. No surface shall be troweled to a glassy finish. Edges at the forms and joints shall be rounded with an edging tool.

Curb Ramps and Approaches

New roadway construction in locations where non-motorized facilities are anticipated shall incorporate concrete curbing of RCKC standards at intersections. Roadway curbing shall be extended through the roadway intersection, within the right-of-way limits of each approaching roadway. The purpose of this standard is to ensure that all non-motorized ramps, (current and anticipated) are fully integrated into the casting of the concrete curb through the intersection. As required, concrete curbing within intersections shall be extended a sufficient length to assure that the concrete curb carries the transition from the existing edge of pavement design of each approaching roadway. Commonly encountered edge-of-roadway pavement designs include ditch drainage, gravel shoulder, bituminous valley gutter, mountable and high back concrete curb.

Curb ramps shall be concrete unless written approval of an alternative is pre-approved by the Township. In locations where existing concrete curb is without an integrated approach (curb-cut), the entire roadway concrete curb section may need to be removed and re-constructed to meet ADA compliance standards. On a case by case basis, the removal of an existing curb back by saw cutting may be able to yield an ADA compliant transition through the curb. Proposals to use the saw cut method of ramp construction should seek prior approval from the Township.

Ramp that approach existing roads without concrete curbing should be reviewed with the Township prior to ramp construction. If providing new concrete curb for the ramp transition is determined to be impracticable, or if extensive re-construction the intersection curb is determined to be excessive, ADA compliant asphalt transitions onto asphalt paving may be accepted upon prior written approval of the township.

Butt joints must be provided at the transition from concrete to bituminous paving for all non-motorized facilities. Saw cutting, grinding, or similar means of joint formation is required. As practicable, transition butt-joints to asphalt curbing shall be located at the curb high-point. Material transition joints are not allowed along a drainage flow-line. Surface grinding of existing asphalt curbing is an acceptable means to achieve ADA compliant transitions. Alternately, IR asphalt restoration or placement of a new transition segment of asphalt paving can be constructed through the curb profile to achieve the transition from the asphalt roadway to the concrete ramp. Regardless of construction method or prior approval of the means of construction, compliance with ADA standards will need to be demonstrated to receive acceptance of the work.

Sidewalk Detectable Warnings

Sidewalk Detectable Warning shall apply to all construction or reconstruction of streets, curbs, or sidewalks. Detectable Warnings shall be placed at all street intersections and at select commercial/industrial driveways where driveway traffic and pedestrian crossings are determined/projected by the Township to generate sufficient conflicts to warrant the greater risk awareness provided by detectable warnings.

Detectable Warnings shall conform to ADA requirements, MDOT Specifications and MDOT Detail R-28-E. Detectable Warnings shall be made of ductile iron material, extend the full width of the curb/sidewalk ramp. They shall be located so that the edge nearest the curb line or street is 6" to 8" from the curb line.

HOT MIX ASPHALT SHARED-USE PATH CONSTRUCTION

Shared-use paths shall be a minimum of ten (10) feet wide unless a different width is required by other Township ordinances or regulations.

Grade

The sidewalk shall be constructed to match the existing grade, or as noted on construction drawings. The path will have a transverse slope either toward or away from the road to maintain existing drainage patterns. Minor fills and cuts will be made in the field during construction to provide smooth transition of the path and maintain existing drainage patterns.

Sub-base Preparation

Existing vegetation shall be removed and topsoil excavated to provide a six (6) inch sand sub-base for the proposed path. The existing sand sub-base shall be compacted to ninety-five (95%) percent

maximum unit weight in accordance with MDOT procedures. Where fill sand is required it shall be compacted to achieve ninety-five (95%) percent maximum unit weight in accordance with MDOT procedures.

Gravel Base

The gravel base shall extend one foot beyond the width of the topcoat on each side and consist of six (6) inches of compacted MDOT 22A gravel in accordance with the section as indicated on the construction drawing. Density of the gravel shall be ninety five (95%) percent.

Hot Mix Asphalt (HMA) Surface

The hot mix asphalt surface shall consist of 120 lbs/SY MDOT 36A hot mix asphalt (top) over 165 lbs/SY of MDOT 13A hot mix asphalt (level) placed in accordance with the section as indicated on the construction drawings. The asphalt performance grade shall be 58-28. The hot mix asphalt shall be placed with a self-propelled paver; spreader boxes will not be permitted. A bond coat shall be applied between successive courses of hot mix asphalt at an application rate of 0.1 gal./SY.

REMOVABLE BOLLARDS (Vehicle Exclusion Device)

Certain Shared-Use Pathways may include removable Bollards as vehicle exclusion devices. When shown on plans, this work shall include the construction of the concrete footings, in-ground receiver, installation of the bollards, and all related work necessary to provide complete Removable Bollards as shown on the plans.

Materials

The materials shall be as specified below:

1. Removable Bollard: Model R-7901 Steel Removable Bollard with Removable Mounting and locking hinged steel lid from Reliance Foundry, Petersen Mfg. Co., Inc., or approved equal. Bollard shall be corrosion resistant under coating and safety yellow in color with safety yellow reflective tape at the top.
2. Concrete: Provide grade S1 concrete as specified in Section 701 of the MDOT Standard Specifications for Construction.
3. Steel Reinforcement: Provide steel reinforcement as specified in Section 905 of the MDOT Standard Specifications for Construction.
4. Submittals: The Contractor shall submit complete shop drawings, showing all materials, dimension, fastenings, and fastening devices.

Construction

The Removable Bollards shall be constructed according to the plans and as described below.

1. Preparation work shall be thoroughly reviewed with the Engineer prior to installation. Saw cut the existing HMA prior to placement.
2. Install Removable Bollards complete per manufacturer's specifications and instructions and as detailed on approved shop drawings.

3. Concrete: Install concrete components as specified in Section 706 of the MDOT Standard Specifications for Construction and as detailed on the plans.
4. All excess and waste materials shall be disposed of legally off-site. Upon completion of the work, leave areas in a clean condition.

SIGNS

Certain Shared-Use Pathways may include restricted usage or way-finding signs. When shown on plans, this work shall comply with the construction standards of the Kalamazoo County Road Commission and all permit requirements of the applicable operating authority of the public right-of-way. In order to promote uniformity in style (community sense-of-place), shop drawings for all signage shall be submitted for Oshtemo Township approval prior to installation.

LAWN AND YARD RESTORATION

After construction is completed all disturbed lawn areas, including adjacent cut and fill areas as required to blend into the existing yards, shall be repaired using a maximum of 1 on 4 back slope, four (4) inches of topsoil, MDOT Class A seed, fertilizer and mulch.

All disturbed areas, including adjacent cut and fill areas as required to blend into the existing yards, which are not lawns, shall be repaired using a maximum of 1 on 3 back slope, two (2) inches of topsoil, MDOT Roadside Seed, fertilizer and mulch.

Restored areas shall be repaired and reseeded as often as necessary in order to produce a close stand of weed free grass to the edges of the sidewalk or multi-use path.

ATTACHMENTS:

MDOT Construction Details (2013 or current edition):

R-28-H Sidewalk Ramp and Detectable Warning Details

R-29-H Driveway Openings & Approaches and Concrete Sidewalk

P&N Slope Cut & Fill Limitations

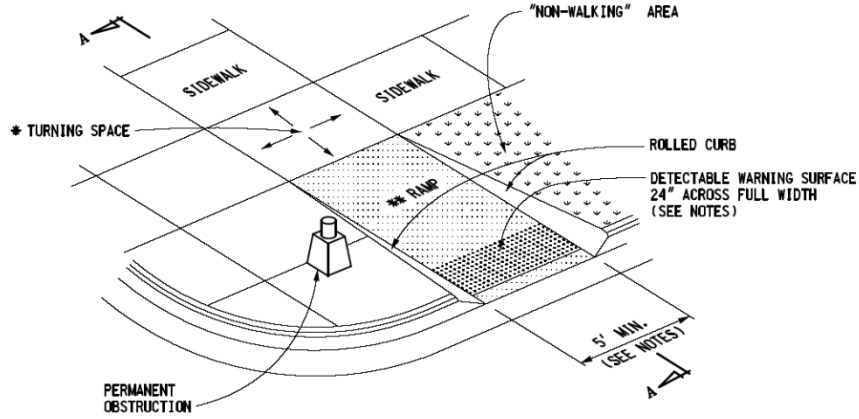
P&N Precast Concrete Rip-Rap Retaining Wall

P&N Lumber Retaining Wall

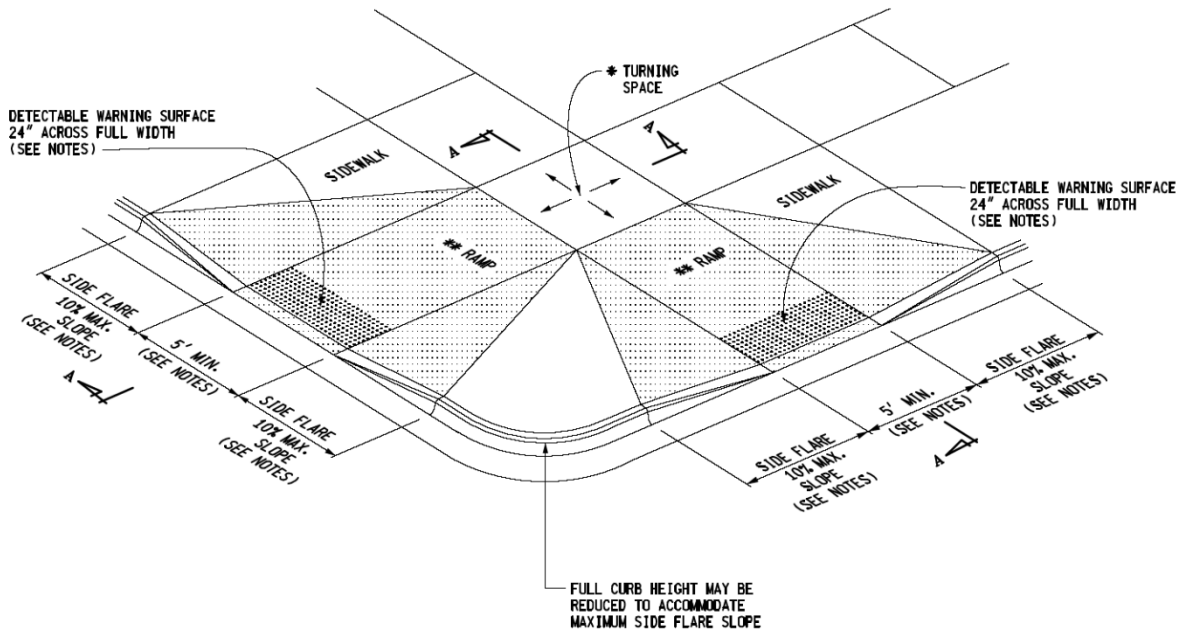
P&N Lumber Fencing

* MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.


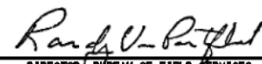
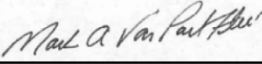
** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE R
(ROLLED SIDES)

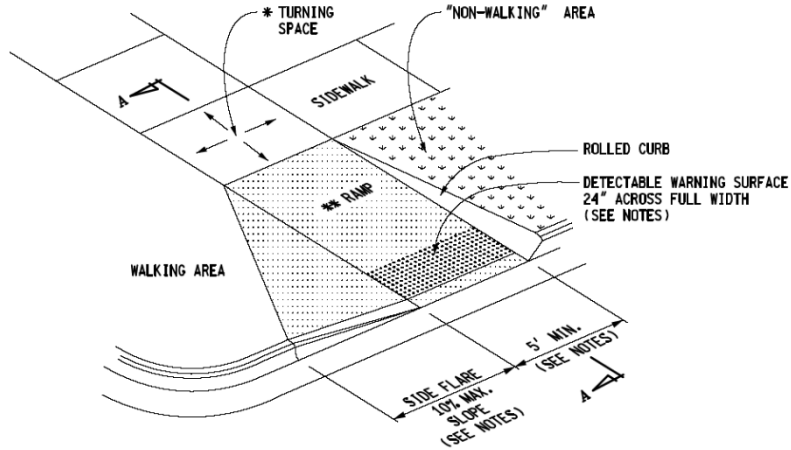


SIDEWALK RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)

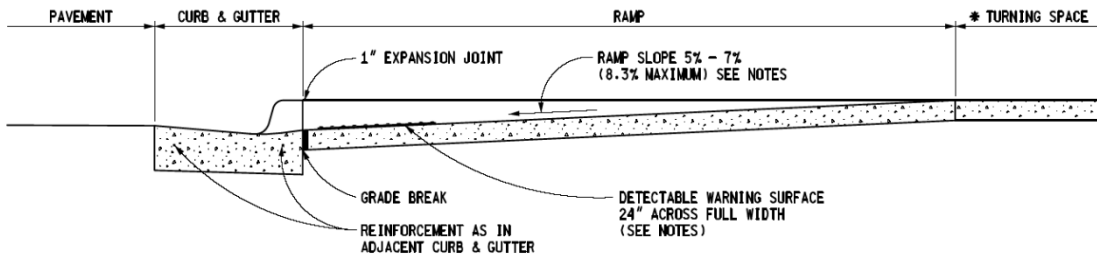
 PREPARED BY DESIGN DIVISION DRAWN BY: <u>B.L.T.</u> CHECKED BY: <u>W.K.P.</u>	DEPARTMENT DIRECTOR Kirk T. Stuedle APPROVED BY:  DIRECTOR, BUREAU OF FIELD SERVICES	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR SIDEWALK RAMP AND DETECTABLE WARNING DETAILS		
	APPROVED BY:  DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT	1-25-2013 F.H.W.A. APPROVAL	10-3-2012 PLAN DATE	R-28-H SHEET 1 OF 7

* MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

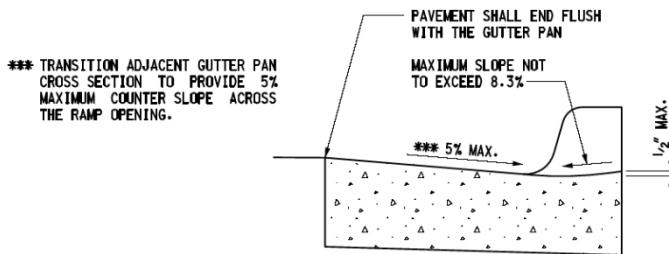
** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE RF
(ROLLED / FLARED SIDES)



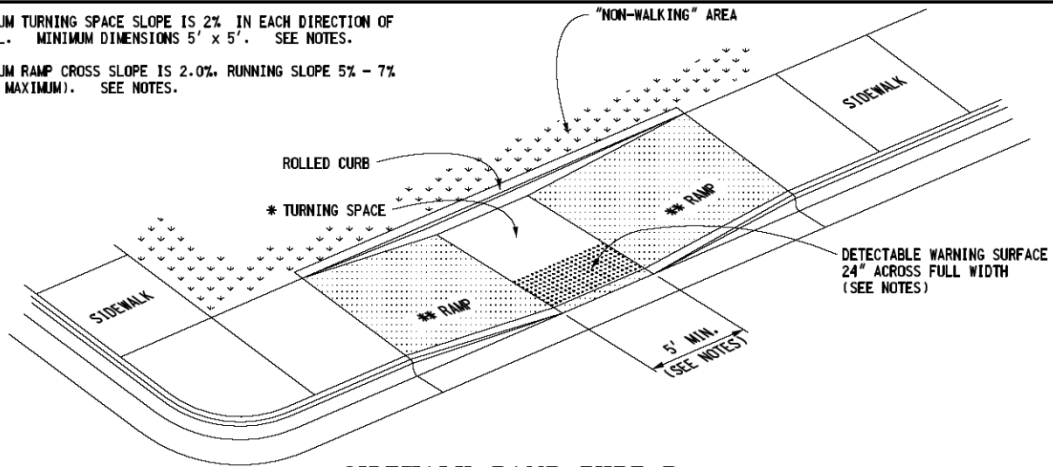
SECTION A-A



SECTION THROUGH CURB CUT
(TYPICAL ALL RAMP TYPES)

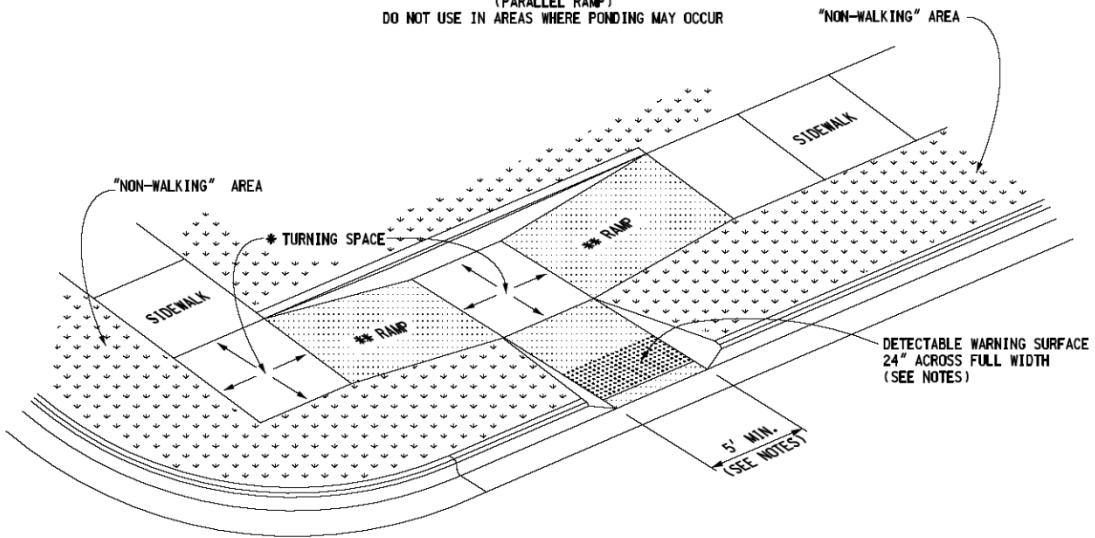
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR			
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS			
1-25-2013 F.H.W.A. APPROVAL	10-3-2012 PLAN DATE	R-28-H	SHEET 2 OF 7

* MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.
 ** MAXIMUM RAMP CROSS SLOPE IS 2.0%; RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE P

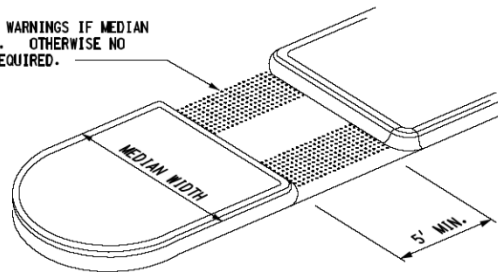
(PARALLEL RAMP)
 DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



SIDEWALK RAMP TYPE C

(COMBINATION RAMP)

USE 24" DEEP DETECTABLE WARNINGS IF MEDIAN WIDTH IS AT LEAST 6'-0". OTHERWISE NO DETECTABLE WARNING IS REQUIRED.



SIDEWALK RAMP TYPE M

(MEDIAN ISLAND)

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**

1-25-2013
 F.H.W.A. APPROVAL

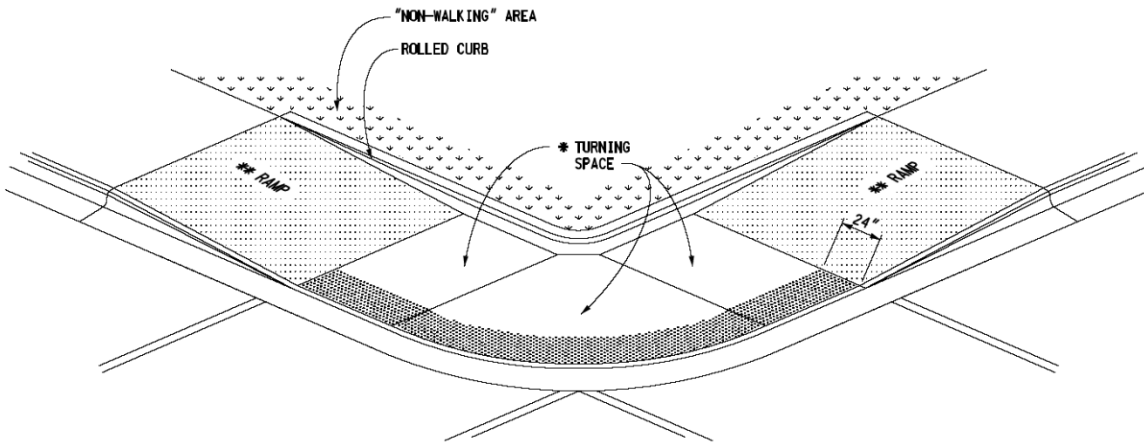
10-3-2012
 PLAN DATE

R-28-H

SHEET
 3 OF 7

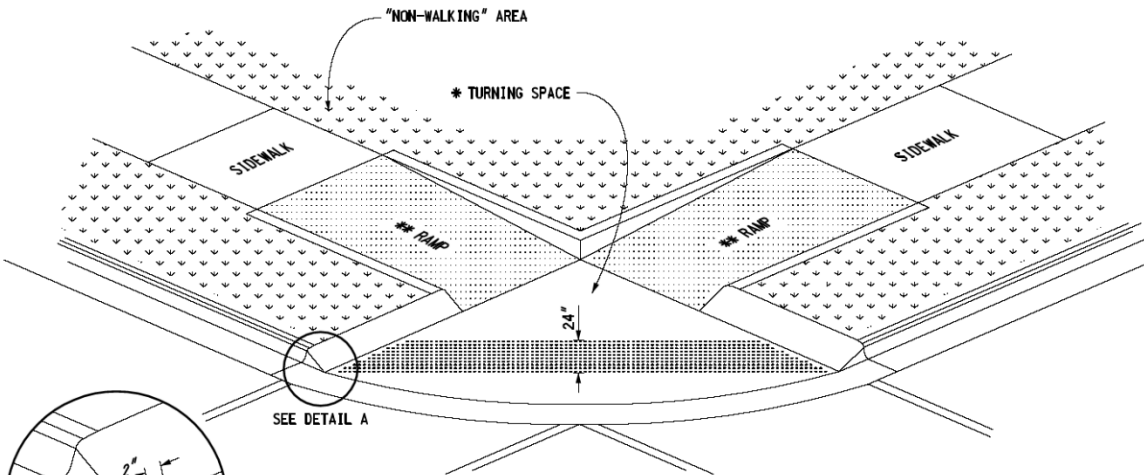
* MAXIMUM TURNING SPACE SLOPE IS 2% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



(RADIAL DETECTABLE WARNING SHOWN)

DETECTABLE WARNING SURFACE COVERAGE IS 24" FOR THE FULL WIDTH OF THE RAMP OPENING EXCLUDING CURBED OR CURB TRANSITION AREAS. A CURB OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE.



DETAIL A

(TANGENT DETECTABLE WARNING SHOWN)

A CONCRETE BORDER OFFSET NOT GREATER THAN 2" IS ALLOWABLE FOR DETECTABLE WARNING INSTALLATION WHERE THE BACK OF CURB IS ON A RADIUS, THE BORDER OFFSET MAY BE MEASURED FROM THE END OF THE RADIUS.

SIDEWALK RAMP TYPE D

(DEPRESSED CORNER)

USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

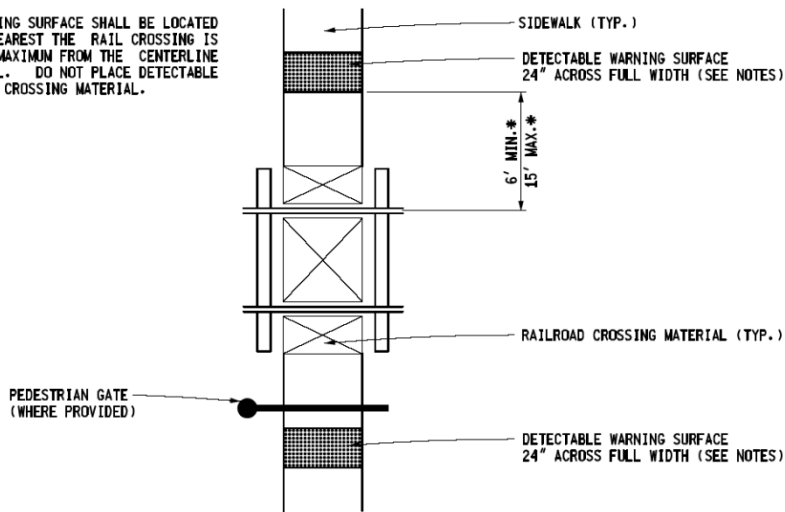
1-25-2013
F.H.W.A. APPROVAL

10-3-2012
PLAN DATE

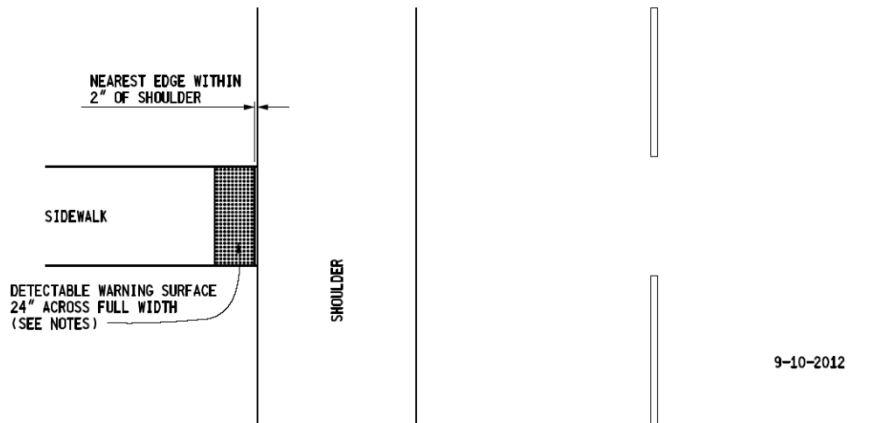
R-28-H

SHEET
4 OF 7

* THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6' MINIMUM AND 15' MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.

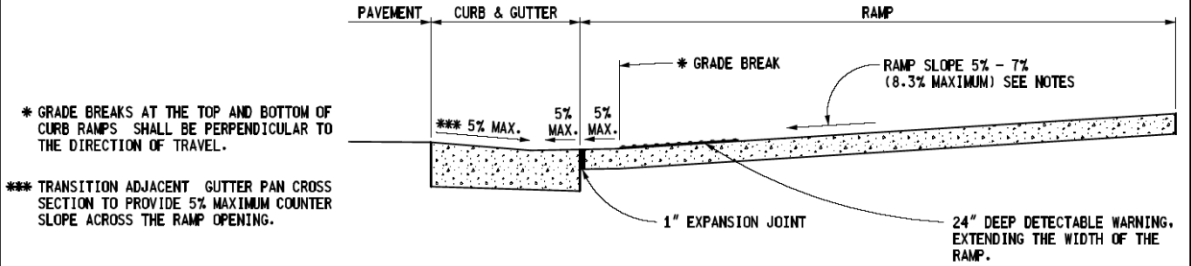
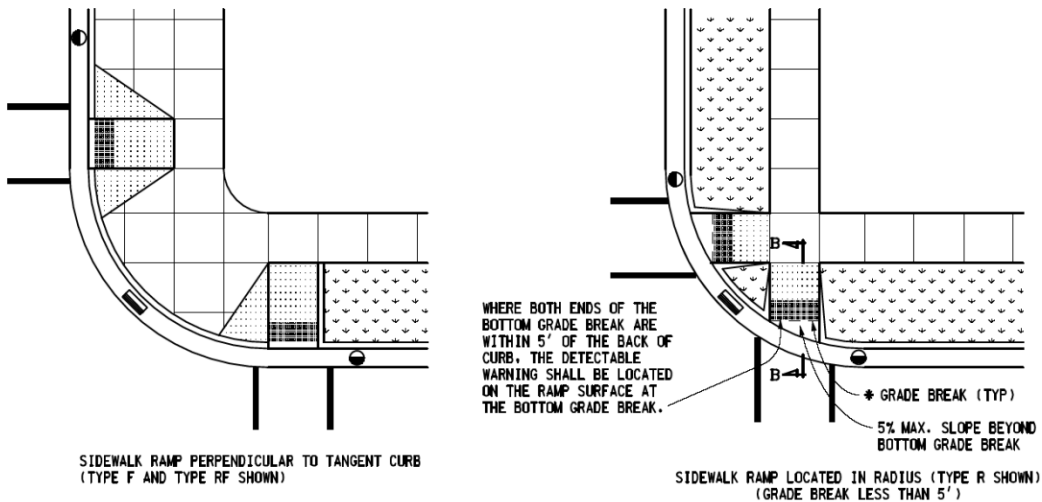
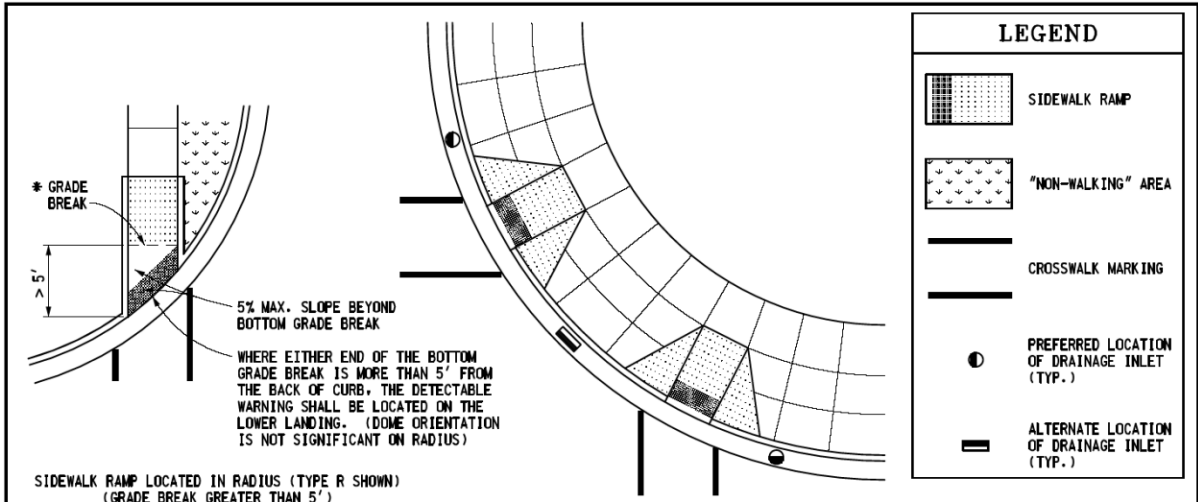


DETECTABLE WARNING AT RAILROAD CROSSING



DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR SIDEWALK RAMP AND DETECTABLE WARNING DETAILS			
1-25-2013 F.H.W.A. APPROVAL	10-3-2012 PLAN DATE	R-28-H	SHEET 5 OF 7

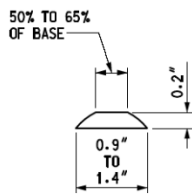


**SECTION B-B
 SIDEWALK RAMP ORIENTATION**

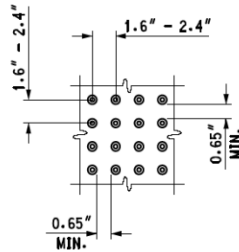
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**

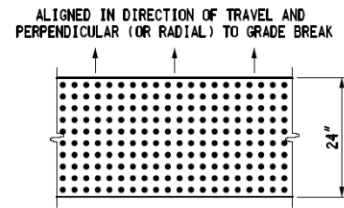
1-25-2013 F.H.W.A. APPROVAL	10-3-2012 PLAN DATE	R-28-H	SHEET 6 OF 7
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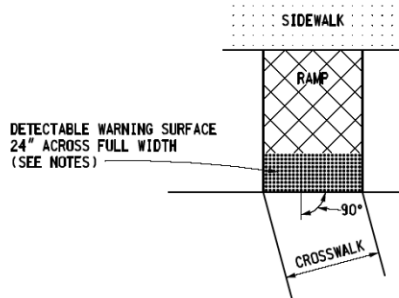
DOME SECTION



DOME SPACING



DOME ALIGNMENT



DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PRIVATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

PROVIDE TURNING SPACES WHERE PEDESTRIAN TURNING MOVEMENTS ARE REQUIRED.

WHEN 5' MINIMUM WIDTHS ARE NOT FEASIBLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND TURNING SPACES TO NOT LESS THAN 4' x 4'.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A CURB OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING (OR AS OTHERWISE SHOWN ON THIS STANDARD) IS ALLOWABLE.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN 1/2". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

TRANSITION THE GUTTER PAN CROSS SECTION SUCH THAT THE COUNTER SLOPE IN THE DIRECTION OF RAMP TRAVEL IS NOT GREATER THAN 5%. MAINTAIN THE NORMAL GUTTER PAN CROSS SECTION ACROSS DRAINAGE STRUCTURES.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

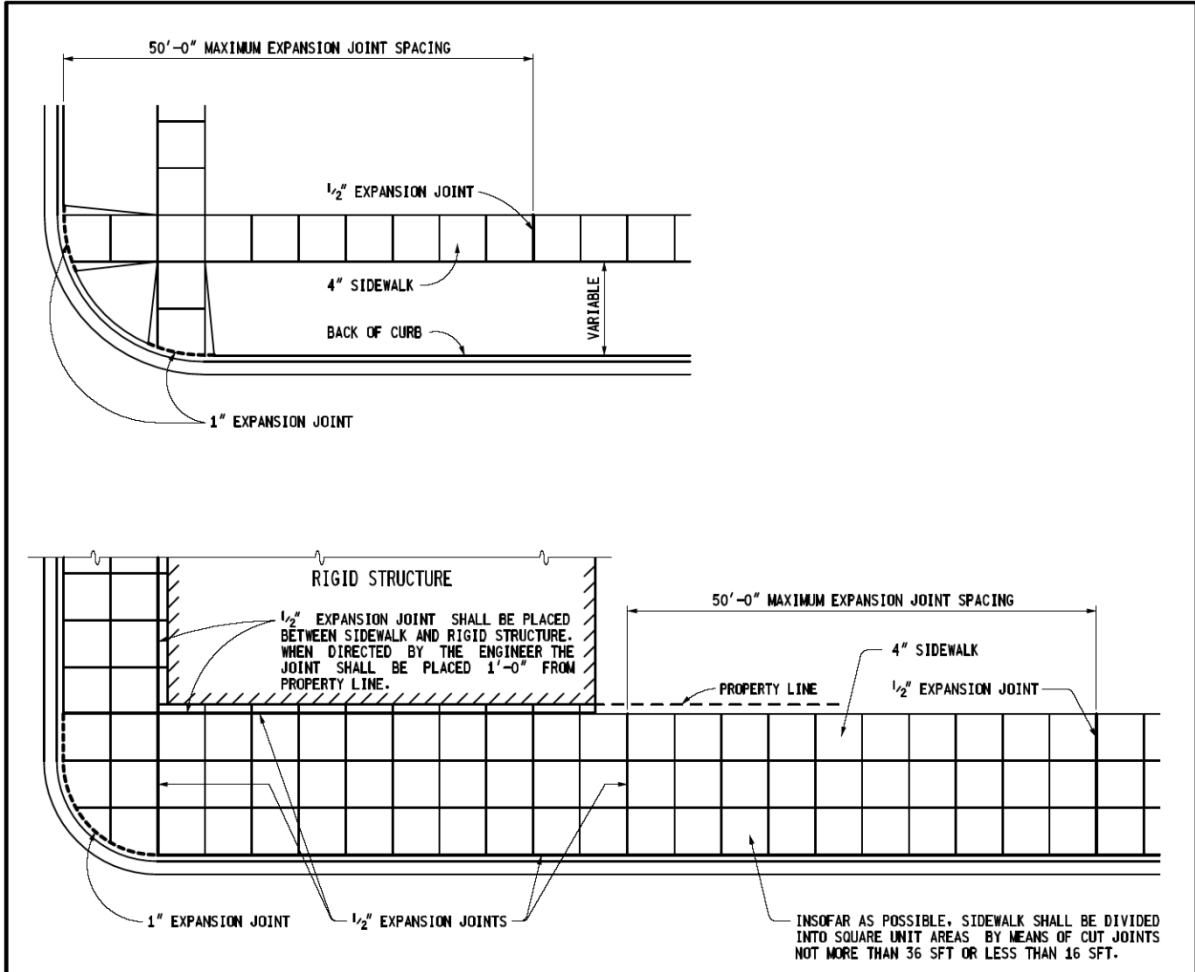
FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

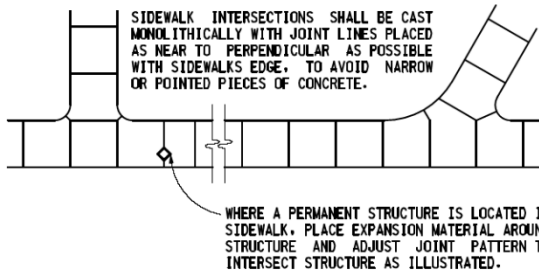
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

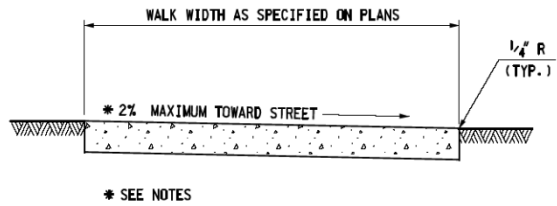
1-25-2013 F.H.W.A. APPROVAL	10-3-2012 PLAN DATE	R-28-H	SHEET 7 OF 7
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LOCATION OF JOINTS IN CONCRETE SIDEWALK

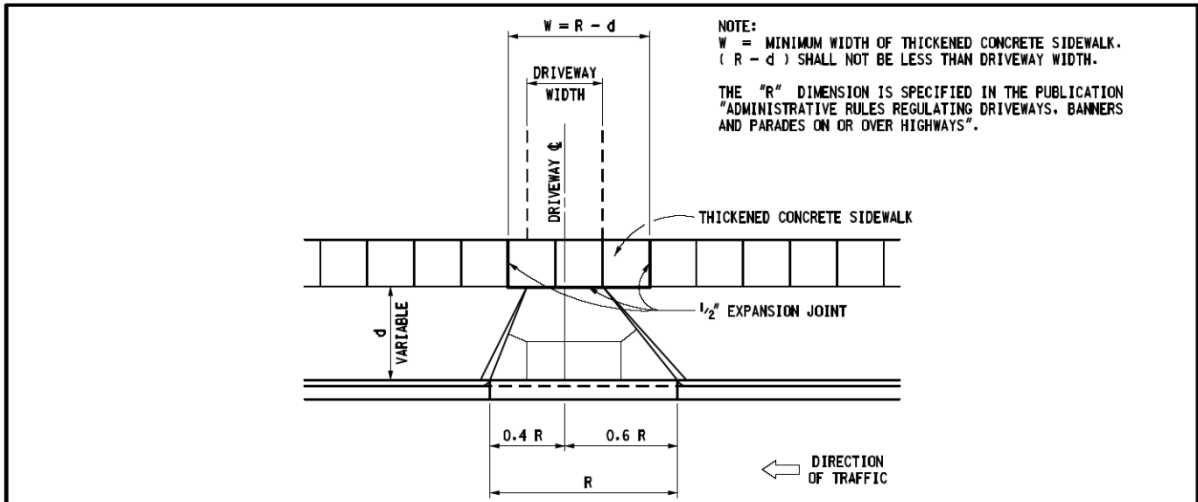


TYPICAL SIDEWALK JOINT LAYOUTS

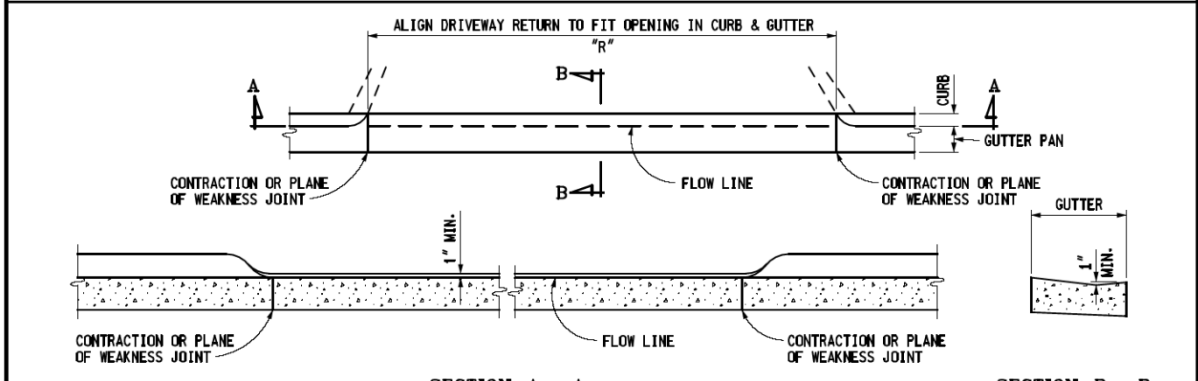


4" CONCRETE SIDEWALK

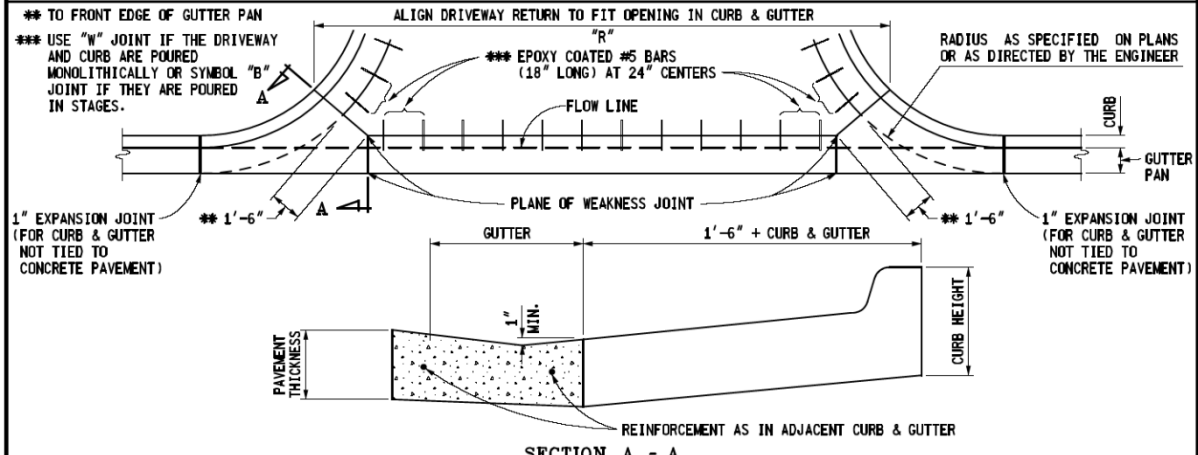
<p>PREPARED BY DESIGN DIVISION</p> <p>DRAWN BY: B.L.T.</p> <p>CHECKED BY: W.K.P.</p>	<p>DEPARTMENT DIRECTOR Kirk T. Steudle</p> <p>APPROVED BY: <i>Randy V. Pittel</i> DIRECTOR, BUREAU OF FIELD SERVICES</p>	<p>MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK</p>		
	<p>APPROVED BY: <i>Mark A. Van Pelt</i> DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT</p>	<p>1-25-2013 F.H.W.A. APPROVAL</p>	<p>10-1-2012 PLAN DATE</p>	<p>R-29-H</p>



CONCRETE DRIVEWAY OPENING LAYOUT



CONCRETE DRIVEWAY OPENING, DETAIL L



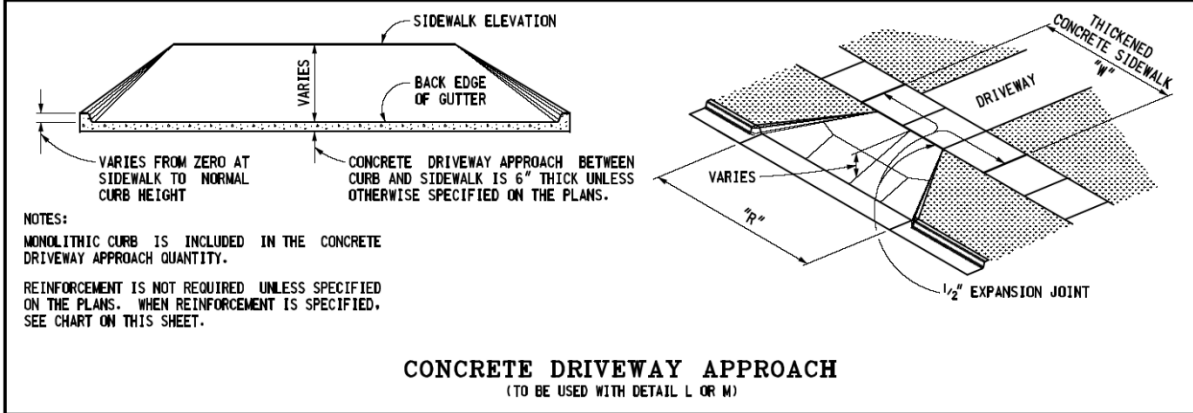
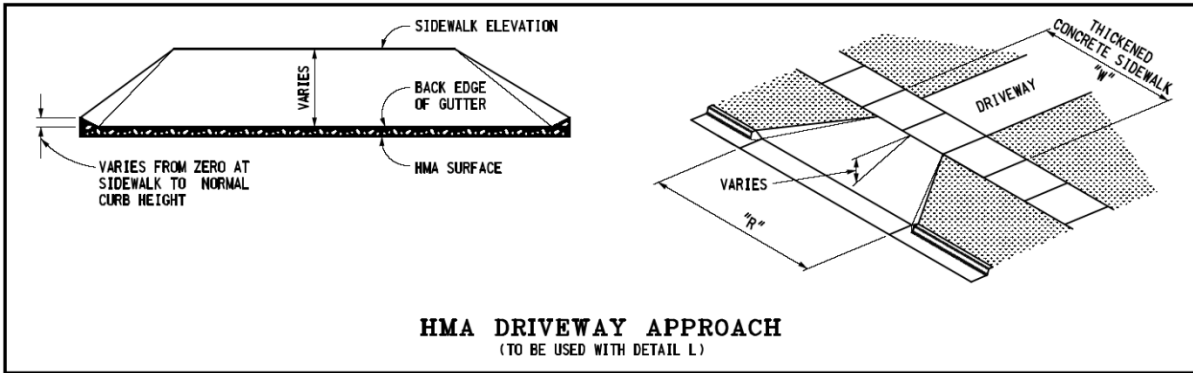
CONCRETE DRIVEWAY OPENING, DETAIL M

NOTE:
 FOR ROADWAYS WITH CONCRETE PAVEMENTS, LONGITUDINAL LANE TIES WILL BE CONTINUOUS THROUGH THE DRIVEWAY OPENING AND THE SPACING OF THE #5 BARS IN CONCRETE DRIVEWAYS SHALL BE ADJUSTED TO AVOID CONFLICT WITH THE LONGITUDINAL LANE TIES.

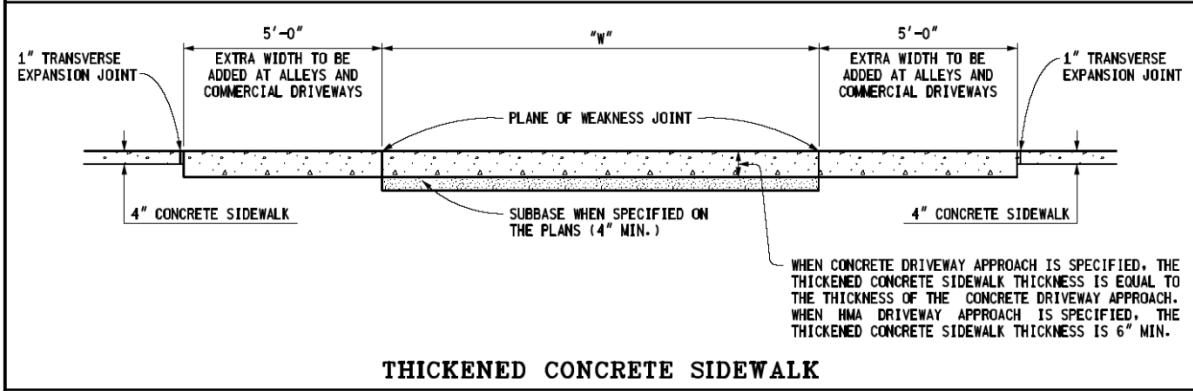
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**DRIVEWAY OPENINGS
 & APPROACHES,
 AND CONCRETE SIDEWALK**

1-25-2013 F.H.W.A. APPROVAL	10-1-2012 PLAN DATE	R-29-H	SHEET 2 OF 4
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NOTES:
MONOLITHIC CURB IS INCLUDED IN THE CONCRETE DRIVEWAY APPROACH QUANTITY.
REINFORCEMENT IS NOT REQUIRED UNLESS SPECIFIED ON THE PLANS. WHEN REINFORCEMENT IS SPECIFIED, SEE CHART ON THIS SHEET.



ADJUST DRIVEWAY JOINTS AS NEEDED TO ALIGN WITH ANY COINCIDING TRANSVERSE PAVEMENT JOINTS.
JOINT LAYOUT IS AS INDICATED OR AS DIRECTED BY THE ENGINEER.

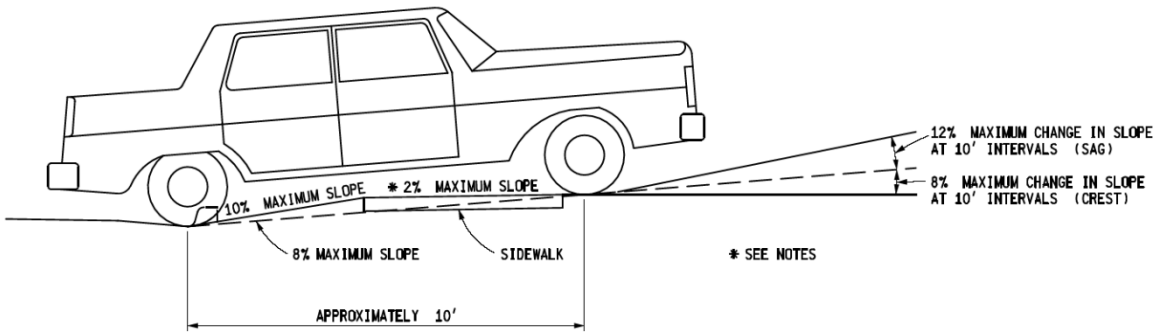
INTERMEDIATE DRIVEWAY JOINT DETAILS

REINFORCEMENT FOR CONCRETE DRIVEWAYS		
CONCRETE DRIVEWAY THICKNESS	WIRE SIZE (6" x 6" MESH)	AVERAGE WEIGHT (LBS/100 SFT)
LESS THAN 8"	W1.4	21
	W2.9	42
8" OR GREATER	USE WIRE FABRIC REINFORCEMENT SPECIFIED ON STANDARD PLAN R-37-SERIES	

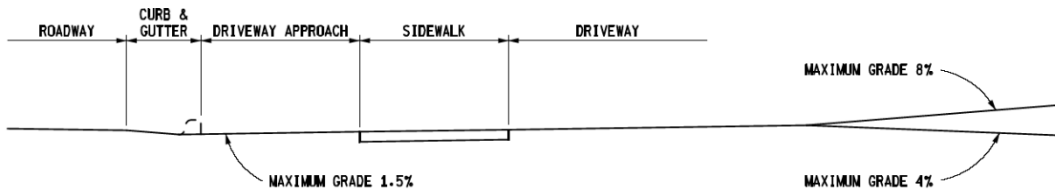
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**DRIVEWAY OPENINGS
& APPROACHES,
AND CONCRETE SIDEWALK**

1-25-2013 F.H.W.A. APPROVAL	10-1-2012 PLAN DATE	R-29-H	SHEET 3 OF 4
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LOW VOLUME COMMERCIAL OR RESIDENTIAL DRIVEWAY SLOPES



COMMERCIAL DRIVEWAY PROFILE FOR MAJOR TRAFFIC GENERATORS

NOTES:

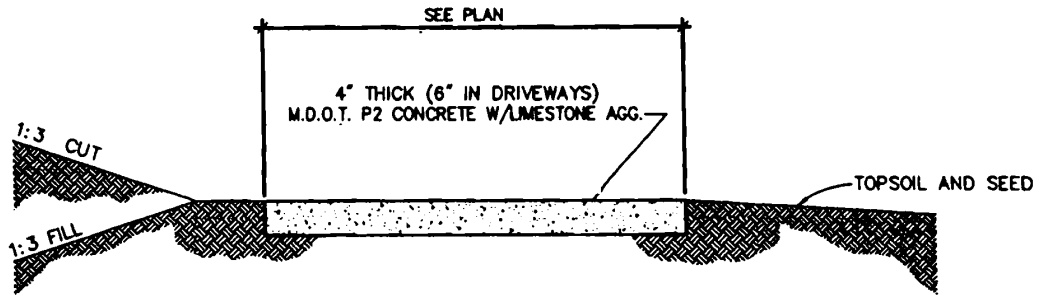
FOR DRIVEWAY DESIGN REFER ALSO TO "ADMINISTRATIVE RULES REGULATING DRIVEWAYS, BANNERS, AND PARADES ON OR OVER HIGHWAYS" AND GEOMETRIC DESIGN G-680-SERIES, COMMERCIAL DRIVEWAYS.

FOR CURB AND GUTTER DETAILS, SEE STANDARD PLAN R-30-SERIES.

TRANSVERSE SIDEWALK SLOPES ARE TYPICALLY 1.5% OR 2% MAXIMUM. IN ORDER TO MEET SITE CONDITIONS, IF THE TRANSVERSE SLOPE IS REQUIRED TO BE LESS THAN 1.5%, LONGITUDINAL DRAINAGE MUST BE PROVIDED.

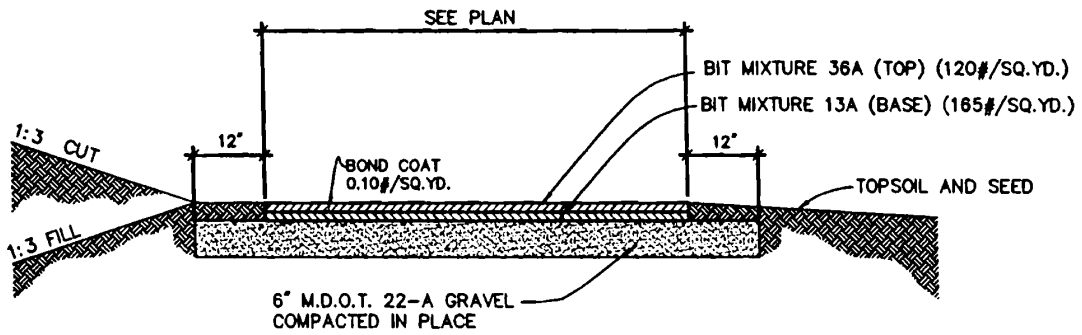
WHEN SETTING GRADES FOR COMMERCIAL DRIVES, THE TYPES OF VEHICLES USING THE DRIVE SHOULD BE CONSIDERED.

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK			
1-25-2013 F.H.W.A. APPROVAL	10-1-2012 PLAN DATE	R-29-H	SHEET 4 OF 4



CONCRETE SIDEWALK DETAIL

NO SCALE

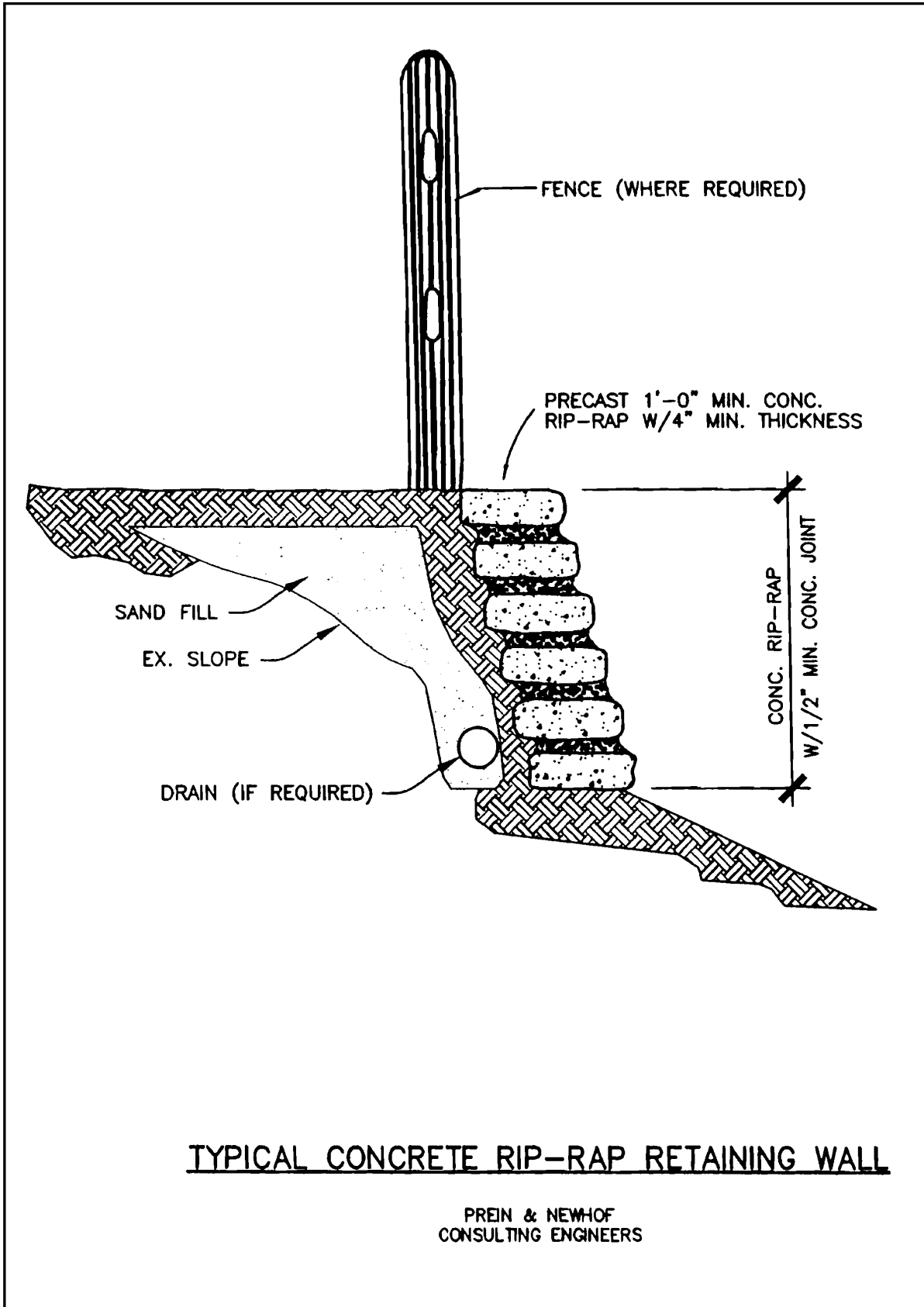


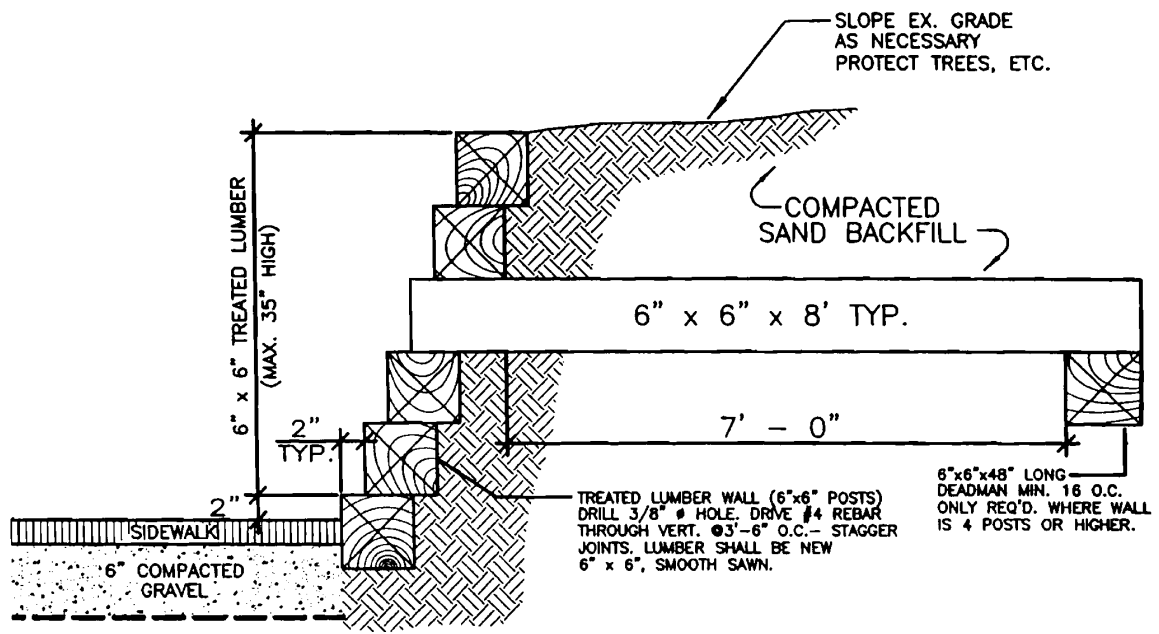
BITUMINOUS MULTI-PURPOSE PATH DETAIL

NO SCALE

SIDEWALK DETAILS

PREIN & NEWHOF
CONSULTING ENGINEERS

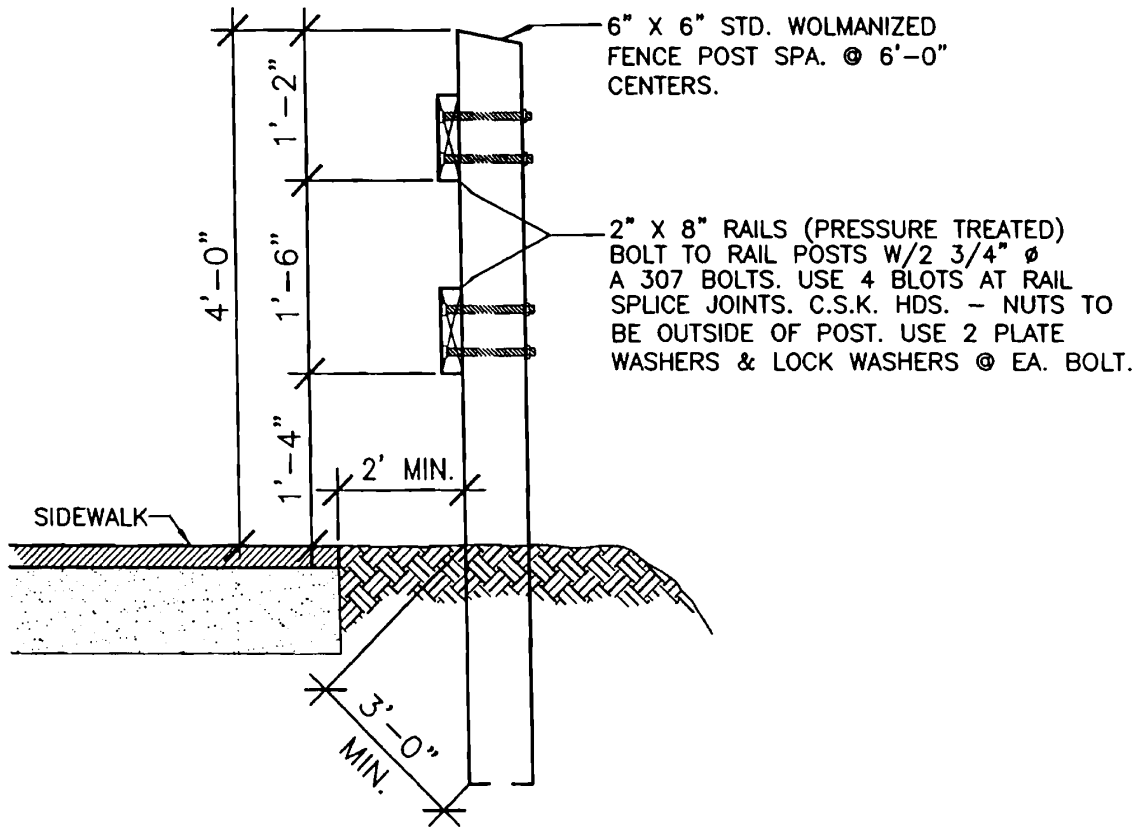




(6" x 6" TREATED LUMBER, 0.4 RETENTION,
EQUIVALENT TO WOOD FOUNDATION
SOUTHERN YELLOW OR RED PINE - SMOOTH SAWN)

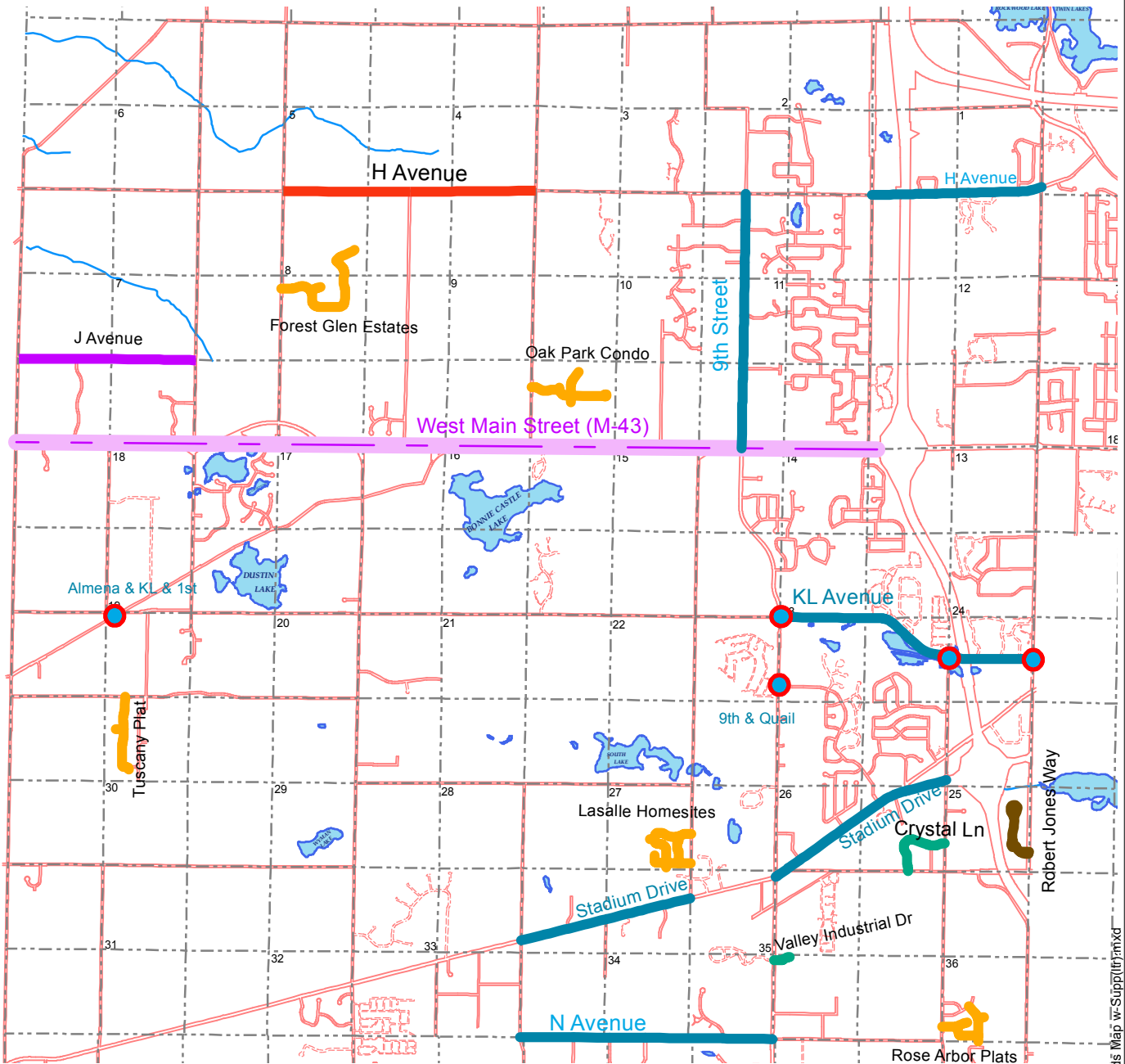
TYPICAL TREATED LUMBER RETAINING WALL DETAIL

PREIN & NEUHOFF
CONSULTING ENGINEERS



TYPICAL TREATED LUMBER FENCE DETAIL

PREIN & NEWHOF
CONSULTING ENGINEERS



Pavement Treatment

- █ Crack Fill and Chip Seal
- █ Crack Fill, Chip Seal and Fog Seal
- █ HMA wedging, Crack Fill & Chip Seal
- █ HMA Overlay
- █ OSH - New Local Road

- █ PRIMARY ROAD PROJECTS (RCKC)
- █ STATE HIGHWAY PROJECTS (MDOT)

**2018 Oshtemo
Roadway Projects
(rev 1)**



Date: 6/26/2018

T:\Oshtemo_GIS\Projects\Warc\2018 Road Maintenance\2018 - all roads Map w-Supp\lfr.mxd

Grant Type: Transportation Alternatives Program

Grant Number: 2014022

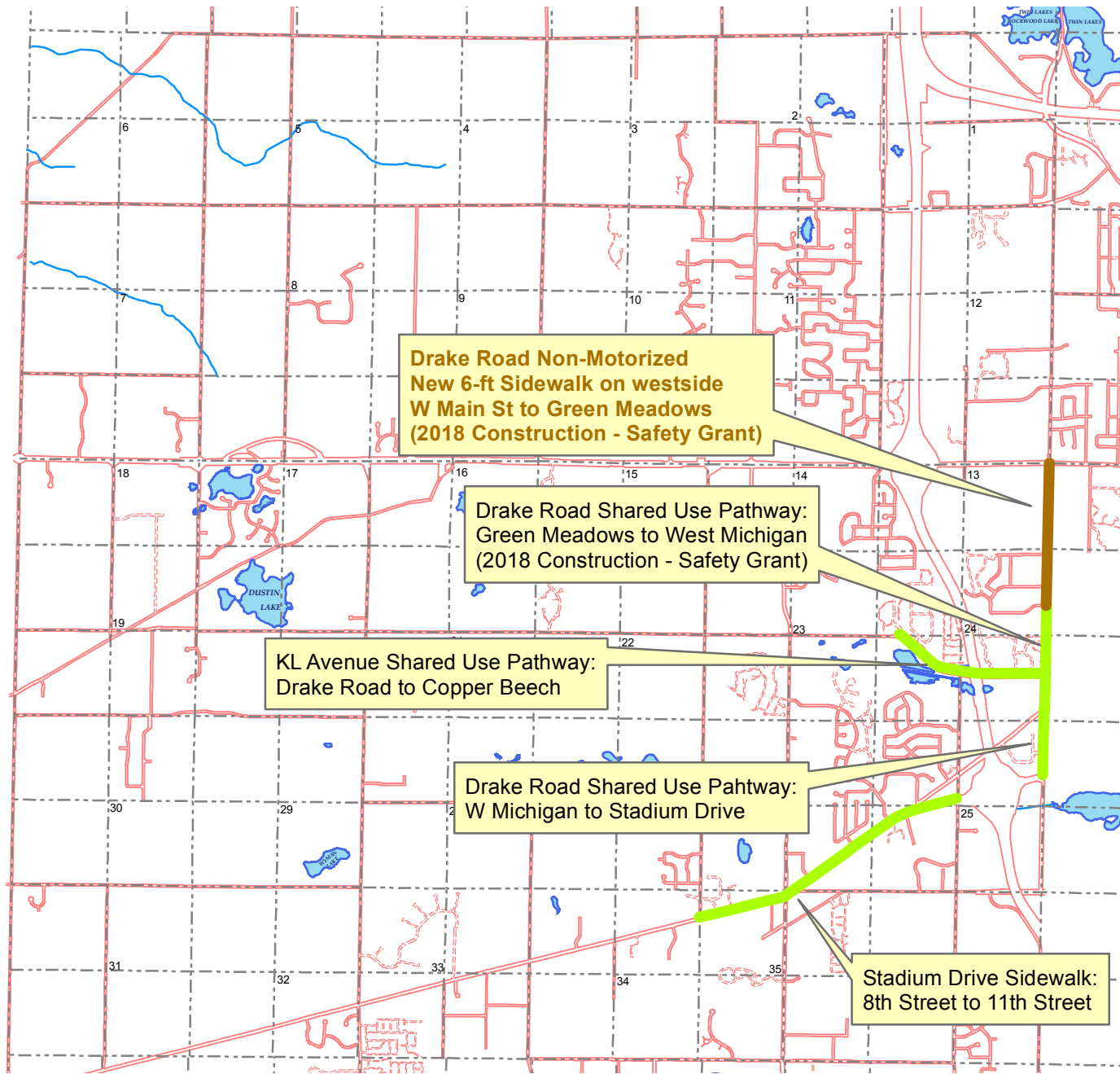
Section	Applicant	Description (rpt)	Current Grant Amount	Total Match	Total Amount	Grant %	Status	Grant Year
01	Kalamazoo CRC	Drake Road South - NonMotorized Path (South Section)	\$135,772.00	\$90,514.00	\$226,286.00	60.00%	Proposed	2019
02	Kalamazoo CRC	Drake Road South - NonMotorized Path (North Section)	\$417,459.00	\$278,305.00	\$695,764.00	60.00%	Approved	2018
Total:			\$553,231.00	\$368,819.00	\$922,050.00	60.00%		

Section Grant Section Description



01 FISCAL YEAR 2019 CONDITIONAL COMMITMENT:
 The Kalamazoo County Road Commission, in partnership with Oshtemo Charter Township, will construct 0.4 miles of 10-foot wide shared-use pathway along the west side of Drake Road from Stadium Drive (I-94 BL) to West Michigan Avenue. This project will also include Americans with Disability Act sidewalk ramps and an upgraded pedestrian signal. In addition, this project will be coordinated with a Safety grant-funded project along the west side of Drake Road from West Michigan Avenue to Green Meadow Road and another Transportation Alternatives Program (TAP)-funded segment along the west side of Drake Road from Green Meadow Road to West Main Street (M-43). When complete, these facilities will provide a continuous corridor of nonmotorized access along Drake Road from Stadium Drive (I-94 BL) to the Kal-Haven Trail State Park and the Kalamazoo River Valley Trail. In addition, this project will improve nonmotorized access for residents living along the west side of Drake to several businesses and the Western Michigan University campus. The total cost of this project is \$226,286 with \$135,772 in federal TAP funds and \$90,514 from Oshtemo Charter Township.

02 TAP FUNDS AWARDED 6/7/2018

FISCAL YEAR 2018 CONDITIONAL COMMITMENT:
 The Kalamazoo County Road Commission, in partnership with Oshtemo Charter Township, will construct 0.6 miles of 6-foot wide concrete sidewalk along the west side of Drake Road from Green Meadow Road to West Main Street (M-43). This facility will complement existing sidewalk on the east side of South Drake Road. This project will also be coordinated with a Safety grant-funded project along the west side of Drake Road from West Michigan Avenue to Green Meadow Road and another Transportation Alternatives Program (TAP)-funded segment along the west side of Drake Road from Stadium Drive (I-94 BL) to Michigan Avenue. When complete, these facilities will provide a continuous corridor of nonmotorized access along Drake Road from Stadium Drive (I-94 BL) to the Kal-Haven Trail State Park and the Kalamazoo River Valley Trail. In addition, this project will improve nonmotorized access for residents living along the west side of Drake to several businesses and the Western Michigan University campus. The total cost of this project is \$695,764, with \$417,459 in federal TAP funds and \$278,305 from Oshtemo Charter Township.



Non-Motorized Projects

-  Construction
-  Design (Survey, Soil Borings, Easements)

2018 Oshtemo Non-Motorized Projects



OSHTEMO TOWNSHIP COMPLETE STREETS POLICY

I. THE COMPLETE STREETS INTENT

Oshtemo Township, through this Complete Streets Policy and the adopted Master Plan, recognizes that planning the Township transportation system involves more than just moving vehicles efficiently and safely. A transportation system needs to meet the needs of all types of users – motorists, pedestrians (including those with disabilities), bicyclists, transit vehicles and users, freight haulers, emergency responders, and citizens of all ages and abilities. Additionally, the Vision Zero traffic safety project establishes a goal of eliminating traffic deaths and severe injuries by improving the design of the transportation system. [JB1]

For many years, Oshtemo Township has planned and implemented a multi-modal transportation system to safely and efficiently move both motorists and non-motorists throughout the community. Furthermore, the design of the multi-modal system has also considered the context of the adjacent land uses. Comprehensive planning, design, and construction efforts that consider all users as part of a transportation system will continue as public and private developments and capital improvements are implemented.

II. BENEFITS OF A COMPLETE STREETS TRANSPORTATION SYSTEM

Continuing to provide and invest in a Complete Streets system is a priority for residents, businesses and Township leaders, and includes many benefits, such as:

- Provides multi-modal transportation connections between homes, schools, parks, public transportation, offices, and retail destinations.
- Enhances safe walking and bicycling options for school-age children, consistent with the national Safe Routes to Schools program
- Encourages economic growth, positively impacting property values.
- Improves pedestrian and cyclist safety by reducing potential crashes between motorized and non- motorized users.
- Encourages walking and bicycling that improves health and fitness.
- Provides driving alternatives positively impacting the environment, conserves fuel, and saves money.

III. APPLICABILITY OF THE COMPLETE STREETS POLICY

Oshtemo Township will consider every transportation improvement and private development project as an opportunity to evaluate the level of Complete Streets elements within the general project area and connectivity to adjacent areas with the intent to improve safety and accessibility for all users. This Complete Streets Policy will be used with all planning, design, funding, and approval involving any street construction, reconstruction, resurface, major repair or alteration, or right-of-way acquisition project. This policy is also applicable to the installation, replacement, or reconstruction of underground utilities located within a public street right-of-way; however, water and sanitary sewer funds cannot be used as a Complete Streets funding source.

A determination as to whether or not a specific street is a Complete Street, or how many design elements are appropriate will be determined on a case-by-case basis.

IV. DESIGNING A MULTI-MODAL SYSTEM TO MEET THE NEEDS OF ALL USERS

Oshtemo Township will seek to enhance the safety, access, convenience, and comfort for all users of all ages and abilities through the design, operation, and maintenance of the transportation network. The goal is to continue to expand an interconnected network of facilities accommodating each mode of travel consistent with the goals identified in the adopted Master Plan and other related planning documents. Furthermore, this policy recognizes that all streets are not the same: Streets vary by type and intensity of adjacent land uses, number of travel lanes, posted speed limits, traffic volumes, available right-of-way, and other characteristics such as topography, soil types, and proximity of trees. As a result, the necessity for certain non-motorized transportation facilities will need to be carefully evaluated such that the cost of the non-motorized facility is balanced with the demand and availability of right-of-way.

Transportation improvements will include facilities and other amenities that are recognized as contributing to Complete Streets, which may include, but not necessarily limited to, one or more of the following:

1. Sidewalks (new construction, gap construction, repair or replacement, Americans with Disabilities Act (ADA) improvements).
2. Pedestrian refuge islands or crosswalk improvements.
3. Traffic calming measures, where appropriate.
4. Street and/or sidewalk lighting.
5. Multi-use trails.
6. Accessibility improvements consistent with the ADA.
7. Improved pedestrian access and amenities (e.g. bus shelters) to transit stops and/or installation of bus turnouts.
8. Bicycle accommodations including designated bike lanes, widened travel lanes, and bike storage facilities.
9. Connecting sidewalks along a public street to internal private development sidewalks.
10. Interconnected and/or shared off-street parking lots and other access management techniques to reduce driveways and subsequent points of conflict between vehicles and pedestrians/bicyclists.

V. CONTEXT SENSITIVE STREET DESIGN

Historically, streets were designed to meet expected traffic volumes at a selected speed. Streets or intersections were widened to meet vehicular needs provided right-of-way was available. That traditional approach has been changed in response to best practices in street design, which recognize that many factors along a particular street influence the speed of traffic, crashes, and how a street can be in harmony, or in conflict, with its surroundings.

Street width, presence of on-street parking and sidewalks, block length, building setbacks, design speed, pavement markings and signs, street trees, and even boulevard landscaping, and street furniture all contribute to how the street functions. Driver perceptions can affect vehicle speed and care used in driving. These elements can also affect how people view a corridor and their impression of Oshtemo in general. A street designed in tandem with its surroundings can foster an inviting place to live, work and visit.

Oshtemo Township will continue to rely on a wide range of concepts to help ensure the transportation system operates safely and efficiently, but also in context with the immediate area and overall character of the Township.

VI. IMPROVE NETWORK CONNECTIVITY

Improving the connectivity between the current network of sidewalks, bike lanes, multi-use trails, paths, public transit routes, and roadways is important to ensure the continued success of complete streets concepts in Oshtemo Township. A well-connected network will encourage citizens to fully utilize all available forms of transportation that will provide safe access for all users, promote healthy living, increase the capacity and efficiency of the roadway network, and reduce negative environmental impacts. It is also important that a well-connected network include safe and convenient transitions from one mode of transportation to another, from one jurisdiction to another and from one type of infrastructure improvement to another. This can be accomplished by including ADA-compliant improvements, appropriate signage/pavement markings, refuge islands, sidewalk connections to bus stops, among others.

VII. NON-MOTORIZED COMPLETE STREET ELEMENTS

The Non-Motorized Facilities section of the Oshtemo Township Master Plan provides specific recommendations concerning the provision of the following non-motorized Complete Street elements:

1. Sidewalks^[JB2] (that are ADA-compliant) on local and major streets:
 - a. Sidewalks or bike paths will be built along the entire length of M-43 and Stadium Drive due to high traffic volumes.
 - b. Using the Future Land Use Map^[JB3] from the Master Plan, in areas identified as low density residential or higher density, sidewalks are provided on both sides of all major thoroughfares, defined as Average Daily Traffic greater than 1,000 vehicles per day.
 - c. Sidewalks are provided on both sides of all streets within new residential subdivisions.
 - d. Sidewalks within existing residential subdivisions are inconsistent throughout the community. In such areas, the following efforts should be pursued:
 - i. Older neighborhoods without sidewalks will decide if they want sidewalks based on majority petition. All properties get one vote. Majority is defined as 50% of properties + 1. The residents of the neighborhood will initiate the petition and, if successful, present the petition to the Township.^[JB4] If the neighborhood votes to build sidewalks, the streets of the neighborhood will be added to the list of streets to receive sidewalks and the sidewalks will be built according to the Appendix A prioritization policy.
 - ii. Fill gaps in the existing sidewalk system as redevelopment and infill development occurs;
 - iii. Concurrent with capital improvement planning, construction of sidewalks along primary pedestrian routes to schools, parks, or other activity nodes should be considered;
 - iv. Where concerns regarding pedestrian safety exist and have been documented, construction of sidewalks and other appropriate safety improvements should also be considered.
2. In Rural Residential areas, a widened-shoulder bikeway on major thoroughfares to accommodate bicycle travel.

VIII. EXCEPTIONS

Exceptions to this policy may be appropriate when the Public Works Department determines that one or more of the following conditions exists:

1. An affected roadway prohibits, by law, specified users (such as an interstate freeways or pedestrian malls), in which case a greater effort shall be made to accommodate those specified users elsewhere.
2. An alternative route, such as a multi-use trail in the immediate vicinity provides an option for non-motorized transportation.
3. A wide shared-shoulder bikeway designed to accommodate both bicycle and pedestrian use is available in the street right-of-way.
4. There is insufficient right-of-way to accommodate a Complete Street element.
5. The activities, such as spot repair or crack seal, are ordinary maintenance activities designed to keep assets in serviceable condition, which meet MDOT's ADA upgrade exceptions.
6. Capital preventive maintenance projects where the roadwork is not substantial enough to recognize costs savings by including the non-motorized element. Examples of preventive maintenance projects include thin overlays (less than 1.5-inch), micro-seals, chip seals, or slurry seals.
7. The type of project does not have a substantial impact on the roadway, such as signal upgrades, addition of turning lanes and utility installations signal interconnect projects, which do not remove existing non-motorized or transit facilities.
8. Safety projects which are funded only for specific safety features identified by crash patterns, due to the funding parameters of the program.
9. The adopted Future Use Plan, or other present and/or anticipated market conditions that can be documented, indicate an absence of existing or future need (e.g. sparse population), for a Complete Street element or elements.
10. An element of this policy will have an adverse impact on existing environmental resources such as wetlands, floodplains, creeks, or historic structures, or the presence of an environmental resource will add significant cost to an element of this policy.

Exceptions to this policy involving private (re)development projects requiring plan review approval or recommendation to Township Board by the Planning Commission shall only be granted or recommended when the Planning Commission, after recommendation from the Township Planning Staff, determines one or more of the above applicable provisions exist, is consistent with applicable sections of the Zoning Code concerning Planning Commission review/approval authority and is consistent with the goals, objectives and recommendations of the Master Plan.

IX. INTERGOVERNMENTAL COOPERATION

Oshtemo Township will cooperate with adjacent communities, the Kalamazoo Area Transportation Study, and Kalamazoo County to ensure the principles and practices of complete streets concepts are consistent in appropriate planning documents and implanted along the mutually shared corporate boundaries. Oshtemo Township, together with its adjacent neighbors, Kalamazoo Area Transportation Study and Kalamazoo County, will cooperate to make sure the transportation network as it transitions from one community to the next is seamless in accordance with local and regional road, transit, bicycle, and pedestrian plans and design criteria.

X. DESIGN GUIDELINES

Oshtemo Township will consider design guidelines promulgated in the documents listed below or as may be required by the funding source. Sources for design guidelines include, but are not limited to:

1. American Association for State Highway and Transportation Officials: A Policy on Geometric Design of Highways and Streets, 6th Edition, or latest edition.
2. American Association for State Highway and Transportation Officials: Guide for the Planning, Design, Operation of Pedestrian Facilities – July 2004 edition or latest edition.
3. American Association for State Highway and Transportation Officials: Development of Bicycle Facilities – Fourth Edition or latest edition.
4. Institute of Transportation Engineers: Designing Walkable Urban Thoroughfares: A Context Sensitive Approach – 2010 edition or latest edition.

In conjunction with the references noted above, the Township will also consider the impact on a street and any proposed improvements will have on surrounding land uses pursuant to Section V.

XI. IMPLEMENTATION

Oshtemo Township will take the following actions to implement this Complete Streets policy:

1. The Township will pay for construction, maintenance, and reconstruction of all sidewalks in the road right-of-way that are not part of a new development (residential or commercial) from general revenue funds. [JB5]
2. The Public Works Department, with assistance from the Planning Department, will lead the implementation of this policy and coordinate with other departments and outside organizations.
3. The Township will maintain a comprehensive inventory of the pedestrian and bicycling infrastructure within the Township's GIS mapping system. This information can be used by various departments to identify and prioritize projects in accordance with this policy, Master Plan, and other related planning documents.
4. Through the private development project plan review process, installation of Complete Street elements will be incorporated during the construction phase of the private development project when appropriate.
5. Each year, the Township will evaluate applicable transportation-related projects for safety improvements in accordance with this Complete Streets Policy. Each project will include a summary of incorporated Complete Streets elements or, if none are proposed, an explanation as to the reasons why. [JB6]
6. Each year, the Oshtemo Maintenance Department will perform an assessment of all sidewalk and bike path assets to determine physical condition and areas requiring maintenance or reconstruction. The Maintenance Department will be responsible for addressing identified minor safety issues (i.e., large cracks and elevation changes of 2" or more). The Public Works Department will be responsible for inspecting new sidewalk construction and reconstruction of existing sidewalks.
7. When appropriate, the Township will review existing plans and policies related to transportation planning/improvements to ensure consistency with this Complete Streets policy.
8. The Township will develop educational materials intended to inform elected officials, staff, and interested citizens regarding the content of Complete Streets principles and best practices for implementing this policy.
9. The Township will coordinate transportation improvement projects involving complete street elements with outside agencies to promote the most responsible and efficient use of financial resources for activities within the public right-of-way.
10. The Township will continue to seek public and private sources of funding to implement the elements of this Complete Streets policy. The Township will also continue to coordinate

transportation-related projects, including complete streets infrastructure planning and funding, through the Kalamazoo Area Transportation Study through implementation of the Metropolitan Transportation plan and Transportation Improvement Program.

11. The Township will create a prioritization scoring system to determine which roads have the greatest need for sidewalks when funding is available. When created, the prioritization scoring system will be attached to this Complete Streets policy as Appendix A.
12. The Township will create and maintain an ADA transition plan to identify areas in the existing sidewalk network and access routes to government buildings that are not ADA-compliant, and create a plan to correct the deficiencies.

DRAFT

**CHARTER TOWNSHIP OF OSHTEMO
KALAMAZOO COUNTY, MICHIGAN**

**ROAD - SIDEWALK -- SHARED USE PATH
ASSESSMENT POLICY**

EFFECTIVE: yyy xx, 2018

ADMINISTRATIVE PROCEDURE

With assistance of the Capital Improvements Committee, the Township Board shall annually determine which roads will be restored/reconstructed or which will receive Hot Mix Asphalt (HMA) or gravel overlay. Selection of projects and treatments shall be subject to available Township funds, budgeting and scheduling.

A project funding formula is herein outlined. Specific projects shall be approved by the Township Board. On projects with no petitions, a Township Board resolution is needed. Resolutions or petitions for Assessment Districts shall be forwarded to the Road Commission for Public Hearing.

Township road dollars shall, in general, not be spent on roadway reconstruction if the local street is not served with sanitary sewer and sanitary sewer is available to be extended to service properties along the street. This deferment of other than routine road maintenance is to facilitate the coordination of roadway work with sanitary sewer extensions to utilize Township funds in the most efficient and effective manner. If work is deferred for a local street under this policy, said local street will be planned for sanitary sewer extension within three years.

PROJECT	FUNDING FORMULA
1. Local Roads -	
Chip Seal or Seal Coat	Township Funds as supplemented with Road Commission Par Funds
HMA Overlay/Reconstruction	Township Funds as supplemented with Road Commission Par Funds
2. Plat Streets -	
Chip Seal or Seal Coat	Township Funds as supplemented with Road Commission Par Funds
Ultra-Thin HMA Paving	100% of additional cost over Township-proposed project shall be by special assessment. Cul-de-sacs shall be assessed in a manner that approximates an equitable

contribution for the “pie” shaped square yardage frontage each assessable parcel (i.e., approximately comparable to the roadway width square yardage assessed on a two-sided street).

HMA Overlay/Reconstruction

Township Funds as supplemented with Road Commission Par Funds

3. Dust Control (gravel roads) -

100% Township Funds

4. Failed Condition Local Road -

The Failed Condition Local Road Policy of the Road Commission shall be used.

5. Sidewalks/Shared Use Paths -

~~\$30.00 per Front Foot for Single-Family Residential Zoning~~

~~\$35.00 per Front Foot for Commercial/Industrial Zoning~~

~~Note 1: If developed, actual land use shall take precedent when determining the sidewalk/path assessment. When the underlying zoning allows other than single-family residential, or when substantial frontage remains undeveloped, the Township Board may elect to enter into an agreement with the property owner to defer collection of the full assessment until the parcel further develops.~~

~~Note 2: An exception shall apply to single-family residential properties which are (a) located along North 10th Street, from W. Main to the Kal Haven Trail, or (b) located along an “arterial roadway” as classified by the National Functional Classification (NFC) will not be assessed. This location based exemption is intended to recognize the subordinate neighborhood usage of the sidewalk/path, versus the facility’s function as an arterial/connector.~~

The Township shall pay for all sidewalk construction, maintenance, and reconstruction in the road right-of-way from Township Funds. All new plats shall be built with sidewalks by the developer.

6. Landowner-Initiated or Shared-Use Private Roads -

At its sole discretion, the Oshtemo Township Board may elect to facilitate creation of a special assessment district for private roadway improvements when shared-use or other unique conditions warrant the proposed improvements as a public interest. Properties in Private Roadway SAD's shall bare 100% of the cost for the improvements, and shall include reimbursement of the administrative costs incurred by the Township.

A petitioned Public Roadway SAD project is exempt from Township cost participation as outlined in this policy. Specifically, the Township Board shall separately determine to what extent, if any, the Township shall contribute to the project.

ASSESSING POLICY

1. The Township shall annually determine which roads will be restored/reconstructed or which will receive an HMA or gravel overlay subject to budget limitations.
2. Parcels or outlots not in a plat, but with frontage on a plat street would be assessed using the funding formula, but not to exceed the largest assessment in the district.
3. Parcels located on a "curved comer" will be assessed using the funding formula but not to exceed the largest assessment in the district.
4. Assessments for condominium units will assessed using the funding formula and the amount will be divided equally among the number of units.
5. The Township has the right and responsibility to set an assessment district, when it has been determined a road must be overlaid or reconstructed and funding is needed.
- ~~6. If sidewalk/shared us path project costs are less, individual assessments will be accredited accordingly.~~
7. If any development is required by zoning to provide a sidewalk/shared use path, the development bears the full cost.
8. The Township reserves the right, should the need arise, to revise this policy at any time and may establish assessment districts calling for abutting land owners to share in the construction, restoration/reconstruction, HMA or gravel overlay of any road. Additionally, the Township may consider a petition for road improvements and the establishment of a special assessment as provided by state law.