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Construction Guidelines

Approved
November 8, 2022
Effective
January 1, 2023

CONSTRUCTION GUIDELINES

WHEREAS, the Board of County Road Commissioners of the County of Kalamazoo, Michigan, deems it necessary to adopt construction guidelines relative to the construction of highways and appurtenant structures coming under our jurisdiction; and

WHEREAS, such procedures, guidelines, and specifications function to provide rules, regulations, and assistance to RCKC land developers and others to ensure that public highways, dedicated for public use, are constructed with approved materials and by appropriate methods,

NOW, THEREFORE, BE IT RESOLVED, that the CONSTRUCTION GUIDELINES , as filed with us on this date, by and the same, are hereby adopted as administrative rules and regulations governing the development of public roads and the same shall be known and cited as our CONSTRUCTION GUIDELINES ,

BE IT FURTHER RESOLVED, that in the event other previous resolutions or parts of previous resolutions conflict with this resolution adopting the aforesaid CONSTRUCTION GUIDELINES, such resolutions, or parts thereof, only to the extent of conflict, are hereby repealed.

BE IT FURTHER RESOLVED, that if any section, clause, or portion of the aforesaid CONSTRUCTION GUIDELINES be declared invalid by the courts, the balance of same shall remain valid and in effect, except for the part declared invalid.

BE IT FURTHER RESOLVED that the effective date of the aforesaid CONSTRUCTION GUIDELINES shall be November 7, 2023.

BOARD OF COUNTY ROAD COMMISSIONERS
OF THE COUNTY OF KALAMAZOO

By: _____

Thom Brennan, Chair

CONSTRUCTION GUIDELINES

TABLE OF CONTENTS

	<u>Page Number</u>
Definitions	4
Winter Construction	8
Construct, Operate, and/or Use Within the County Road Right-of-Way	10
Procedures, Guidelines, and Specifications for Developing Public Roads	33
Downtown Development Authority	55
Driveway Policy	58

APPENDICES

Appendix A Figures, Tables, and Letter of Credit Format	74
Appendix B Checklists of Procedures, Guideline and Specifications for Developing Public Roads	98
Appendix C Example Driveway Sketches	108
Appendix D Utility Locations Within the ROW	117
Appendix E Minimum Road Cross Section Requirements	118
Appendix F Driveway Permit Application Checklist	119
Appendix G Exception from Construction Guidelines	122
Appendix H Traffic Impact Studies	125
Appendix I Helpful Links	126

GENERAL PROVISION

Construction Guideline provisions provided may be modified by Board policy and/or applicable state and federal law.

DEFINITIONS

433 Agreement: An agreement made with the Kalamazoo County Drain Commissioner for the establishment of a county drain and county drain district pursuant to Sections [425](#) and [433](#) of Act No. 40 of the Public Acts of 1956, as amended.

Accelerated Soil Erosion: The increased loss of land surface that occurs as a result of work activities

Agricultural Commodity: Those plants and animals useful to human beings produced by agriculture and including, but not limited to, forages and sod crops, grains and feed crops, field crops, dairy and dairy products, poultry and poultry products, cervidae, livestock, including breeding and grazing, equine, fish, and other agricultural products, bees and bee products, berries, herbs, fruits, vegetables, flowers, seeds, grasses, nursery stock, mushrooms, fertilizer, livestock bedding, farming equipment, and fuel for agricultural use, but not including trees and lumber

Application: Refers to the standard appropriate application supplied by the Road Commission of Kalamazoo County

Approach: Portion of the driveway between the road pavement edge and the property line

AASHTO: The American Association of State Highways and Transportation Officials. AASHTO guidelines are included in the current edition of "A Policy of Geometric Design of Highways and Streets and Standard Specifications for Highway Bridges"

All-Season Road: A local or primary road constructed to a standard that will not require seasonal weight restrictions

Apron: Portion of the driveway between the pavement edge and the back of the shoulder

As-built: Drawings/plans submitted by a contractor upon completion of a project showing the exact dimensions, geometry, and location of all elements of the work completed

Average Daily Traffic (ADT): A measure of the total volume of vehicles on a roadway in a 24 hour period.

Backfill: Replacement of material removed from a trench with suitable material

Benchmark: A surveyor's mark on a permanent feature of known elevation and position used as a reference point in surveying

Best Management Practices: Generally accepted measures for Soil Erosion and Sedimentation Control

Board: Board of County Road Commissioners of the County of Kalamazoo

CAD: Computer-Aided-Design

Catch Basin: A structure intended to convey storm water runoff from the street gutter into a storm sewer system

CIP: Compacted in place

Clear Vision Zone: Refers to land acquired or used by the agency having jurisdiction over a highway for the purpose of maintaining unobstructed vision

Commercial Development: The name given to primary roads or a development with streets and lots designed primarily for multi-family residential, industrial, commercial and/or warehouse operation

Commercial Driveway: A driveway which services a commercial establishment, industry, governmental or educational institution, hospital, church, apartment building, private road access or other large traffic generator

County Engineer: An Engineer of the Road Commission of Kalamazoo County or the, Managing Director, if authorized by the Board, or his or her authorized representative

Cul-de-Sac Street: A street open at one end only, with special provisions for turning around

Culvert: A structure providing surface water conveyance through a crossing

Driveway Construction: Shall be defined as construction of new driveway approaches, any change or reconstruction of existing driveway grades or surface, installation of drainage culverts, or any other modification of an existing driveway within the ROW

Earth Change: A change in the natural cover or topography of land, including cut-and-fill activities

EGLE: Michigan Department of Environment, Great Lakes, and Energy

Erosion: The process by which the ground surface is worn away by action of wind, water, gravity, or a combination thereof

Excavation or Cut: Any act by which soil or rock is cut into, dug, quarried, uncovered, removed, displaced or relocated

Exception from Construction Guidelines: A formal request to deviate from the stated standards

Frontage: Portion of private property that abuts a public highway ROW that is not a limited access highway

Grading: Any stripping, excavating, filling, stockpiling, or any combination thereof, and also included shall be the land in its excavated or filled condition

GPS: Global positioning system. The set of latitude and longitude coordinates describing a specific location.

Hard Surfaced: A surface paved with asphalt, seal coat or concrete

Highway, Road or Street: A general term denoting a public way for purposes associated with travel, including the entire area within the ROW

HMA: Hot mix asphalt

Impoundment/Retention Area: An area intended to hold and control surface water runoff

Inspector: A designated representative of the Road Commission of Kalamazoo County

KCDC: Kalamazoo County Drain Commissioner and/or the Drain Commissioner's Office

Leaching Basin: A structure designed to receive surface water runoff and slowly discharge water to the surrounding area through pervious materials

Left-Turn Lane: A lane that is added between opposite directional lanes to accommodate storage of left-turning vehicles

Local Road: A road or street that is certified as a part of the local county road system

Limited Access: Refers to a highway ROW to which occupants of abutting lands and other persons have no legal right of access to or from the highway, except at designated access points, determined by the public authority having jurisdiction over the highway

Local Government: Refers to the city, village, or township wherein driveway construction is proposed. A local government may have standards and specifications for the review and approval of proposed property development including access to or from abutting roads

Low Use Driveway: Refers to cultivated or uncultivated fields, land or utility-structure access points serving an unmanned utility structure, such as a pump house or substation, which requires only occasional access

MDOT: Michigan Department of Transportation, MDOT specifications are as found in the current edition of Standard Specifications for Construction

MIOSHA: Michigan Occupational Safety and Health Administration

MMUTCD: The current Michigan Manual of Uniform Traffic Control Devices

PA: Public Act

Passing Lane: A paved area within the ROW which will allow vehicles to pass to the right of a left-turning vehicle

Permit Agent/Supervisor: Permit Agent, Managing Director, an Engineer or agent or his or her authorized representative of the Road Commission of Kalamazoo County

Permittee: A property owner, contractor, governmental agency, or its legally authorized agent who is applying for or who has been issued a Permit

Primary Road: A road or street that is certified as a part of the primary county road system

Proprietor: A person, firm, association, partnership, corporation or combination that may hold any ownership interest in land, whether recorded or not, or as defined by law

RCKC: Road Commission of Kalamazoo County

Residential/Plat Development: The name given to a development with streets and lots designed primarily for individual single-family dwellings or large traffic development area

Residential Driveway: A driveway which serves a single-family dwelling, two single-family dwellings, three single-family dwellings or one two-family dwelling

ROW: Right-of-way; a general term denoting land property, or interest therein, usually in a strip, acquired for or devoted to or used for public transportation purposes either by user or deed

ROW Line: Right-of-way; the boundary between private property and public land under legal control of the agency having jurisdiction over the highway

Roadside: A general term denoting the area adjoining the outer edge of the road

Public Road: The portion of a highway, including shoulders, for vehicular use.

County Local Roads: All through streets or roads certified as Local County Roads, other than roads within a residential development.

Sight Distance: The distance a driver can see an approaching vehicle from the right or left

SESC: Soil Erosion and Sedimentation Control

Stripping: Any activity that removes or significantly disturbs the vegetative surface cover including clearing and grubbing operations

Subsurface: The area located beneath the surface including pavement, gravel, subbase, or underground in the influence of the roadway.

Temporary Driveway: A driveway which will be allowed for twelve months and for a specific project or function associated with a parcel of property

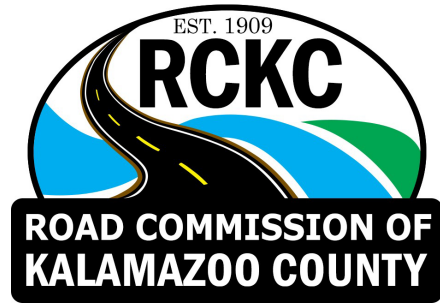
Temporary Soil Erosion Control Measures: Interim control measures that are installed or constructed for the control of soil erosion until permanent soil erosion control is achieved

Traveled Way: The portion of the road for the movement of vehicles

Trench: A narrow open excavation

USGS: United States Geological Survey

Woody Vegetation: All woody plant growth such as volunteer trees, low-hanging limbs, shrubs, and stump growth

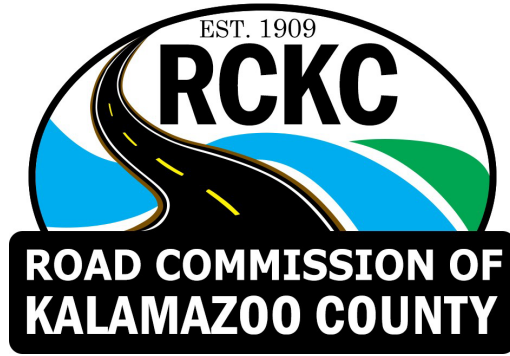


WINTER CONSTRUCTION

It is the policy of the Board to restrict subsurface construction activities within its ROW during the winter season. Experience has shown that it is challenging to properly and safely maintain traffic when construction is carried out within the ROW during winter. Experience has also shown that work crews cannot satisfactorily achieve adequate restoration of the traveled surface and the immediate adjoining areas to meet traffic needs. Construction carried out during this time magnifies the disruption of highway structure and substructure within portions of the ROW.

The restriction of use of the ROW during the winter season is as follows:

- The winter season shall be generally defined as the portion of the year beginning on the first day of November and extending to the date that restricted load-limit/seasonal weight restriction enforcement on the public road system is removed. During this period, new construction activities are prohibited from commencing according to this policy.
- The restriction shall include any subsurface construction activity within the ROW including paved or gravel surfaces and gravel shoulders. Work outside the influence of the roadbed, or parallel to the traveled portion of the roadway, may be permitted in a manner that does not impact traffic or maintenance activities.
- No work will be allowed within the ROW for 72 hours following the end of a weather event as determined by the RCKC.
- These restrictions do not apply to emergency repair of existing utilities. This shall include but not be limited to repair of existing water, sewer, or gas utilities. A permit shall be required for all emergency repairs. This permit should be obtained from the RCKC in advance of actual construction, or as soon as practical. Such permits shall be issued with restrictions adequate to protect the interests of the motoring public and the road's physical facilities.
- In issuing permits for winter construction, consideration shall be given to the nature of the service being provided by the road that the proposed construction activity would disrupt.
- All construction activities on or under the road and shoulders are expected to be completed by the first day of November.
- Work begun under this policy prior to the first day of November may be permitted to continue under construction on a day-to-day basis until the contractor is notified to modify or cease operations by the RCKC.



**CONSTRUCT, OPERATE, AND/OR USE
WITHIN THE COUNTY ROAD
RIGHT-OF-WAY**

CONSTRUCT, OPERATE, AND/OR USE WITHIN THE COUNTY ROAD RIGHT-OF-WAY

TABLE OF CONTENTS

	<u>Page Number</u>
I. SCOPE	12
II. GENERAL REQUIREMENTS	12
III. TEMPORARY CLOSURE OF A HIGHWAY	13
IV. ENGINEERS AND SURVEYORS	14
V. TRANSPORTATION PERMITS	15
VI. CROSS ROAD CUTS, TRENCHES, REMOVAL OF PAVEMENT AND RESTORATION OF RIGHT-OF-WAY	25
VII. ACTIONS AFFECTING TREES	30
VIII. GENERAL PROVISIONS	32

I. SCOPE

This policy is intended to provide to the general public, businesses, utilities, and governmental entities, the requirements and specifications of the RCKC to construct, operate, maintain, use and/or remove within the public ROW.

If any part of this policy is found invalid, such invalidity shall not affect the validity of the remaining portions.

The Board also has additional policies for regulating driveways and for itemizing its requirements and specifications for new public roads. These policies are available from the RCKC and on our website: www.kalamazocountyroads.com.

II. GENERAL REQUIREMENTS

A permit is required for utilizing any portion of the ROW by any person, partnership, association, corporation, or governmental entity to construct, operate, maintain or remove a facility or perform any other work. The RCKC reserves the right to inspect any activities within the ROW.

Reasonable permit requirements, supplemental specifications and a schedule of permit and inspection fees are adopted as necessary by the Board. Fees charged are sufficient to cover the necessary and actual costs applied in a reasonable manner for the issuance of the permit and for review of the proposed activity, inspection and related expenses. Expenses deemed necessary are to be billed to the permittee. Expenses shall be charged accordingly per the RCKC s After the work authorized in the permit has been completed, itemization of all costs shall be supplied upon request of the permittee. (PA 283 of 1909 [MCL 224. 19b](#))

The applicant shall submit a right-of-way application on the appropriate RCKC form. The application is reviewed by RCKC and if approved it will be given a permit number, signed by the Permit Agent, and returned to the applicant as an approved permit.

The application/permit does not relieve the permittee of meeting any applicable requirements of law or of other public bodies or agencies.

Any rules or regulations stated on the application/permit form and not stated in this policy are applicable.

The permittee or contractor shall comply with the MIOSHA, AASHTO and the Michigan Motor Vehicle Codes and soil erosion and sedimentation control regulations for all activities undertaken in the ROW.

Any generally accepted engineering practice, guideline, rule or standard, not specifically provided for is hereby incorporated by this reference.

All right-of-way applications shall meet the following basic requirements before they are accepted for processing:

A. Each permit application shall be completely filled out and signed by the permittee or

contractor. If the contractor is not known at the time a permit is issued, the RCKC shall be notified, in writing, of the contractor's name, address and telephone number before work may start. A separate permit shall be required for each contractor, clearly delineating the area of work responsibility.

- B. Design plans or drawings shall accompany each copy of the right-of-way application showing the existing public road pavement, ditches, ROW and property lines, public road appurtenances, utilities and dimensions preferably in electronic form. A right-of-way application from utility companies shall not require other utility locations to be shown.
- C. All application fees shall be submitted prior to a review of an application for permit. Additional expenses incurred by RCKC may be billed monthly. All fees are non-refundable unless otherwise noted on the RCKC [Schedule of Fees](#).
- D. The permittee shall have proof of insurance on file in the RCKC office that complies with the RCKC Board's [Insurance Requirement Policy](#).

The permit may restrict work to certain days of the week and/or hours of the day and/or weather conditions. Open-cut crossings shall be made during off-peak traffic hours (9:00 a.m.-3:00 p.m.). Lane closures may not commence before 9:00 a.m. and shall be completed and normal traffic flow restored before 3:00 p.m. unless otherwise approved and/or directed by the RCKC. Lane closures shall not be authorized on major holidays or the Friday before major holidays such as Memorial Day, Independence Day and Labor Day. All equipment and material necessary for restoration, including but not limited to compaction equipment and granular backfill material, shall be onsite prior to beginning excavation or pavement removal. Material which cannot be stored such as hot mix asphalt, shall be immediately available. Open-cuts shall not be allowed to begin if inclement weather is threatening which may impede the contractor's ability to restore the traveled way in a timely manner.

The permittee shall be responsible to have a copy of the permit available on site during ROW activities.

Work authorized by the permit shall be completed to the satisfaction of the RCKC on or before the completion date shown on the permit. Extensions may be granted with a written request for extension due to inclement weather or unforeseen circumstances.

A permit may be suspended or revoked at will. Upon the RCKC's request and at the permittee's own expense, the permittee shall surrender the permit and alter, relocate or remove the facilities for which the permit was granted.

A permit shall become immediately null and void if the terms of the permit are violated. The RCKC may require immediate removal of the permittee's facilities, or may remove them without notice at the permittee's expense.

III. TEMPORARY CLOSURE OF A HIGHWAY

In compliance with [PA 200 of 1969](#) (MCL 247.323), as amended, commonly known as Driveway, Banners and Parades, a permit to temporarily close a highway, or portion of a

highway, for a parade, celebration, festival or similar activity, and a permit for banners, decorations or similar objects to overhang the traveled way of a highway, may be issued by the RCKC only if requested by an authorized official designated by resolution of the governing body of a city, village or township.

The RCKC Application to [Construct, Operate, Use and/or Maintain Remove Within the Right-of-Way](#) or to Close A County Road shall be submitted for approval prior to issuance of the permit and activity.

The permit for the temporary closing of a highway shall indicate the date and time the highway is to be closed to traffic, the date and time the highway is to be reopened to traffic, traffic control and such other information that the RCKC may require. The permittee shall be responsible for the installation of and all costs for traffic control devices. Notification to emergency services and other governmental agencies shall also be the responsibility of the permittee.

No permit shall be issued for the partial or complete closing of a highway unless the RCKC is satisfied that adequate arrangements have been made for the handling of highway traffic during such closure.

Any banner shall be securely fastened, shall have a minimum bottom height of 18 feet above the surface of the traveled way, shall be placed no closer than 100 feet in advance of traffic control devices, and shall be placed so as not to obstruct a clear view of traffic control devices. Banners shall not be attached to trees.

The permittee shall, at its sole expense, immediately following the conclusion of the permitted activity clean up and remove any litter, debris, refuse, etc., placed or left in the ROW as a result of the permitted activity. In the event that the permittee fails to clean up as required, the permittee shall reimburse the RCKC for the cost thereof.

IV. ENGINEERS AND SURVEYORS

A permit shall be required for all engineering or surveying field crews doing any work in the ROW.

The RCKC application to [Construct, Operate, Use and/or Maintain Remove Within the Right-of-Way or to Close A County Roadway](#) shall be submitted for approval prior to issuance of the permit. A permit shall expire on December 31 of the year issued.

Field crews digging for survey monuments shall be required to place a monument box and cover on all section, quarter, and eighth corners and restore the road surface to a condition similar to what existed previously. Monument boxes and covers for monuments within Kalamazoo County will be furnished by the RCKC. For additional information on the remonumentation program please contact the Kalamazoo County Surveyor.

V. TRANSPORTATION PERMITS

A. General Provisions

1. Any generally accepted permit application requirement, guideline, rule or standard, not specifically provided for is hereby incorporated by this reference.
2. A permit issued under these regulations shall be in writing on a form issued by the RCKC and properly executed by the owner of the vehicle for which the permit is being requested.
3. A permit shall be issued to the company or individual actually transporting a vehicle and/or load which exceeds the legal size and axle weight limitations provided the vehicle and/or load cannot, be readily dismantled, reduced, or otherwise rearranged to come within the legal limits, as provided for in Wheel and Axle Loads (PA 300 of 1949 [MCL 257.722](#)).
4. An additional cash deposit fee may be required, prior to issuance of a permit to move a house, building, or oversized load, to cover the expenses of the RCKC, including supervising the building move.
5. During times of restricted load-limit/seasonal weight restriction, as set forth in PA 300 of 1949, as amended, ([MCL 257.722](#) (7) commonly referred to as Seasonal Road Restrictions), and at any other time when conditions are unfavorable, a permit shall not be issued for overweight vehicles and/or overweight loads. A permit issued for overweight vehicles and/or overweight loads on a seasonal basis shall not be valid during periods of reduced loading restrictions.
6. A permit shall not supersede posted load limitations on any bridge, culvert, or road.
7. The RCKC reserves the right to refuse to issue a transportation permit when the condition of the road is such that above-legal load limitations would cause harm or injury to the bridge, culvert, or public road.
8. A permit is void on Sundays and holidays, or any time when weather, road or traffic conditions create a potentially hazardous condition, unless specifically approved by the RCKC.
9. A copy of the permit shall be in the transporting vehicle.
10. A vehicle shall be loaded in such a manner as to minimize the excess over-statutory size or axle weight limitations. A load shall be arranged to affect the least dimensions for height, length, or width.

B. Annual Cab Card Permit

The RCKC Annual Cab Card application form shall be submitted for approval prior to issuance of a Permit.

This permit applies to moves within the following parameters:

Width:	8-1/2 feet to 12-1/2 feet and/or
Length:	Single Vehicle: Over 40 feet
Height:	Maximum 13-1/2 feet, and/or
Overweight:	Up to 40% over legal axle load and not to exceed on any wheel 700 pounds per inch width of tire

1. A permit shall expire on December 31 of the year issued. A permit may be issued to move oversized and/or overweight vehicles and/or loads, provided the vehicle and load does not exceed 13-1/2 feet in height, 12-1/2 feet in width and 60 feet in combined length, 40 feet for a single-vehicle unit.

A special waiver for 70 feet combined length requirement shall be granted to a utility company with an annual cab card when transporting poles that exceed 70 feet.

2. The permit applies to vehicles such as mobile cranes, lowboys, over length or over width trailers, self-propelled construction machinery and pole trailers. The permit does not apply to modular/manufactured homes or building moves.
3. A separate cab card shall be issued for each piece of equipment bearing a serial number and/or license plate (truck, tractor, or self-propelled equipment).
4. An "Equipment Information Sheet" shall be completed for all pieces of oversized equipment, with a cab card issued for each piece of equipment and hauling unit.
5. A permit is not required for vehicles for purposes provided for in [23 CFR 658](#), which requires access for one (1) mile to or from the National Truck Network or MDOT special designated highways.

C. Annual Mobile Home Transportation Permit

The RCKC Annual Mobile Home Transportation application shall be submitted for approval prior to issuance of the permit.

This permit applies to moves within the following parameters:

Width:	Up to 12 feet maximum and/or
Length:	Up to 95 feet maximum and/or
Height:	Up to 13-1/2 feet maximum and/or
Overweight:	Up to 40% over legal axle load and not to exceed on any wheel 700 pounds per inch width of tire

1. A permit shall expire on December 31 of the year issued.
2. Permittee is responsible for checking route for overhead clearance and any obstructions along the route of movement.

3. Permittee is responsible for any damage to property or utilities along the route of movement.
4. Permittee shall be responsible for any expenses associated with the permit approval.
5. Restriction of movement is as described on the reverse side of the permit.
6. A separate permit is required for each power unit.
7. The driver of the power unit shall have a valid copy of the permit in their possession while operating on any RCKC road and shall present it upon request to any law enforcement or agent of the RCKC.
6. The permittee shall comply with all requirements of Mobile Home Transport Requirements (PA 300 of 1949 [MCL 257.719a](#)) and Special Permits for Non-Conforming Vehicles (PA 300 of 1949 [MCL 257.725](#)) of the Michigan Vehicle Code.

D. Special Transportation Permit

The RCKC Special Transportation application form shall be submitted for approval prior to issuance of the permit.

A special transportation permit may be issued to move a vehicle and/or load exceeding the legal allowable size and axle weight limitations on a per-move basis. Prior to issuance of such a permit, the proposed route shall be checked for interference with overhead facilities and other obstacles. In addition, before the permit is issued, approval shall be obtained by the permittee from all public agencies and private entities whose facilities may be affected by the proposed move.

1. Single Move for loads within the following parameters:

Width:	8-1/2 feet to 14-1/2 feet, and/or
Length:	Less than 70 feet, and/or
Height:	Over 13-1/2 feet, and/or
Overweight:	Over 40% legal axle load but not exceeding or on any wheel 700 pounds per inch width of tire

- a. A special permit may be issued to allow an excess-width vehicle, between 8-1/2 feet and less than 14-1/2 feet, to travel on public roads with the route approved by an authorized representative of the RCKC.
- b. A permit may be issued to move a vehicle of excessive length, up to 70 feet, as long as the movement of such a vehicle shall not impede the safety of the public and shall not cause unreasonable interference with normal traffic on public roads.
- c. Axle loading may not exceed 50% over legal axle loads, or 700 lb./in. of tire width, whichever is least.

- d. The permittee shall be responsible for any costs associated with the permit approval.
- e. The permit shall designate the route to be taken and shall remain in effect only for as long as is designated on the permit, as long as is necessary to complete the designated movement, or until the permit is revoked.

2. Single Move for Loads Within the Following Parameters:

Width:	Over 14-1/2 feet, and/or
Length:	Over 70 feet, and/or
Height:	Over 13-1/2 feet, and/or
Overweight:	Over 40% legal axle load but not exceeding 50% legal axle load or on any wheel 700 pounds per inch width of tire

- a. A permit may be issued to move machinery, equipment, and/or loads in excess of 14-1/2 feet in width at the RCKC's discretion. Modular/manufactured homes 16 feet and over are considered house moves, [Section V, D, 4. House and Building Moves.](#)
- b. A permit may be issued to move a vehicle of excessive length, over 70 feet, as long as the movement of such a vehicle shall not impede the safety of the traveling public and shall not cause unreasonable interference with normal traffic over public roads.
- c. Prior to issuance of such a permit, the proposed route shall be checked for interference with overhead facilities and other obstacles, and approval shall be obtained from all public agencies and private entities whose facilities may be affected by the proposed move.
- d. The permittee shall be responsible for any expenses associated with the Permit approval.
- e. A vehicle transporting a load exceeding 14-1/2 feet in width or 70 feet in overall length, except utility poles, shall be protected by one or more pilot cars equipped with a roof-mounted amber revolving light and may be accompanied by an authorized employee of the RCKC. The permittee is responsible for RCKC expenses including supervision of the building move. Law enforcement escort may also be required.
- f. The permittee may be required to submit a letter of credit sufficient in amount to reimburse the RCKC for any costs incurred or occasioned by the move and to guarantee the repair of any damage to the road or road appurtenances and the complete and satisfactory restoration thereof.
- g. No such movement shall be allowed between sunset and sunrise, or on Sundays or holidays, or any time when weather, road or traffic conditions create a potentially hazardous condition, unless specifically approved by the RCKC.

- h. The permit shall designate the route to be taken and shall remain in effect only for as long as is designated on the permit, as long as is necessary to complete the designated movement, or until the permit is revoked.
 - i. A permit shall be issued as follows:
 - a. An application for each permit shall be submitted for approval at least five days in advance of the anticipated moving day, (excluding Sundays and holidays).
 - b. A letter of approval, to the point of destination from public and private utilities whose facilities are involved with the move, shall be filed with the application or submitted to the RCKC prior to issuance of the permit.
 - j. Axle loading may not exceed 50% over legal axle loads, or 700 lb./in. of tire width, whichever is least.
 - k. All applicable state standards for signing and flags on oversized loads shall be complied with.
3. Single Mobile Equipment Move

A permit may be issued to move special mobile equipment (such as self-propelled cranes and/or loads) if the following stipulations and provisions are met:

- a. Exceeds 50% legal axle load based on axle spacing. to guarantee the repair of any damage to the road or road appurtenances and the complete and satisfactory restoration thereof.
- b. Complies with 700 lb./in. of tire width maximum.
- c. Uses approved route as specified by the authorized representative of the RCKC.
- d. The permittee shall be responsible for any expenses associated with the permit approval.
- e. Permittee may be required to provide law enforcement and may be responsible for the reimbursement of RCKC employees who may have to provide this service.
- f. Permittee may be required to disassemble unit.
- g. The permittee may be required to submit a letter of credit sufficient in amount to reimburse the RCKC for any costs incurred or occasioned by the move and to guarantee the repair of any damage to the road or road appurtenances and the complete and satisfactory restoration thereof.
- h. The permit shall designate the route to be taken and shall remain in effect only for as long as is designated on the permit, as long as necessary to complete the

designated movement, or until the permit is revoked.

4. House and Building Moves

House and buildings, including garages and farm sheds, and modular/manufactured homes 16 feet or greater in width shall have a Special Transportation Permit to make a single move.

- a. Permittee shall be a house mover licensed under the laws of the State of Michigan and shall procure any necessary permits that may be required by any municipality in which, or through which, the movement is to take place.
- b. Prior to the issuance of such a permit, the proposed route shall be checked for interference with overhead facilities and other obstacles and approval shall be obtained from all public agencies and private entities whose facilities may be affected by the proposed move.
- c. Movement of the house and/or other building on public roads shall take place when accompanied by an authorized employee of the RCKC, with employee's time charged to the permittee. No such movement shall be allowed between sunset and sunrise or on Sundays or holidays, unless specifically approved by the RCKC. The transporting vehicle shall be protected by one or more pilot cars equipped with roof mounted amber revolving light, law enforcement escort may be required.
- d. The permit shall designate the route to be taken and shall remain in effect only for as long as is designated on the permit, as long as is necessary to complete the designated movement or until the permit is revoked.
- e. Permittee shall be responsible for any costs associated with the permit approval.
- f. The permittee may be required to submit a letter of credit sufficient in amount to reimburse the RCKC for any costs incurred or occasioned by the move and to guarantee the repair of any damage to the road or road appurtenances and the complete and satisfactory restoration thereof.
- g. A permit shall be issued as follows:
 - a. An application for each permit shall be submitted for approval at least five days in advance of the anticipated moving day, (excluding Sundays, and holidays).
 - b. Letters of approval from public agencies and private entities, whose facilities are involved with the move, shall be filed with the application or submitted to the RCKC prior to issuance of the permit.

E. Special Mobile and Modular Permit

The RCKC Special Mobile and Modular Transportation application form shall be

submitted for approval prior to issuance of the permit.

A permit may be issued to move mobile and/or modular homes exceeding the allowable width, length or height limitations on a per-move basis.

Single move for mobile and modular homes within the following parameters:

Width:	Over 12-1/2 feet but less than 16 feet and/or
Length:	Over 95 feet and/or
Height:	Over 13-1/2 feet and/or
Overweight:	Over 40% legal axle load but not exceeding 50% legal axle load or on any wheel 700 pounds per inch width of tire

1. Permittee is responsible for checking proposed route for overhead obstructions and any other obstacles and is responsible for damage caused to any property or utility by movement on the proposed route.
2. A permit shall be issued to move a mobile and/or modular home as long as the movement shall not jeopardize the safety of the traveling public and shall not cause unreasonable interference with normal traffic over public roads.
3. Axle loading may not exceed 50% over legal axle loads, or 700 lb. /in. of tire width, whichever is least.
4. The permittee shall be responsible for any expenses associated with permit approval.
5. The permit shall designate the route to be taken and shall remain in effect only for as long as is designated on the permit, unless otherwise approved in writing by RCKC, or until the permit is revoked.
6. Permit holder shall comply with all requirements for movement of mobile and modular homes as prescribed in Mobile Home Transport Requirements (PA 300 of 1949 [MCL 257.719a](#)) and Special Permits for Non-Conforming Vehicles (PA 300 of 1949 [MCL 257.725](#)), in the Michigan Vehicle Code.
7. The driver shall have a valid copy of the permit in their possession during proposed move and shall present it upon request to any police officer or agent of the RCKC.
8. Modular/Manufactured homes 16 feet and over are considered house moves [Section V, D, 4. House and Building: Moves](#).

F. Seasonal Milk Haul Route Permit

The RCKC Seasonal Milk Haul Route application form shall be submitted for approval prior to issuance of the permit.

1. Permittee shall show good cause as per section 722 or PA 300 of 1949, as amended ([MCL 257.722](#)(9)).

2. Permittee shall allow sufficient time for application processing so a proper inspection can be made of the requested highway or highways.
3. A permit may be issued to carry legal axle loads on a specific section of road, or roads on a seasonal or short-term basis, dependent upon the route to be followed and the condition of the road thereon. Speed limits for such vehicles shall be 35 mph maximum.
4. Failure of the permittee to fulfill terms of the permit is just cause for revoking the permit.
5. Any expense the RCKC attributes to the permit and to maintaining and restoring the haul route shall be charged to the permittee.
6. The permit shall designate the route to be taken and shall remain in effect only for as long as is designated on the permit, as long as is necessary to complete the designated move, or until the permit is revoked.

G. Seasonal Agricultural Commodity Permit

The RCKC Seasonal Agricultural Commodity application form shall be submitted for approval prior to issuance of the permit.

This permit may be issued during seasonal weight restrictions on a per-move basis.

Single moves for agricultural commodities within the following parameters:

Weight: Up to legal per-axle loads, or a maximum of 700 lb. /in. of tire width, whichever is lesser of the two

1. Permittee shall comply with all requirements prescribed in the Agricultural Commodities Exclusion as provided for in PA 300 of 1949 [MCL 257.722](#) (5) and [MCL 257.722](#) (13a) in the Michigan Vehicle Code.
2. A permit shall be obtained not less than 48 hours before pickup or delivery.
3. Designated route of travel shall be approved by the RCKC.
4. The date and time of the movement shall be submitted and approved by the RCKC.
5. A permit may designate a maximum speed of travel, if necessary.
6. Any other conditions agreed to between the parties.

H. Seasonal Public Utility Non-Emergency Exemption Permit

The RCKC Seasonal Public Utility Non-Emergency Exemption form for each vehicle

shall be submitted for approval prior to issuance of the permit.

1. Permittee shall qualify as per Section 722 of PA 300 of 1949, as amended and be performing work specifically as per [MCL 257.722](#) (6b).
2. A permit shall be obtained before the initiation of seasonal weight restrictions on equipment or combinations of equipment so designated by the utility.
3. A permit shall be carried in each vehicle covered under the permit.
4. Per PA 300 of 1949 [MCL 257.722](#) (6c), use of restricted roads during weight restriction periods shall be minimized and utilized only when necessary to perform work using the public utility vehicle or vehicle configuration, and non-restricted roads shall be used for routine travel when available.

Notification requirements under the permit:

1. The RCKC requires notification, by fax form, or preferably electronically through the Oxcart system, of the use of restricted roads by vehicles covered by this permit not later than 24 hours before the time of the intended travel.
2. Upon review, the RCKC may deny access to all or any part of that road to the utility within 24 hours after receiving notification of intended use. Any notification that is not disapproved within 24 hours after the notice is received by the RCKC is considered approved. Approval for selected routes shall not be unreasonably denied.
3. The notification application requires:
 - a. Permittee utility name and address
 - b. Address or location of the non-emergency work
 - c. Date or dates of the non-emergency work
 - d. Route to and from the work site and the permitted vehicle(s) to be involved with the non-emergency work
 - e. Restricted road or roads intended to be traveled upon to the non-emergency work site or sites
 - f. Vehicle number and Permit number

I. Dust Control Application Permit

The RCKC Construct, Operate, Maintain, Use and/or Remove within the County Road Right-of-way application form shall be submitted for approval prior to issuance of the permit.

1. A permit shall be required for each application by private or commercial operators of dust control agents.
2. A copy of the Safety Data Sheet (SDS) for each product shall be included with each permit request.

3. RCKC requires 5 days advance notice to enable the road to be graded to provide a suitable application surface.
4. Prior to dust control application, the surface of the road shall be properly maintained and receptive to the application, as determined by RCKC.
5. The extent and frequency of this operation shall be such that at no time shall there be any run-off of the application material.
6. Regulations of the EGLE and any other agency shall be adhered to at all times.
7. At their sole discretion, the RCKC may grade or perform other maintenance activity and may cancel or alter the permit at any time. Advance notice shall be provided when possible.

J. Seismic Testing Permit

The RCKC Construct, Operate, Maintain, Use and/or Remove within the County Road Right-of-way application form shall be submitted for approval prior to issuance of the permit.

1. A permit shall be required for each application by private or commercial operators of Seismic Testing Equipment.
2. Permittee shall be licensed under the laws of the State of Michigan and shall procure any necessary permits that may be required by any municipality in which, or through which, the movement is to take place.
3. Prior to the issuance of such a permit, the proposed route shall be checked for interference with overhead facilities and other obstacles and approval shall be obtained from all public agencies and private entities whose facilities may be affected by the proposed route.
4. No testing within the ROW shall be allowed between sunset and sunrise, on weekends or holidays, unless specifically approved by the RCKC.
5. The permit shall designate the testing route to be taken and shall remain in effect only for as long as designated on the permit, as long as necessary to complete the permitted testing or until the permit is revoked.
6. Permittee shall be responsible for any costs associated with the permit approval.
7. The permittee may be required to submit a letter of credit equaling 175% of the estimated cost to reimburse the RCKC for any costs incurred or occasioned by the testing and to guarantee the repair of any damage to the road or road appurtenances and the complete and satisfactory restoration thereof.
8. A permit shall be issued as follows:

- a. An application for each permit shall be submitted for approval at least ten to fourteen business days in advance of the anticipated testing schedule.
- b. Letters of approval from public agencies and private entities, whose facilities are involved with the testing, shall be filed with the application or submitted to the RCKC prior to issuance of the permit.

VI. CROSSROAD CUTS, TRENCHES, REMOVAL OF PAVEMENT AND RESTORATION

Construction of all utilities and other facilities for existing highways, roads, and streets shall conform to the requirements and specifications provided below.

The RCKC Application to [Construct, Operate, Use and/or Maintain Remove Within the Right-of-Way or to Close A County Roadway](#) shall be submitted for approval prior to issuance of the permit. Permittee agrees to conform with all of the requirements of the [Public Act 174 of 2013](#) known as the MISS DIG Underground Facility Damage Prevention and Safety Act.

A. Location

1. Public Roads

The following location requirements for longitudinal occupancy of utilities shall be adhered to unless another location is specifically approved by the RCKC.

Utilities constructed prior to the acceptance of the plans shall be shown and comply with existing RCKC requirements. If they are to be placed within the ROW, utility locations shall be staked prior to their installation and shall be placed as indicated in [Appendix D](#).

2. Limited Access Segments of North and South Sprinkle Road

Along North and South Sprinkle Road from BL I-94 to G Avenue, longitudinal occupancy of utilities shall be within 10 feet of either ROW or no closer than 10 feet to the edge of pavement. RCKC shall allow only continuous type facilities that do not intermittently extend service outside the limited access ROW. The location requirements indicated in [Appendix D](#) shall be adhered to unless another location is specifically approved by the RCKC.

B. Depth

All crossroad underground facilities shall have a minimum of 5 feet of cover from top of pipe to ground level and shall have at least 2 feet of cover from top of pipe to the bottom of the ditch.

All underground facilities parallel to the road shall be maintained at a minimum of 36 inches below existing ground level, except fiber optics that shall be at least 42 inches below the surface.

C. Method of Construction and Restoration

1. Construction

The method used for installation of crossroad facilities shall be described on the permit or submitted plans.

All crossroad underground facilities under HMA or concrete roads shall be constructed perpendicular to the centerline of the road by directional boring. Use of any other method shall require specific permission on a case-by-case basis. Consideration shall be given to open cut HMA roads in special cases.

Any construction carried out shall be approved, based on a permit obtained from the RCKC in advance of actual construction, and/or as soon as possible in the case of an emergency repair. Such permits shall be issued with restrictions adequate to protect the interests of the motoring public and the road's physical facilities.

Except for asbestos pipe, utility owners may vacate existing underground facilities or structures that do not pose a hazard or impediment to the use and maintenance of the ROW. In any such case the utility owner shall maintain ownership and responsibility for the facility or structure. Vacating a facility may require that the utility owner remove its facility or structure, at the discretion of the RCKC, and restore all areas to conditions satisfactory to the RCKC. All vacated pipe shall be pressure grout filled.

Any proposal to cease operation of an asbestos pipe system shall require the removal of the system from the ROW and shall properly dispose of the materials pursuant to applicable laws and regulations.

2. Excavation and Disposal of Excavated Material

The permittee, contractor and/or shall provide and place the necessary sheeting, shoring and bracing required to prevent caving, loss, or settling of foundation material supporting the pavement, or any other highway installation, such as sewers, culverts, etc. The permittee, contractor, and/or utility company assume full responsibility for this protection and shall not proceed in these areas before approval of methods by the RCKC's.

Excavated material shall be stocked in locations so as to not obstruct vision on the traveled portion of the highway and placed in a manner so that it interferes as little as possible with traffic flow. Sod and topsoil shall be stocked separately from other excavated material. The permittee shall dispose of all surpluses and unsuitable material outside the limits of the highway ROW unless the permit provides for disposal at approved locations within the ROW. In the latter case, the material shall be leveled and trimmed in an approved manner.

3. Backfill and Compaction Backfill

Restoration shall be such that it shall provide a condition equal to or better than the original condition and comply with [MDOT Standard Specifications for Construction](#). All trenches, holes, and pits shall be filled with granular material meeting minimum requirements for MDOT Class III granular material. Material shall be placed in successive layers of not more than 12-inch depth, in loose measure, and each layer shall be thoroughly compacted as stipulated by MDOT. All backfill compaction shall be subject to check by the Controlled Density Method or other approved engineering method.

4. Crossing Roadbed by Directional Bore

When pipe is installed by directional bore, the ends of casings shall be sealed by an approved method. The RCKC inspector shall specifically approve location of boring pits.

5. Crossing by Cutting Pavement and Trenching

When this method is approved by the RCKC, the pavement shall be cut back so that the opening is at least 24 inches wider on each side than the width of the trench. For surface restorations see [Section VI. C .6. Restoration of an HMA Road Surface](#). In all concrete surfaces or bases, edges of trench shall be formed by the use of a concrete saw. The pavement shall be removed in such a manner as to allow the reinforcing steel to protrude a sufficient distance for lapping and tying with reinforcing steel in the pavement patch. If lapping and tying cannot be accomplished, connection to patch shall be by drill and dowel method. All HMA surface or base materials shall be saw cut. Backfilling shall comply with provisions of [Section VI. C .3. Backfill and Compaction Backfill](#). After the backfill has been placed, the pavement shall be replaced with new pavement approved by the RCKC. Should work occur at a season of the year when it is not feasible to construct the new pavement, a temporary surface of HMA shall be installed and final pavement shall be placed the next May at permittee's expense.

6. Restoration of an HMA Road Surface

Repairs shall be equal to or better than the existing road. HMA surfaces shall be milled to at least 10 feet on sides of utility cut and repaved. Pavement abutting final patch shall be saw cut. Crossroad cuts are to be backfilled and compacted as described in [Section VI. C .3. Backfill and Compaction Backfill](#). Installation of material shall be to the appropriate distance from the surface to accommodate the base and pavement designated in [Section VI. C., 12., Restoring Materials](#). Unless listed otherwise, HMA shall be in lifts of no greater than 2.25 inches compacted in place. On roads with a HMA base, the existing base shall be replaced with an equivalent depth of new HMA. Patch surface shall be rolled to conform to the existing pavement. Restoration shall require milling and machine paving of road adjacent to cut to the nearest lane line. Use of infrared equipment may be allowed. Lane width shall be consistent with the current road with a minimum width of 10 feet.

7. Restoration of a Concrete Road Surface

On a concrete road, MDOT Grade 3500 concrete shall be used to replace the original concrete.

8. Restoration of a Gravel Road Surface

Trenches shall be backfilled and compacted in accordance with [Section VI. C .3. Backfill and Compaction Backfill](#). to within 8 inches of the surface. In the remaining depth, 22A aggregate shall be placed and compacted to MDOT specifications.

9. Restoration of Shoulders

Shoulder restoration shall comply with [Section VI. C .3 .Backfill and Compaction Backfill](#). Specifications for shoulder restoration shall be the same as those for HMA, concrete and gravel road surfaces, [Section VI. C., 12., Restoring Materials](#). The 23A aggregate shoulder gravel shall be a minimum depth of 6 inches and shoulder width shall be consistent with the current road with minimum width of 3 feet or as determined by the RCKC. Reuse of original shoulder gravel shall not be permitted.

10. Ditches and Back slopes

The permittee shall be responsible for SESC measures until vegetation is well established for any cleanup deemed necessary by the RCKC . When work is necessary in the ditch line or back slope, all brush and trees in the construction area shall be completely removed. Slopes shall be regraded to existing conditions or to standard 1:3 fore slope. Rocks larger than 3 inches shall be removed. In lawn area all stone shall be removed. In accordance with [MDOT Standard Specifications for Construction](#), the construction area shall have 3 inches of topsoil in depth, dragged, rolled, seeded and mulched. All lawn area shall be replaced with sodding or 3 inches of processed topsoil and seeded to match the existing lawn. Permittees are responsible for attaining and complying with SESC regulations.

11. Gravity Sanitary Sewer Projects

For the construction of gravity sanitary sewer projects, the following requirements apply.

a. Construction:

Remove and replace entire lane to nearest edge of full-width lane remaining. Any undermined pavement shall be removed and replaced to next adjacent full width -lane or pavement edge.

The entire width and cross section of a two-lane road shall be replaced in accordance with the current version of the RCKC Procedures, Guideline, and Specifications for Developing Public Roads. On a multilane facility, unless two full-width lanes in the same direction are saved, all lanes shall be completely

resurfaced. Existing pavement along curb and gutter shall be milled to accommodate any resurfacing. All paving shall conform to [MDOT Standard Specifications for Construction](#) and this policy.

b. Restoration of Shoulders:

Shoulders shall be restored in accordance with [Section VI. C .9. Restoration of Shoulders](#).

c. Other:

Storm sewer shall be protected to prevent filling or blocking with excavated materials and debris. Materials entering leaching basins, storm sewers or retention areas shall be removed and disposed of in an approved manner. Disturbed or displaced drainage structures shall be returned to their proper place. Chipped, cracked, or broken facilities shall be replaced with RCKC approved materials.

Undermined or displaced curb and gutter shall be removed and replaced. Reinforcement steel in replacement curb and gutter shall connect to existing reinforcement steel in an approved manner.

12. Restoring Materials

The minimum road cross section standards for restoration, as determined by the Engineer or their representative, are indicated in [Appendix E](#) and are the minimum requirements. Roads exceeding these material and design specifications shall be restored to their higher standards. Milled HMA material may be reused as aggregate base, provided the milled material approximates the gradation for MDOT 22A aggregate. See RCKC current specifications for mix designs.

13. Intent

It is the intent of these specifications that all ROW and surfaces shall be restored as soon as possible on the schedule approved by the RCKC.

14. Maintenance Certificate or Escrow

A letter of credit or cash deposit equaling 175% of the expected cost may be required.

D. Roadside Soil/Ground Cover Disturbances

Temporary, roadside impacts are anticipated. Work within and adjacent to the ROW shall comply with applicable storm water provisions and [Best Management Practice](#) measures to control soil erosion and sedimentation.

Earth changes on property that abuts the ROW shall not increase the volume or velocity of storm water disposed of in the ROW. Storm water shall be either detained on site or

restricted to the original volume and rate of flow.

Grading and excavation shall be done in such a manner so as to prevent damage to roadside fixtures and features, including ditches, culverts, shoulders, curbs, basins, leaching areas, paved surfaces and utility access chambers. All debris resulting from the earth change shall be removed from the ROW.

All work shall comply with the provisions of Part 91 of the Erosion and Sedimentation Control Act of the [Natural Resources and Environmental Protection PA 451 of 1994](#), as amended and as administered by the duly authorized agent, shall appear on the plans. A copy of the SESC plan, as required by the controlling agency, shall be included with the permit request. Copy of inspection reports shall be submitted to RCKC at the same time as original report.

Work shall not damage adjacent property or result in the deposit of debris or sediment into any drainage course or the ROW. Sediment shall be removed from runoff water before it leaves the site of the earth change. Temporary or permanent facilities constructed for the conveyance of water around, through, or from the earth change area shall limit the water flow to a non-erosive velocity. All earth changes shall be designed, constructed, and completed in such a manner so that: 1) the exposed area of any disturbed land shall be limited to the shortest possible period of time, and 2) the natural flow of storm water either through or across the area is not impacted or changed unless written permission is obtained from affected property owners, including the RCKC.

Temporary SESC facilities shall be removed and earth change areas graded and stabilized with permanent soil erosion control measures pursuant to approved standards and specifications as prescribed by the EGLE. Permanent SESC measures for all slopes, channels, ditches, or any disturbed land area shall be completed within the shortest possible period of time, but not to exceed five (5) calendar days after final grading or the final earth change has been completed. If it is not possible to permanently stabilize a disturbed area after an earth change has been completed, or if significant earth change activity ceases, then temporary SESC measures shall be maintained until permanent SESC measures are in place and the area is stabilized.

The permittee undertaking soil erosion and sediment control measures, and all subsequent owners of property on which such measures have been implemented, shall be responsible for the continued maintenance of the permanent SESC.

VII. ACTIONS AFFECTING TREES

These rules and regulations apply to landowners, utilities, private contractors, governmental authorities, etc., regarding trees within the ROW.

The RCKC application [Construct, Operate, Use and/or Maintain Remove Within the Right-of-Way or to Close A County Roadway](#) shall be submitted for approval prior to issuance of the permit.

A. Requirements

1. Permittee is responsible for determining if any endangered species exist in the area of work and shall be required to comply with any regulations protecting such species.
2. Applies to any tree removal, pruning, trenching or tunneling through the root system, included as part of a project or on a specific permit.
3. Permittee may be required to provide location, size, number and species of trees affected. When required, this information is to be shown on construction plans or on sheets similar to the plans; in such a way that identification can be readily made in the field. When required, the permittee shall indicate individual trees that are subject to removal, trenching, tunneling or pruning and the extent of pruning.
4. Before removing any tree measuring more than 6 inches in diameter at a point 4 feet 6 inches above the ground within the ROW, written notification shall be given to the owner of record of the land where the tree is located.
 - a. The RCKC may require a copy of the approval signed by the owner of record of the property abutting the ROW.
 - b. The RCKC may require the contractor or permittee to replace trees, not to exceed a one-to-one ratio.

B. Disposal of Materials

1. All limbs litter, and logs are to be immediately disposed of outside the ROW. Logs and major limbs shall be cut into manageable lengths.
2. The abutting property owner has the right to the wood and shall be afforded the opportunity to keep it.
3. Stumps shall be eliminated by flush cutting or chipping to 6 inches below ground level within 30 days.

C. Trenching and Tunneling or Boring

1. Trenching should be as far away from the trunk as possible, preferably outside the tree's drip line. In no case shall trenching be closer to the trunk than 1 foot on either side for each 2 inches of trunk diameter as measured at a point 4 feet 6 inches above the ground. All voids around the trenched facility shall be backfilled with excavated material and thoroughly compacted to avoid settling.
2. Tunneling or boring shall be below the major root system. The required depth shall be determined by measuring the trunk diameter at a point 4 feet 6 inches above the ground. At trees less than 20 inches in diameter, a minimum of 36 inches of ground cover shall be maintained. All trees of greater diameter, at least 48 inches of ground cover is required.
3. If the tree is severely damaged or dies within one year as a result of the trenching,

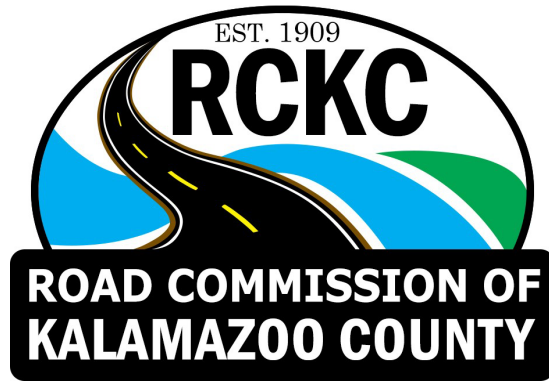
tunneling or boring, the permittee may be required to replace the tree at their own expense.

D. Annual Tree Pruning Permits

1. Permits expire on December 31 of the year issued.

VII. GENERAL PROVISION

Construction Guideline provisions provided may be modified by Board policy and/or applicable state and federal law.



PROCEDURES, GUIDELINES, AND SPECIFICATIONS FOR DEVELOPING PUBLIC ROADS

PROCEDURES, GUIDELINES, AND SPECIFICATIONS FOR DEVELOPING PUBLIC ROADS

TABLE OF CONTENTS

	<u>Page Number</u>
I. PURPOSE AND SCOPE	35
II. EXCEPTION FROM CONSTRUCTION GUIDELINES	35
III. ORDER OF PROCEDURE	35
IV. PRELIMINARY REQUIREMENTS AND PLAN DEVELOPMENT	36
V. CONSTRUCTION REQUIREMENTS AND PLAN DEVELOPMENT	40
VI. GENERAL REQUIREMENTS	49
VII. FINAL ACCEPTANCE	50
VIII. ESCROW PROCEDURE	52
IX. SEVERABILITY CLAUSE	53
X. CONVERSION OF PRIVATE ROADS TO PUBLIC ROADS	53
XI. TRAFFIC IMPACT STUDIES	53

I. PURPOSE AND SCOPE

These procedures, guidelines and specifications for developing public roads in Kalamazoo County are the published rules adopted by the Board to carry out the provisions of the [Land Division PA 288 of 1967](#), as amended, MCL 560.101 et seq. These rules promote public safety, health and general welfare and enhance the opportunity for future interconnecting development. These procedures, guidelines and specifications apply only to lands located outside the corporate limits of any incorporated city or village in Kalamazoo County and to lands within incorporated areas, when such lands are adjacent to public highways under the jurisdiction of the RCKC.

The contents of this publication do not supersede any part of the Land Division Act, Act 288, Public Acts of 1967, as amended.

II. EXCEPTION FROM CONSTRUCTION GUIDELINES

All information regarding a exception from this policy is located in [Appendix G](#).

III. ORDER OF PROCEDURE

- A. Following is the sequence to be used by the Proprietor in the developing of lands, which are intended to be incorporated into the RCKC Road System.
 1. Hold a pre-application review meeting, as outlined in section 111 of the [Land Division PA 288 of 1967](#), as amended (MCL 560.111), if desired by the Proprietor.
 2. Submit preliminary plans to the County Engineer for review. The County Engineer will submit them to the Board for approval.
 3. Submit road and drainage construction plans to the County Engineer for approval.
 4. Construct streets and drainage systems per approved plans.
 5. Submit required documentation for final acceptance and approval. Final acceptance and approval will be sent to the Board
- B. Details for preparing projects are supplied in subsequent sections. To aid in submitting this material, checklists of Procedures, Guidelines and Specifications for Developing Public Roads are provided in [Appendix B](#).

IV. PRELIMINARY REQUIREMENTS AND PLAN DEVELOPMENT

A. General Requirements

1. An electronic reproducible file (PDF or similar) of the preliminary plans shall be submitted and approved by the RCKC Board before construction plans are submitted. Preliminary plans shall be prepared, signed and sealed by a Registered Land Surveyor or Professional Engineer registered in the State of Michigan. The plans shall be drawn on 24 inches x 36 inches sheets to a scale not less than 1 inch = 200 feet horizontal, 1 inch = 10 feet vertical.
2. A letter of transmittal introducing the proposed development and indicating the action requested by the RCKC shall accompany the plans. A plan review fee, in accordance with RCKC [Schedule of Fees](#), shall be paid at time of plan submission.
3. Submit the Preliminary Plat for approval by the Board. A cover letter shall specifically request Preliminary Plat Approval.
4. Within 30 days of receipt of the Preliminary Plat, RCKC staff shall either reject the proposed Preliminary Plat for noncompliance or recommend it for Board approval. A letter shall be returned indicating approval, approval subject to conditions, or rejection. No verbal approvals shall be given. If the plans are rejected, the RCKC shall include its reasons within the letter. The approval or rejection letter shall be sent to the individual whose name appears on the letter of transmittal. Depending on compliance with the requirements, review times for submittals may increase the approval process timeline.
5. The preliminary plan approval will be granted for a period of two years. If the construction plans are not submitted within this period, preliminary plans shall be resubmitted and reapproved. The required plan review fee shall be paid again. An extension may be requested within 30 days of expiration of the original approval period. Any such extension shall be requested in writing.
6. Road and drainage construction plans are to be submitted only after the preliminary plans have been approved.
7. Approval of any plans by the RCKC does not alleviate the Proprietor from meeting standards and obtaining permits required by other agencies.

B. Layout

1. Preliminary plans shall indicate the name of the proposed development and shall include a situation sketch that shows the relationship of the proposed development to the existing public roads.
2. The preliminary layout shall show the entire parcel from which the proposed development is to be taken, and shall be tied down to section and/or 1/4-section posts using bearings and distances. The owners of unplatted land within 300 feet of the proposed development boundaries shall be identified, along with the parcel number where applicable. Land use zoning for all abutting parcels shall be shown.

3. Streets, streams, lakes, railroads, cemeteries, county drains and any other features that may govern or influence the development shall be included on the plans. Using USGS datum, relief will be indicated at not more than 4 foot contour intervals. To assure sufficient sight distance requirements, the centerline profile of an intersected public road shall be shown for a minimum distance of 600 feet in both directions from the proposed centerline. Section and 1/4-section line roads shall be centered on the section line or 1/4 section line.
4. If a proprietor wishes to subdivide a given area, but desires to begin with only a portion of the total area, the preliminary layout plans shall include the proposed overall layout for the entire area. The part proposed to be subdivided first shall be clearly superimposed upon the overall plan in order to illustrate the method of development that the proprietor intends to follow.
5. Preliminary plans shall show the complete proposed street system layout and ROW.
6. Lot access from a proposed development will not be permitted onto a primary road and should be held to a minimum on local roads. Lot access onto boulevard sections shall be approved by RCKC, township planning commission, and township board.

C. ROW

1. Required minimum widths for road ROW are as follows:

Residential development roads	66 feet
Residential development roads — Boulevard	100 feet
Commercial development roads	66 feet
Commercial development roads — Boulevard	120 feet
Primary roads	100 feet
County local roads	100 feet

2. In special cases, the RCKC may require greater widths and/or an intersection corner triangle ROW, which may be used for clear-vision or for future intersection expansion. The additional property may be acquired in the form of a permanent easement to be consistent with the existing type of ROW.
3. Where a proposed development is located along a road that is currently part of the public road system, ROW shall be dedicated on the side of the road adjacent to the development equal to at least one-half the minimum width required above.

D. Connectivity

1. The street system shall provide a continuous circuit, without excessive street curvature, and shall continue the appropriate existing public streets terminating at the development's boundaries. The street system shall provide for a logical continuation of streets beyond the development by extending the proposed streets to the development boundaries. When a request is made to not extend a street to the development's boundaries, consideration will be given when the township planning commission and the

township board endorse the request by township resolution.

2. Because interconnected subdivisions facilitate efficient road maintenance, school busing, and emergency services while minimizing congestion and preserving the capacity on the public road system, no proposed development that isolates lands from existing public roads will be approved. The Board may require that any road constructed for a future connection shall have a temporary paved turnaround at its terminus to facilitate plowing and routine maintenance of the road system. Temporary turnarounds shall be located within the dedicated ROW or recordable easements. Proposed developments adjacent to existing developments with public roads shall connect to all such roads and shall fit the pattern established by adjacent road to provide a continuous circuit for travel. If a temporary turnaround is required on adjacent property, the Developer shall obtain an executed and recordable easement from the property owner prior to the Road and Drainage Plan approval.
3. If connectivity is required, out lots for future roads will not be allowed. Access streets for future connection to adjoining parcels shall be continued to the proposed development boundaries. Streets carrying non-residential traffic, especially truck traffic, will not normally be extended to the boundaries of adjacent existing and potential residential areas. No driveway access will be permitted to any dead-end street that does not have a turnaround conforming to RCKC requirements. Driveways will not be permitted onto gravel turnarounds. These driveway restrictions shall be noted on the pertinent recorded documents.
4. Privately held reserve strips controlling access to streets are prohibited.

E. Intersections

1. Intersection legs shall meet at 90-degree angles and have a minimum straight-a-way length of 100 feet, as measured from the centerline of the intersected street. Centerline-to-centerline distance between street intersections with primary and county local roads shall be a minimum of 266 feet (4 chains).
2. All streets shall afford safe ingress and egress at all intersections. Acceptance of site access onto an existing public road is subject to the field review and recommendation of the County Engineer. Considerations include, but are not limited to, vehicle speed, sight distance and topography. An area of clear vision, free from obstructions and encroachments, shall be provided. Trees, brush, shrubs, poles, signs, boulders, mailboxes, and other obstacles shall be removed from this area to afford an unobstructed view in both directions of the approaching traffic. See [Appendix A](#), Figure 14.
3. An intersected county primary or county local road shall be improved to provide any necessary auxiliary lanes (deceleration lane, right-turn lane and/or left-turn lane). MDOT Geometric Design Guidance Section 1.1.4 and 1.1.5 shall be utilized in order to promote a uniform system to determine where right-turn lanes or left turn lanes shall be required as a condition of permit issuance. RCKC may still require auxiliary lanes when MDOT Geometric Design Guidance Section 1.1.4 and 1.1.5 are not met based upon crash, traffic volume and other data. For design requirements of the auxiliary lanes, see [Appendix A](#), Figures 11 and 12.

F. Cul-de-Sacs

1. Permanent cul-de-sacs will be allowed where it is demonstrated that a street connection is not feasible due to site conditions, such as severe grade transitions or sensitive natural features, or other existing development will not allow for a continuous road system, or when endorsed by the township planning commission and township board by township resolution. Written justification shall accompany all cul-de-sac requests. That justification can be either the township's endorsement, or the unique site conditions.
2. The cul-de-sac turnaround shall provide a minimum back-to-back of curb diameter of 100 feet and shall be centered on a minimum dedicated ROW diameter of 140 feet. Only in residential developments may an island be included as an option in the center of the turnaround. Any such island shall have mountable concrete curb with a maximum back-to-back of curb diameter of 40 feet. The center of the island shall be no less than one foot higher than the back-of-curb, shall be graded to blend to the top back-of-curb and shall be clear of all obstructions. Alternative configurations of the turnaround will be allowed if found to be acceptable for traffic maneuvering. Recorded restrictions shall assign the maintenance of the island to adjacent lot owners, the township, or to an owner's association. See [Appendix A](#), Figure 13.
3. No existing cul-de-sac street may be extended without the removal and reconstruction of its turnaround to the extended road cross-section. The resulting roadside areas shall be restored, including lawn areas, driveways, and sidewalks, to match the adjacent existing areas.
4. Where a continuation of a road is planned, a temporary turnaround may be required. The temporary turnaround area shall be surfaced with MDOT 22A coarse aggregate or an approved alternate. The Proprietor shall provide an easement and a cash escrow or Irrevocable Letter of Credit equal to 175% of the cost remaining to complete the turnaround in accordance with RCKC requirements. If the Proprietor elects to submit a Letter of Credit then the Proprietor shall execute the RCKC Letter of Credit Agreement as designated in [Appendix A](#). The Letter of Credit shall have an expiration date of not less than 36 months. If the road is not extended within a two year time period, the RCKC will complete the construction of the turnaround using the cash escrow or by cashing the Letter of Credit. Any unused balance of the funds will be returned to the Proprietor. The easement will be released at such time as the road is extended as a public road.

G. Boulevards

1. A boulevard section may be permitted and shall provide a minimum 100 foot ROW width for residential development roads, and a minimum 120 foot ROW width for commercial development roads. A boulevard median shall be at least 75 feet in length. Sufficient taper of the ROW width, in accordance with design speed, shall be provided adjacent to a boulevard section. The minimum cross-section requirements are shown in [Appendix A](#), Figure 6 and 7.
2. A hold-harmless agreement to the RCKC and a maintenance agreement shall be provided, assuring permanent maintenance of landscaping or other items in a

boulevard. Median plantings should be selected on their ability to thrive in a roadside environment without sight obstruction and be specified in the maintenance and hold-harmless agreement and be approved by RCKC.

H. Utilities

1. The proposed road network shall be properly drained by a storm-sewer system and shall be in compliance with KCDC [Site Development Rules](#). Design and development of the storm-sewer system shall be in coordination with both the RCKC and the KCDC, where applicable. The RCKC will accept and maintain all storm-sewer facilities properly designed and constructed within the ROW.
2. The KCDC may accept responsibility for maintenance of the storm-sewer and appurtenances located outside the ROW by means of a [433 Agreement](#). A copy of the KCDC [Site Development Rules](#) may be obtained at the KCDC office. Where the law requires, private easements for public utilities shall be located outside and contiguous to the ROW along both sides of all proposed roads.

I. Non-Motorized Facilities

1. Sidewalks and non-motorized pathways are allowed along roads. The recommended location of the back-of-sidewalk or non-motorized pathway should be 1 foot inside the ROW line. Sidewalks and non-motorized pathways shall be at least 6.5 feet off the curb or edge of gravel shoulder. Sidewalks and non-motorized pathways shall be constructed in accordance with AASHTO or local ordinances. A [Non-motorized Facilities Application and Agreement](#) from the township is required.

V. CONSTRUCTION REQUIREMENTS AND PLAN DEVELOPMENT

A. General Construction Plan Requirements

1. After approval of the preliminary plans, an electronic reproducible file (PDF or similar) of road and drainage construction plans, [non-motorized agreements/applications](#) and/or an application for a permit for the work in the ROW where the proposed road intersects with the existing public road, shall be submitted for approval. The plans shall be signed and sealed by a Professional Engineer registered in the State of Michigan.
2. Within 30 days after the date of receipt, a letter will be sent indicating approval or rejection. No verbal approval will be given. If the plans are rejected, the RCKC will include its reasons within the letter. This letter will be sent to the Design Engineer unless instructed to do otherwise.
3. The plans shall be drawn on 24 inches x 36 inches sheets and to a standard scale of not less than 1 inch = 50 feet horizontal and 1 inch = 5 feet vertical.
4. The plans shall include a cover sheet indicating:
 - a. Name of the proposed development
 - b. Index of sheets
 - c. Location sketch of the proposed development within Kalamazoo County

- d. Name of the responsible contact person, on behalf of the Proprietor, including the company name, address, phone numbers and email address
 - e. Name of the design engineer and company name, address, phone number, and email address
5. The construction plans shall show at a minimum:
- a. The complete road, sidewalk and non-motorized pathway system within the ROW and centerline stationing for all roads
 - b. A plan view and profile view for all roads
 - c. A typical cross section of all proposed roads and non-motorized facilities
 - d. The names of all proposed roads shall be clearly labeled.
 - e. Soil erosion plan
 - f. A permanent or temporary benchmark established at USGS datum
 - g. The log and location of soil borings
 - h. Curve data for all proposed horizontal and vertical curves including points of curvature, points of tangency, points of compound curvature, radii of curves, central angles and the length and bearing of its long chord
 - i. All existing and proposed utilities
 - j. Storm water drainage plan
 - k. Signing and pavement marking plan (if necessary)
6. Benchmarks

A permanent benchmark shall be placed near the entrance to the proposed development and may be required at each additional phase as determined by the County Engineer. The permanent benchmark will be established at USGS datum.

A benchmark will be furnished by the RCKC and shall be installed by a survey crew under the supervision of a registered land surveyor. The benchmark shall be placed flush with the ground, in a location that is readily accessible, out of harm's way and within the ROW. The benchmark shall be placed in a cylindrical mass of concrete, 10 inches wide (diameter) and 48 inches deep.

If so desired, the permanent benchmark may be installed after all construction is complete and prior to RCKC acceptance. If the option of placing the benchmark after all construction is complete is desired, a temporary benchmark shall be established and shown on the construction plans. The permanent benchmark shall be shown on the as-built plans.

In the event the proposed development will encompass an original Government Survey Corner, the subject corner shall be preserved. A document outlining the procedures required to preserve Government Survey Corners can be obtained from the RCKC.

7. Soil Erosion Requirements

- a. A note stating that all work will comply with the provisions of Part 91 of the Erosion and Sedimentation Control Act of the [Natural Resources and Environmental Protection PA 451 of 1994](#), as amended and as administered by the KCDC, or the duly authorized agent, shall appear on the plans.
- b. A copy of the SESC control plan, as required by the controlling agency, shall be

- included in the construction plans. SESC control plans shall include the scheduled construction start date and completion date and the sequencing or phasing of the construction. Construction plans shall indicate limits of earth change.
- c. All SESC inspection reports shall be submitted to the RCKC inspector as they are created.
 - d. Construction activities for sites disturbing five (5) or more acres with storm water discharges must submit a Notice of Coverage (NOC). Sites with one (1) to five (5) acres of disturbance and a discharge to the surface waters of the state need to comply with the requirements of the Permit by Rule but do not need to file the NOC.
8. A letter of approval for street names shall be obtained from the [Kalamazoo County Department of Planning & Community Development](#) or appropriate agency. A copy of this letter shall be submitted with the construction plans. Any extension of a street shall retain the name of the existing street.
 9. Soil borings shall be taken to identify unsuitable existing material. One soil boring for every 500 feet of road, with a minimum of three soil borings, will be required. Soil borings shall be a minimum of 6 feet below bottom of proposed aggregate base elevation. Locations of the soil borings shall be shown on the plans and a boring log provided with the plans.

Each boring shall be carefully examined and visually classified at the time of boring, and a written record (boring log) should be prepared. The boring log shall be on a sheet 8-1/2-by-11 inches in size, and shall show the following information:

- a. Project designation and project location
 - b. Boring number
 - c. Final location of boring by reference to station, offset, and survey line
 - d. Method of boring, type drill rig and sampling
 - e. Date of boring and weather
 - f. Ground elevation measured utilizing a transit or level instrument and referencing to a USC&GS Benchmark or other points of known elevation
 - g. Numerical thickness and depth of various soil layers to be shown in feet below ground surface or by elevation
 - h. A complete description of each soil layer including color, moisture, consistency or density, and visual grain-size classification. Descriptions shall be consistent with procedures outlined in ASTM D 2488, and classifications consistent with procedures outlined in ASTM D 2487.
 - i. The elevation of free water during the drilling, at completion of drilling and 24 hours later
 - j. Any additional information obtained during the boring shall be shown
 - k. Sample number, and depth of top and bottom of samples taken
 - l. County
 - m. Driller
 - n. Inspector
10. Work-zone traffic-control plans shall be developed and included in the construction plans. The plans shall be consistent with the current edition of the MMUTCD. The traffic control devices shall be installed prior to the beginning of any construction and shall be maintained and remain in place until all work associated with the proposed development

has been completed. Road Closed signage shall be installed and maintained at the proposed development entrances and shall be left in place until the roads are accepted by the RCKC.

When a right-turn lane and taper, passing or left-turn lane are required, separate traffic control plans shall be developed and included in the construction plans. Traffic control plans shall be consistent with the current edition of the MMUTCD. All traffic control devices shall be installed prior to the beginning of any construction on the auxiliary lanes and shall be maintained and left in place until all work associated with the construction of these auxiliary lanes has been completed.

B. Utilities

Utilities constructed prior to the acceptance of the plans shall be shown and comply with existing RCKC requirements. If they are to be placed within the ROW, utility locations shall be staked prior to their installation and shall be placed as indicated in [Appendix D](#).

All utilities shall be installed prior to placement of the HMA wearing course. Under no circumstances will final construction approval be given without issuance of all required RCKC utility permits and completion of proposed utility installation.

C. Geometric Road Design Requirements

1. Road design geometrics not specifically outlined in this policy, shall be in accordance with AASHTO.
2. The maximum grade of any street shall be 7%. Minimum grade for any concrete curb and gutter street shall be 0.75%. Minimum grade for any HMA valley gutter street shall be 1.00%. A cul-de-sac turnaround shall be constructed to ensure a minimum grade of 1.25% along the flow line of the gutter.
3. Grade transitions shall be designed with vertical curves. Vertical curve K Values for sags and crests shall be designed according to AASHTO.
4. All interior horizontal curves within a proposed residential development that are to be continuous shall have a minimum centerline radius of 165 feet. On non-continuous roads, 90-degree corners are permissible but will require a minimum 65 foot centerline radius. The non-continuous, 90 degree turns shall be designated with a maximum 2% slope within the turn. All intersections within a development shall have a minimum edge-of-pavement radius of 25 feet.
5. Any proposed street or road approaching an existing public road, or proposed street or road, shall be constructed with the approach profile grade between 0% and 2% for a minimum 50 feet in length, as measured from the edge of the through street. For proposed road grades of 6% to 7%, the 0% to 2% approach profile grade length shall be a minimum 100 feet in length.
6. While complying with AASHTO designed speed requirements, horizontal and vertical curve alignment shall be equal to the highest standard that is compatible with the topographical details and reasonably obtained ROW. Curve length deemed excessive

must be approved by County Engineer prior to construction.

D. Road Width Requirements

1. Residential Road

- a. Standard pavement (28 feet back-to-back): Roads within a single-family residential development shall be constructed with a 24 foot HMA pavement width with HMA valley gutter, mountable concrete curb and-gutter, or concrete pavement with mountable integral curb, as selected by the Proprietor.
- b. High back concrete curb-and-gutter (36 feet back-to-back): Roads within a single-family residential development may be constructed with a 32 feet HMA pavement width with the high back curb-and-gutter, as selected by the Proprietor.

2. Commercial Road (36 feet back-to-back): Roads within an industrial development shall be constructed with a 32 feet HMA pavement width with high-back concrete curb-and-gutter, or concrete pavement with high-back integral curbs, as selected by the Proprietor.

3. County Local Road: Roads shall be constructed with 11 foot lanes, a 2 foot gravel shoulder for roads with fewer or equal to 750 ADT, or a 1 foot paved shoulder / 2 foot gravel shoulder for roads with more than 750 ADT.

4. County Primary Road: Roads shall be constructed with 11 foot or 12 foot lanes (12 foot lanes to generally be used on roads with 10,000 ADT or more), a 2 foot paved shoulder / 2 foot gravel shoulder for roads with fewer or equal to 750 ADT, or a 3 foot paved / 3 foot gravel shoulder for roads with more than 750 ADT.

E. Road Surface and Base Requirements

1. Typical Minimum Cross-Sections are to be constructed as indicated in [Appendix E](#). Alternatives to those above may be permitted when approved by the County Engineer.
2. A pavement design using the AASHTO pavement design program shall be submitted to the RCKC for approval for roads within a commercial development.
3. Road subbase material shall conform to MDOT's specification for Class III Granular Material. Any unsuitable material shall be removed and replaced with MDOT Class III Granular Material. Plan notes shall indicate that all unsuitable subbase material will be removed to a minimum depth of 24 inches below the top of the subgrade or as determined by the County Engineer.
4. Aggregate base shall be final graded with an approved road grader. The RCKC inspector shall affirmatively indicate that the gravel base has been accepted and is ready for HMA paving.
5. All HMA courses shall be constructed with equipment capable of paving the road in two

passes, resulting in a single pavement joint at the centerline. Upon completion of paving but before pavement markings are installed, an application of fog seal on any longitudinal construction joints shall be required. Fog seal applications shall overlap new pavement on either side of the joint by 9 inches but not to exceed 12 inches.

6. Final adjustment of drainage structures, utility valves, and monument boxes located within the HMA pavement shall be made after the leveling course is completed and prior to placement of the wearing course. Mechanical adjustment rings are not acceptable.
7. Requirements for HMA mixtures shall meet the RCKC specifications supplied by the County engineer.
8. Epoxy coated reinforcement steel is required in concrete curb.

F. Drainage System Requirements.

All proposed roads shall have an underground storm-sewer system and shall be in compliance with KCDC [Site Development Rules](#) and approved by the RCKC county engineer. Storm-sewer facilities located in the road ROW will become the property of the RCKC. Storm-sewer facilities located outside the road ROW shall be coordinated with the KCDC with a [433 Agreement](#). The following storm-sewer system and storm water discharge area requirements are established as the minimum necessary to meet the concerns of the RCKC. Meeting these requirements does not in any way substitute for the necessity of obtaining any required permit from, and meeting all requirements of, the KCDC and the EGLE.

1. Storm-sewer design shall be based on a minimum ten-year storm of twenty minutes duration and not less than 30% imperviousness.
2. The storm-sewer system shall have a positive outlet. Discharge of the storm sewer system shall be one of the following:
 - a. An onsite basin
 - b. An offsite basin operated as a private basin (with a Resolution of Authority from the owner of the basin)
 - c. An offsite basin operated by KCDC (with a permit from the KCDC)
 - d. Surface discharge only under special conditions

The storm-sewer discharge area shall be constructed per the KCDC design criteria . All storm sewer outlets shall be a minimum of 2 feet above the bottom elevation of the basin. If the RCKC determines that the proposed storm sewer outlet is a direct discharge to surface waters then the RCKC requires the installation of [Best Management Practice](#) features.

All proposed road widening projects or roads being fully reconstructed shall ensure the existing storm drainage system is properly sized for road storm water runoff, shall be in compliance with KCDC [Site Development Rules](#) and be approved by the. Post-construction storm water criteria apply to sites that disturb at least one or more acres, including projects less than an acre that are part of a larger common plan of development and overland discharge into the RCKC storm sewer system. Storm drainage facilities

located in the road ROW shall become the property of the RCKC.

3. A complete engineering analysis supporting the design concept utilized for all developments is required and shall be submitted with construction plans. The submittal shall include a storm-sewer drainage area sketch, all calculations, required basin volume and provided basin volume. KCDC [Site Development Rules](#) shall be followed for storm-sewer designs. The design criteria used shall be shown on the calculation sheets.
4. The maximum surface run for storm water shall be no longer than 300 feet. The surface run shall not be longer than 200 feet for street grades exceeding 4%. For the purpose of storm-sewer cleanout, structures shall be placed no further than 300 feet apart.
5. Drainage structures shall be provided at the highest end of radii where drainage may cross an intersected road.
6. Main line drainage structures shall be constructed with 2 feet sumps. All other drainage structures may be constructed with a poured flow-line bottom.
7. Reinforced Concrete Pipe or Smooth-Lined Corrugated Plastic Pipe of appropriate size and class is acceptable. Storm sewer less than 12 inches in diameter will not be permitted. When using plastic pipe, a minimum of 3 feet of earth cover, and not more than 10 feet of earth cover, shall be maintained over top of pipe unless current MDOT specifications approve otherwise.
8. All installed pipes may be subject to testing per MDOT specifications and documentation of testing shall be submitted to RCKC. Typical tests include mandrel, television inspection and backfill compaction. Tests shall be completed prior to paving. The cost of testing will be paid for from the required inspection fee.
9. Concrete pipe joints shall be sealed with cold applied bituminous sealer, flexible watertight rubber gaskets, or external-type rubber gaskets. Plastic pipe shall have a joint sealing system per current MDOT specifications.
10. Leaching basins without direct outlet will be allowed only under very special circumstances. If a leaching basin is proposed, a full written justification shall be submitted with the plans. A suggested leaching basin detail may be obtained from the RCKC Engineering Department.
11. The County Engineer may require edge drains as soil borings and/or field observations warrant. Required edge drains shall meet the material and installation specifications of the MDOT.
12. Ditch lines adjacent to public roads may require installation of culverts.
13. Under no circumstance may drainage from private property have a direct piped discharge into the public storm-sewer system, including ditches. No overland flow from private property into the public storm sewer system containing an illicit discharge shall be allowed. No illicit discharge shall be permitted in the RCKC storm sewer system. If an illicit discharge is suspected, the RCKC may inspect, investigate, or monitor the discharge in order to eliminate the illicit connection.

14. If the storm-water discharge area is located outside the ROW, the KCDC may require a 48 inches or larger diameter manhole to be placed just outside the ROW line over the discharge pipe.
15. Drainage plans shall be included on the plans and shall clearly indicate percent of sewer grades, sizes, lengths, depths, locations and types of pipes and proposed drainage structures.
16. Storm-sewer facilities located outside the road ROW shall be coordinated with the KCDC. A [433 Agreement](#) shall be made with the KCDC for those facilities.

G. Grading & Roadside Vegetation Requirements

1. The distance from the back-of-curb or edge of paved shoulder to the side slope shall be not less than 10 feet. All woody vegetation shall be removed to provide a clear area within this 10 foot area. Where a high-back concrete curb-and-gutter residential road, back-of-curb distance to side slope and clear area may be reduced to 8 feet. Side slopes shall be a minimum of 1:3 infill sections and 1:2 in cut sections. See [Appendix A](#), Figures 1, 2, 3, 4, 5, 6, 7, 8, and 9.
2. The full ROW shall be properly pruned and brought to the required cross-section grade. Any overhead branches within 20' above the roadway shall be pruned. Removal of trees inside the remaining area, which is outside the 10 foot wide clear area, shall be in accordance with the [RCKC Roadside Vegetation Management Policy](#), and as necessary to construct and maintain the road. Soil erosion and sedimentation-control measures shall comply with PA 451 of 1994, as amended and all applicable EGLE and RCKC guidelines. In conformance with specifications of the MDOT, all disturbed areas shall be top soiled to a minimum 3 inches depth, fertilized, seeded and mulched, or covered with another approved ground cover.
3. All grading work required to construct the road cross-section that is outside the proposed ROW and that encroaches upon land not owned by the proprietor will require written permission from the abutting property owner. This document shall be submitted prior to the start of any grading.

H. Additional Provisions

1. Crossroad culverts and bridges shall meet minimum AASHTO and MDOT requirements and specifications and be of the size and type approved by the County Engineer. Crossroad culverts shall have a diameter of not less than 15 inches. All crossroad culverts 30 inches or larger shall be supplied with an approved end section. All necessary permits required for placement of culverts or construction of bridges shall be obtained from the agency that has jurisdiction over the watercourse. In accordance with requirements of the MDOT, a scour analysis shall be supplied for structures with a natural stream bottom.
2. Any existing public road abutting and/or providing an access to any part of the proposed development may be subject to improvements for upgrading as determined by the County Engineer. These improvements, which may include paving, resurfacing, curb

and gutter, storm drainage improvements, grading, etc., will be the responsibility of the Proprietor.

3. MDOT or RCKC standard plan and specification designations shall be noted on the road and drainage construction plans where applicable. A detail not specifically covered by MDOT or RCKC standard plan and specifications shall be submitted to and approved by the County Engineer prior to construction of or use of the item.
4. Street lighting poles shall be no closer than 6 feet off the back-of-curb and shall be of breakaway design.
5. Entry identification signs shall be located beyond the ROW. Installations shall be away from the clear-vision area to afford an unobstructed view in both directions of the approaching traffic.
6. All construction materials shall conform to the requirements of the current MDOT and/or RCKC specifications.
7. Mailboxes shall be located in the ROW pursuant to the current RCKC [Accommodation of Mailboxes and Newspaper Delivery Boxes on County Road Right-of-Way](#) policy and procedures for installation of mailboxes and newspaper delivery boxes along public roads.
8. Encroachments are strictly prohibited in the ROW. Examples of encroachments include, but are not limited to, plantings, rocks, berms, headwalls, private signs, flagpoles, irrigation systems, fences, buildings, landscape lighting, and privately owned utilities.
9. Road and drainage construction plan approval will be granted for a period of two years. If the development is not completed for acceptance within this period, construction plans shall be resubmitted and reapproved. All required fees shall be paid as if it were an original submittal. Also, an inspection fee shall be paid in accordance with the RCKC's schedule of Permit and Inspection Fees, minus the plan review fee previously submitted. Along with the inspection fee, an estimate of costs for the proposed road and drainage construction shall be submitted, which will be used to justify the amount of the inspection fee. An extension maybe requested within 30 days of the expiration of the original approval. Any such extension shall be requested in writing.
10. The minimum design standards, specifications, and details established in this policy are devised to meet specific goals with regard to future maintenance, drainage, and surface problems. The RCKC will give consideration to proposals that accomplish these goals in an innovative or unique fashion. Such alternate proposals shall be submitted with sufficient detail, documentation, and time to facilitate their review. When departure from minimum standards is contemplated, it is recommended that early and continuous ongoing contact be maintained with the RCKC.
11. During construction, the County Engineer will have authority to require minor changes in plan specifications. Modifications will be made only to serve the public's best interest. Special alterations include, but are not limited to, changes in location and number of drainage structures, changes in minor road and sewer grades, size of radii and other dimensions.

12. Major deviations from the approved plans shall be submitted in writing and approved by the County Engineer. All approved changes shall be reflected on the required as-built plans.

13. The attached appendices are hereby incorporated as part of this policy.

VI. GENERAL REQUIREMENTS

- A. Approval of road and drainage plans does not relieve the Proprietor of the responsibility to meet the minimum RCKC requirements in force at the time of approval.
- B. Preconstruction Meeting
1. Prior to any construction activity, the Proprietor, or his or her designee, shall schedule and hold a preconstruction meeting.
 2. Notification shall include the RCKC inspector, Proprietor, the township supervisor, the Proprietor's design engineer, representatives of each utility, and a representative of the Contractor that is to do the work.
 3. At the meeting, the Proprietor shall submit a written progress schedule outlining a systematic procedure of construction.
 4. An inspection fee shall be paid in accordance with the RCKC [Schedule of Fees](#) prior to scheduling of the meeting. An estimate of costs for the proposed road and drainage construction costs shall be submitted, which is used to justify the amount of the inspection fee.
 5. A project manager shall be named during the pre-construction meeting. This project manager will be responsible for all stages of construction of the roads. The project manager will act as the liaison between the RCKC and all other agencies and individuals pertaining to the construction and acceptance of the roads.
- C. No work will be permitted within the existing ROW until the Proprietor's contractor has provided proof of insurance in accordance with the Board's Requirement for Insurance.
- D. Construction staking, utility placement staking, and layout will be the responsibility of the Proprietor. Any construction staking and/or layout completed by the RCKC will be for the convenience of the RCKC inspector and are not a required responsibility of the RCKC. All construction staking, utility placement staking, and layout shall be completed in a method agreed upon between the RCKC and the agencies doing the construction and the agencies undertaking the staking and layout work. The method of staking and layout shall be presented at the preconstruction meeting. Under no circumstances should construction staking be done prior to this agreement being made. Specific items that shall be agreed upon are as follows:
1. Size of stakes: length and width,
 2. Information required on the stakes: cuts, fills, offset distance, stationing when it pertains,
 3. Staking intervals and offsets for: clearing stakes, slope stakes, rough centerlines takes, drainage stakes, curb stakes pavement stakes, and utility placement staking.

Construction staking, utility placement staking, and/or layout not done to the satisfaction of the RCKC will be re-staked or laid out at cost to the Proprietor and to the satisfaction of the RCKC inspector.

- E. The RCKC inspector shall be given notice, and the Proprietor receive acknowledgement of the notice, at least 24 hours, or one business day, whichever is longer, prior to the start or resuming of all phases of construction for the following:
1. Land clearing of site
 2. Topsoil stripping
 3. Construction staking and layout
 4. Subbase excavation and embankment
 5. Storm and sanitary sewer installation
 6. Water main installation
 7. Subgrade grading and compacting
 8. Aggregate base placing, grading and compacting
 9. Concrete curb and gutter installation
 10. HMA paving operations
 11. Landscaping

All paving operations will be subject to weather limitations, per [MDOT Standard Specifications for Construction](#), and will be strictly enforced, except that the final HMA surface course shall be installed prior to October 15 unless special approval in writing is obtained from the RCKC. Proof rolling may be required prior to paving, as determined by the RCKC inspector.

Work completed without proper notification to the RCKC inspector may be ordered removed or replaced and may be reason for non-acceptance of the entire road.

- F. The Proprietor will be legally and financially responsible to clean and keep clean all public roads, including intersecting or surrounding public roads, which have an accumulation of mud, dirt, debris etc. that is a result of the construction development.
- G. During construction, and until the County Engineer approves its removal, all drainage structures shall be covered with an approved filter fabric or a [Best Management Practice](#) as approved by the RCKC, to eliminate soils from infiltrating into the storm-sewer system. Routine cleaning of the fabric while in place shall be accomplished as needed. The Proprietor is responsible for this work.

VII. FINAL ACCEPTANCE

- A. The following requirements and provisions shall be satisfactorily completed before acceptance.
1. All construction shall be completed according to approved road and drainage plans. All utility permits and other required documents shall be in place, or an escrow arrangement made and accepted by the County Engineer, for unfinished work.
 2. The Proprietor shall submit a letter stating their understanding of the ongoing

responsibilities to meet soil erosion and sedimentation control requirements. This shall include all lots, impacted ROW, and storm-sewer discharge areas within and abutting the development. Additionally, silt fence shall be installed and maintained 4-feet from the edge of the public road throughout the development.

3. For plat roads, documentation and other issues pertaining to platting of land shall be met as required under the Land Division Act 288, Public Acts of 1967 as amended.
4. For roads not part of a plat, a warranty deed shall be provided to the Board for all lands within the ROW. Title insurance shall also be provided.
5. Storm-sewer facilities located outside the road ROW shall be coordinated with the KCDC and a [433 Agreement](#) shall be made with the KCDC for those facilities.

A checklist for required documents for non-platted developments is provided in [Appendix B](#).

6. A set of as-built plans shall be furnished showing all changes, additions and deletions and including utilities constructed within the ROW. All storm sewer information shall include GPS locations and elevations. The as-built plans shall be on reproducible Mylar and signed and sealed by a Professional Engineer registered in the State of Michigan. Electronic files shall also be furnished in .PDF and one of the following: .DXF, .DWG, or DGN on an electronic format acceptable to the RCKC.
7. All required test reports shall be submitted and accepted by the County Engineer. Examples of test reports that may be required are as follows:
 - a. Aggregate sieve analysis
 - b. Compaction tests
 - c. Log of Mandril test taken for plastic storm-sewer pipe
 - d. Concrete compression tests
 - e. HMA extraction and gradation tests
 - f. Videotaping of the storm sewer

Any other test result that is appropriate for the completed construction.

The costs of all required testing are included as part of the required inspection fee.

Testing frequency and type is at the discretion of the RCKC inspector.

8. The County Engineer may require a waiver of lien, certifying that the Proprietor's indebtedness relating to the proposed development has been satisfactorily discharged or secured.
9. The required permanent RCKC benchmark shall be in place and an information card shall be filled out and submitted to the RCKC with the required information.
10. Upon satisfactory completion of all provisions of this policy, the documentation related to the creation of the new public road(s) will be submitted to the Board for acceptance

and formal approval, including formal action adding the approved proposed road(s) into the RCKC public road system.

VIII. ESCROW PROCEDURE

- A. It is the policy of the RCKC to approve for final acceptance only developments in which all required and proposed improvements have been properly completed and all required documents have been received and approved, or for which an Escrow Agreement, Letter of Credit, or Cash Deposit is in place.
- B. The Escrow Procedure shall not be used for developments unless all construction has been completed up to and including the HMA base course. Backfill of the curb and gutter shall be in place. If the roadside landscaping is not complete, soil erosion measures shall be in place and approved by the County Engineer. However, the escrow procedure may be used as part of final plat approval, as provided by State Law (Land Division PA 288 of 1967 [MCL 560.183](#)) without regard to the amount of road construction accomplished. All required documentation shall be submitted, approved and accepted by the County Engineer.
- C. Escrow accounts shall be established in the form of a cash escrow or Irrevocable Letter of Credit, equal to 175% of the approved contract costs of the remaining improvements and the cost to develop as-built plans if not submitted at this time. If the Proprietor elects to provide a Letter of Credit then Proprietor shall also submit the Letter of Credit agreement shown in [Appendix A](#). The Letter of Credit shall have an expiration date of not more than one year from date of issuance. If there is a need to cash a Letter of Credit from a lending institution that is farther than 50 miles from the RCKC office, an administration fee will be added to the project inspection fee, based on the time required and the miles driven, or other appropriate form of transportation (charged at the current government rate), to and from the lending institution to cash the Letter of Credit. See Letter of Credit sample format, [Appendix A](#).
- D. If the Proprietor desires to use the escrow procedure, a letter shall be submitted to the RCKC requesting such action. Specifics pertaining to the request for use of the Escrow Procedure shall be included in the letter. The "who, what, where, when and why" for the request for use of the escrow procedure shall be outlined. The letter shall be submitted a minimum of seven days prior to the scheduled meeting.
- E. If the Proprietor is granted approval of the development using the escrow procedure, the Proprietor shall maintain all roads within the development until construction of the roads has been approved by the County Engineer and the Board grants final acceptance. Maintenance of the roads shall include but not be limited to snow and ice removal and soil erosion and sedimentation control. The Proprietor shall indemnify and hold the RCKC, its agent's officers, Board members and employees, harmless from any claims, which may be made against them for damages arising from the use of roads that have not been accepted into the county public road system. During this period, the Proprietor shall maintain liability insurance in accordance with the Board's [Insurance Requirement Policy](#). A copy of this insurance policy shall be on file at the RCKC. Under the Escrow Procedure, the RCKC will require completion of the development within one year; unless circumstances arise that can justify extending this period. In no case shall this period exceed two years.

IX. SEVERABILITY CLAUSE

If any part of these Procedures, Guidelines, and Specifications for Developing Public Roads are found to be invalid, such invalidity shall not affect the validity of the remaining portions of these Procedures, Guidelines, and Specifications for Developing Public Roads.

X. CONVERSION OF PRIVATE ROADS TO PUBLIC ROADS

All requests to incorporate existing private roads into the RCKC public system shall be in writing. The required plan review fee shall accompany this request. From this initial correspondence, the RCKC will make a determination that it may or may not be a possibility for the RCKC to assume ownership of the road(s). If the determination is a possibility the RCKC staff will examine the road or road(s). In order for the RCKC to examine the road(s), the following documentation, as outlined in the RCKC Procedures, Guidelines and Specifications for Developing Public Roads shall be submitted:

Section IV. PRELIMINARY REQUIREMENTS AND PLAN DEVELOPMENT paragraphs:

- B. Layout
- C. ROW
- D. Connectivity
- E. Intersections
- F. Cul-de-Sacs
- G. Boulevards
- H. Utilities
- I. Non-Motorized Facilities

and Section V. CONSTRUCTION REQUIREMENTS AND PLAN DEVELOPMENT paragraphs:

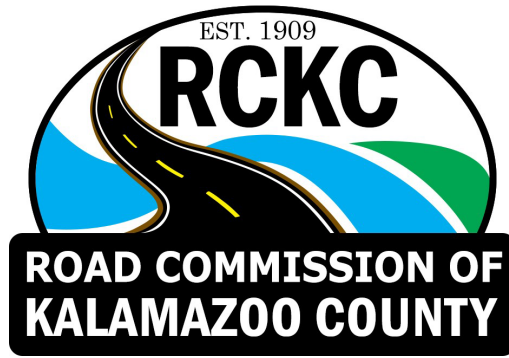
- A. General Construction Requirements
- B. Utilities
- C. Geometric Road Design Requirements
- D. Road Width Requirements
- E. Road Surface and Base Requirements
- F. Drainage System Requirements
- G. Grading Requirements
- H. Additional Provisions

This documentation shall be signed and sealed by a Professional Engineer assuring that the roads have been built to minimum RCKC requirements. In addition to the required verification pertaining to construction of the road or road system, all required documentation, as stated in the RCKC policy, shall be provided.

XII. TRAFFIC IMPACT STUDIES

The RCKC recognizes the direct correlation between land use decisions and traffic operations. The Permittee's proposed project or development, and its needs for access, will create traffic impacts on the public roads. The intent of these procedures and regulations is to provide a framework for proper evaluation and remediation of those impacts. In order that the RCKC may continue to meet its statutory duty to maintain roads under its jurisdiction in reasonable

repair, so as to be reasonably safe and convenient for public travel, the RCKC may require, as a permit condition, the completion by the Permittee's engineer of a Traffic Impact Study. Details of requirements for a traffic impact study can be found in [Appendix H](#).



DOWNTOWN DEVELOPMENT AUTHORITIES

I. SCOPE

Construction Guidelines Policy for areas with a downtown district/an area in a business district that is specifically designated by ordinance of the governing body within a municipality pursuant to the Downtown Development Authority [PA 197 of 1975](#), as amended and identified in a municipality master plan may be considered per the exception from the construction guidelines within a context sensitive approach. The County Engineer may consider elements including the road classification, municipality master plan, traffic volumes, lane capacity, speed limits, sight distance and various other safety areas in an effort to ensure safety for all modes of transportation.

II. DESIGN ELEMENTS

The RCKC may consider the following design elements within a designated Downtown Development Authority (DDA) area.

A. On Street Parking

On street parking configurations such as parallel, angled, or back in angled parking may be considered on roads with speed limits less than or equal to 30 mph. In approved locations, the RCKC will provide pavement markings for parking stalls. See Appendix A, Figure 15 for a typical design. Any on street parking will be public parking and will not be designated as short term, handicapped, loading zone, or parking for specific purposes.

On street parking comes with challenges for operations such as snow removal. RCKC cannot guarantee parking will be kept free of ice and snow as occupied parking spaces may impact snow removal efforts.

B. Curb Extensions

Curb extensions may be considered in DDA areas to assist with traffic calming, improving sight distances, and reducing pedestrian crossing widths.

C. Midblock Crosswalks

RCKC will not allow midblock crosswalks. Crosswalks should be located at intersections where pedestrian crossings are anticipated by motorists.

D. Sidewalk

Sidewalk may be installed under a Non-Motorized Agreement with RCKC. The RCKC will consider permitting sidewalk adjacent to curb and gutter rather than the typical location in the ROW. Sidewalk shall typically be installed with the back-of-sidewalk or pathway at 1 foot inside the ROW line with a minimum 6.5 foot separation from the edge of roadway or curb.

Sidewalk adjacent to curb and gutter comes with challenges for operations such as snow removal. Snow removed from the roadway may be pushed onto the sidewalk area.

E. Decorative Crosswalks

Decorative crosswalks may be considered provided they are located at stop or signal controlled intersection approaches. Decorative crosswalks shall provide a red decorative brick appearance between the crosswalk markings. Decorative crosswalks shall utilize a surface treatment over the asphalt roadway and shall not incorporate concrete within the roadway. Decorative crosswalks shall not use patterns, colors, words, images, or visual effects other than a brick appearance that they would detract from motorists driving abilities. Decorative crosswalks must be permitted by RCKC prior to installation.

F. Decorative Street Lighting

DDA areas may coordinate with township's street lighting provider to install and maintain decorative street lights. These facilities must be permitted by RCKC prior to installation. Street lights shall not be within 6 feet of the roadway.

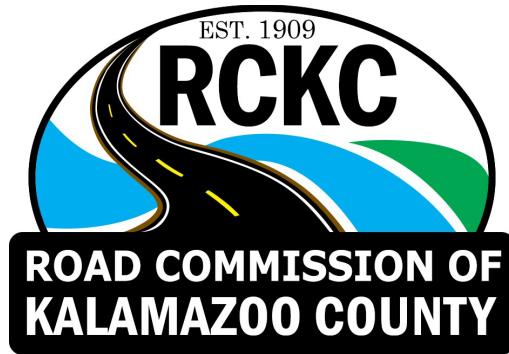
G. Street Furniture

Street furniture such as benches, flowerpots, planters, and trash receptacles may be permitted in the ROW on roads within the DDA area that meet the following criteria:

- Speeds of 30 mph or less
- Roads with MDOT F4 (or similar) concrete curb and gutter
- Street furniture shall not be bolted down or embedded in concrete and must be as crashworthy as possible to create a forgiving roadside environment.
- Shall be located at least 6 feet outside the back of curb.
- Street furniture taller than 3 feet shall not be located in the sight triangles for intersections or within 15 feet from the edge of driveways.

H. Landscaping

Landscaping may be permitted in the ROW on roads within the DDA area. On roadways with speeds of 30 mph or less with MDOT F4 (or similar) concrete curb and gutter, decorative or ornamental trees greater than 4 inches diameter shall have trunks located at least 6 feet outside the roadway edge. Low growing shrubs or flowers less than 3 feet in height may be permitted within 6 feet from the back of the curb. Consideration shall be given to vegetation that can withstand the harsh environments created by snow removal operations.



DRIVEWAY POLICY

DRIVEWAY POLICY

TABLE OF CONTENTS

	<u>Page Number</u>
I. SCOPE	60
II. GENERAL REQUIREMENTS	60
III. PERMITS	63
IV. RESIDENTIAL DRIVEWAY REQUIREMENTS	64
V. COMMERCIAL DRIVEWAY REQUIREMENTS	66
VI. LOW USE AND TEMPORARY DRIVEWAY REQUIREMENTS	72
VII. DRIVEWAY ACCESS DETERMINATION	72
VIII. EXCEPTION FROM CONSTRUCTION GUIDELINES	73
IX. SEVERABILITY CLAUSE	73

I. SCOPE

In accordance with [PA 200 of 1969](#) (MCL 247.324), as amended, the highway authority is charged with the responsibility to issue driveway permits consistent with the rules promulgated by the highway authority for public safety and in the public interest. Such rules are based on traffic volumes, drainage needs, the character of adjoining land use, and other requirements. The rules prescribe rational standards for the design and location of driveways within the ROW. It is not the intent of this policy to deny reasonable access to a non-limited access highway.

II. GENERAL REQUIREMENTS

An application for a driveway permit shall be submitted in a manner prescribed on the [Application to Construct, Operate, Use and/or Maintain Remove Within the Right-of-Way or to Close A County Road](#). Application and Permit forms are available at the RCKC office located at 3801 E. Kilgore Road, Kalamazoo, Michigan, and on the RCKC web site at www.kalamazoocountyroads.com.

Any construction, reconstruction, or modification of an existing driveway providing vehicular access to or from a highway under the jurisdiction of the RCKC requires a permit. A permit is also required when the use of the land served by an existing driveway is changed or expanded (PA 200 of 1969 [MCL 247.327](#)).

Permits are to be obtained prior to the start of any construction. Failure to obtain a permit prior to the start of any construction within the ROW may be subject to additional charges. Specifications as provided on the permit shall be complied with, including modifications approved by authorized RCKC personnel. **Developers of property are encouraged to contact the RCKC during the initial planning stage so an approved preliminary site plan, satisfactory to all parties, may be agreed upon early in the development process.**

No driveway shall connect to a limited access public road or be allowed in a designated intersection clear-vision zone. No driveway access will be permitted to any dead-end street that does not have a turnaround conforming to RCKC requirements. Driveways will not be permitted onto gravel turnarounds.

A. Fee

1. A fee is charged for the permit to cover the cost of administration and inspection. The current [Schedule of Fees](#) is available for review at the RCKC office and on our website at www.kalamazoocountyroads.com.

B. Plans

Permit applications shall be accompanied by plans or drawings containing applicable information listed below.

1. North arrow, ROW, property lines, and existing physical features, including, but not limited to trees, shrubs, highway pavement, shoulders, ditches, utility poles, service boxes, fire hydrants, and other appurtenances.

2. Design features; including reconstructed, relocated, surfaced, resurfaced, and used or maintained drives with the following dimensions and features:
 - a. Widths of driveways and distance from property lines
 - b. Radii of driveway returns
 - c. 90-degree angle of driveway relative to the highway centerline
 - d. Dimensions of adjacent traffic lanes
 - e. Driveway surface material
3. Distance from each existing and proposed driveway on the site to:
 - a. Nearest intersecting street
 - b. Nearest driveway on adjacent properties
 - c. Street or driveway opposite the site
 - d. Property lines and the extension of property lines to the road centerline
 - e. Unobstructed sight distance from driveway to approaching road traffic
4. Drainage:
 - a. Depth of ditch
 - b. Drainage structures and culverts
 - c. Direction of surface water flow on or toward adjacent property

Commercial driveway plans shall show additional information including existing contours and proposed grades and how storm water will be retained on site. Commercial driveway plans shall be drawn on 24 inches x 36 inches sheets and to a scale of not smaller than (1 inch =50 feet) horizontal and (1 inch =5 feet) vertical.

C. Storm Water Retention and Existing Drainage Structures

No additional runoff shall be directed or diverted onto the ROW, unless specifically approved by the RCKC. Existing drainage structures including, but not limited to culverts, catch and leaching basins and impoundment areas shall be protected from physical damage and sedimentation. Failure to do so will automatically void the permit.

Provisions for SESC shall be in accordance with section VII. D., Roadside Soil/Ground Cover Disturbances, of the RCKC's [Construct, Operate, And/Or Use Within the County Road Right-of-Way](#) Policy. All debris from earth change activity shall be removed from the ROW.

No driveways shall be built on any drainage structures unless approved by County Engineer.

D. Driveway Culvert

The RCKC shall determine if a culvert is required and, if required, the diameter and length of the culvert. The permittee shall furnish, install, and maintain unrestricted water flow

through the culvert. Permittee maintenance shall include routine debris removal from the culverts ends and adjacent ditches.

1. Culverts shall be installed in line with the road ditch. Culverts shall be determined by RCKC.
2. Unless specified larger, culverts shall be a minimum of 12 inches in diameter and a minimum of 24 feet in length.
3. Culverts shall be galvanized coated steel with wall thickness corresponding to diameter as specified below:

Diameter (inch)	Wall Thickness Gage
12-24	16
30-36	14
42-54	12
60-72	10

4. Culvert headwalls shall not be permitted.
5. Culverts shall require steel end sections meeting current MDOT specifications.

E. Identifying Driveway at Project Site

The driveway location shall be clearly identified at the project site by staking and flagging, or other method, so it can be easily found by the RCKC inspector making a field review. Information on stakes shall include the permittee's name, property address and, where applicable, plat lot number. Failure to provide this information will delay issuance of permit.

F. Project Inspections

To avoid later corrections, the permittee shall coordinate with the RCKC to schedule an inspection of the prepared driveway grade prior to surfacing. A final inspection of work will be made before the date of permit expiration.

G. Compliance with RCKC Policy on Insurance

No work will be permitted within any existing ROW by any contractor until the contractor has placed on file in the RCKC office proof of insurance in accordance with the Board's [Insurance Requirement Policy](#). See our web site for specific values at www.kalamazooocountyroads.com.

H. Traffic Control and Public Safety at Site

Proper traffic control devices such as, but not limited to barricade signs, etc., as may be necessary to protect the public, shall be provided by the owner or contractor during construction and shall comply with part 6 of the MMUTCD.

I. Local Government Review and Approval

The permittee shall contact the local government in which the driveway construction will occur to ensure compliance with requirements pertaining to the improvement, expansion, development, or redevelopment of private property, including any access requirements, which may be applicable.

J. Other

The permittee shall be responsible for all costs associated with the relocation/removal of any existing structures (including but not limited to guardrail, signs, catch basins, etc.) required to accommodate the installation of any driveway.

Any generally accepted engineering practice or guideline, rule, or standard, not otherwise specifically provided for, shall be incorporated by this reference.

III. PERMITS

An application for a driveway permit shall be accepted from the property owner, contractor, governmental agency, or its legally authorized agent. Permits shall be approved by County Engineer, or designee, prior to commencement of driveway construction, modification, or reconstruction.

If the permittee fails to obtain an appropriate permit or fails to comply with any provisions of the permit, the RCKC will halt the activity for which a permit is required until adequate corrections have been made. Accomplished work may have to be removed. Costs incurred by the RCKC in correcting failure to comply with the terms and conditions of a permit, failure to obtain a permit, or for defective work or materials shall be borne by the permittee or person undertaking the activity.

A. Conditions and Limitations

A driveway permit is subject to the conditions and limitations stated on the permit form, as well as any special conditions that may be added to the permit itself:

1. Permits to construct driveways are authorized for one year only, after which time the application shall be resubmitted.
2. Altered natural drainage shall not be permitted to flow onto the ROW, unless special provisions are approved by the RCKC.
3. The permittee shall remove all surplus materials to an area outside the ROW unless the permit provides for disposal at locations within the ROW. Excavated material shall be stockpiled so it does not adversely affect the safety of traffic.
4. Work authorized by the permit shall be completed to the satisfaction of the RCKC on or before the completion date specified in the permit. A request for an extension of time for completion shall include reasons for the extension. Approval of extension of time shall be based upon extenuating circumstances and in the absence of neglect by the permittee.

5. The permit may be suspended or revoked at will. Upon the RCKC's request, and at the permittee's expense, the permittee shall surrender the permit and alter, relocate, or remove the facilities for which the permit was granted.
6. The permit shall become immediately null and void if the terms of the permit are violated. The RCKC may require immediate removal of the permittee's facilities or may remove them without notice at the permittee's expense.
7. In addition to any liability or obligation of the permit holder that may otherwise exist, permit holder shall, to the fullest extent permitted by law, identify and hold harmless the RCKC and its commissioners, officers, agents, and employees from and against any and all claims, actions, proceedings, liabilities, losses, and damages thereof, and any and all costs and expenses, including legal fees, associated therewith which the RCKC may sustain by reason of claims for allegations of the negligence or violation of the terms and conditions of this permit by the permit holder, its officers, agents, or employees, arising out of the work which is the subject of this permit.

IV. RESIDENTIAL DRIVEWAY REQUIREMENTS

In addition to the rules and standards provided under GENERAL REQUIREMENTS and PERMITS, the following specific requirements apply.

A. Location and Number of Driveways

Residential parcels with 300 feet of frontage or less shall be limited to one driveway unless a waiver of this restriction is granted by the County Engineer. Driveways shall be no closer than 115 feet from the ROW line of the nearest cross street, as measured from the nearest edge of the driveway. Residential parcels with over 300 feet of frontage shall be allowed up to two driveways. Should staff review identify a potential problem because of traffic volume, sight limitation, or other reason in the public interest, only one driveway will be permitted. Corner residential parcels may be permitted access on the cross street with lower traffic volume and lower speed.

B. Sight distance Requirements

Clear-vision area, as shown in Figure 1, shall be provided at all residential driveways entering onto a road which is under the jurisdiction of the RCKC.

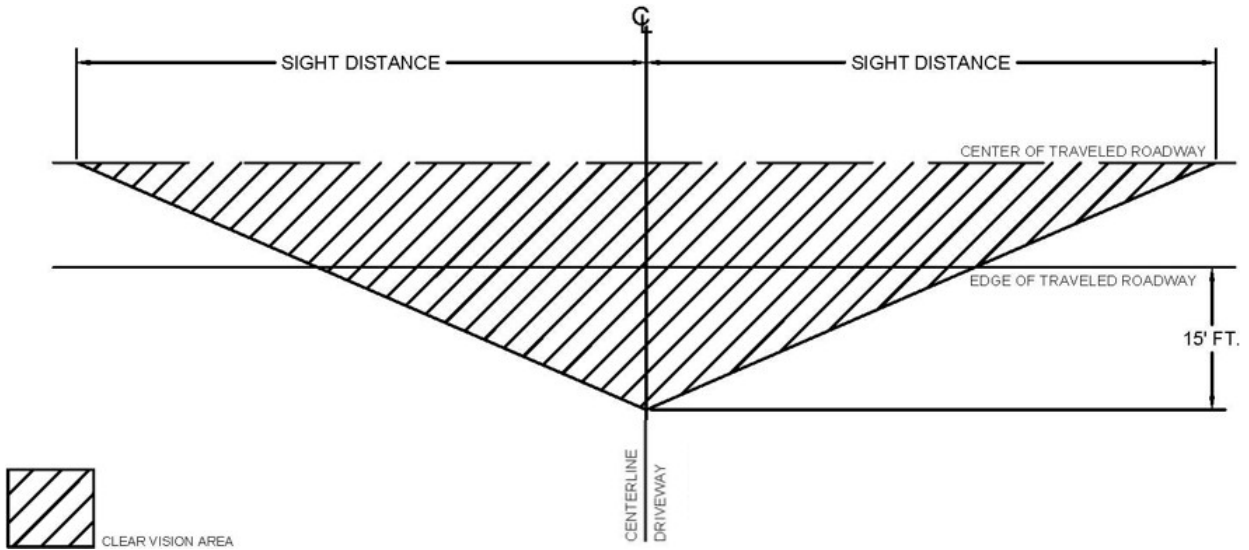


Figure 1. Clear-vision requirement for residential driveways

To provide for adequate vision, all obstructions shall be removed or minimized within the clear-vision area. Sight distance, looking each way from the driveway centerline, shall be measured from an eye height of 3 feet 6 inches to an object 3 feet 6 inches above the road centerline. The eye height at the driveway centerline shall be positioned 15 feet from the edge of the traveled road.

The following minimum sight distances are based on 0% grade roads and the regulatory speed limit. Advisory speeds shall not be used when determining sight distance. Requirements for the clear-vision area are:

Speed Limit (mph)	Sight Distance (feet)
25	155
30	200
35	250
40	305
45	360
50	425
55	495

*Distances are based on AASHTO guidelines.

C. Driveway and Site Plans

An application for a permit shall be accompanied by plans or drawings containing the required information listed under GENERAL REQUIREMENTS and include applicable design details. Typical residential designs are shown in Examples I, II and III.

D. Material and Quality of Work

- Types and quality of material will be specifically approved on the permit. Residential driveway approaches may be constructed of approved concrete, gravel, or HMA. However, driveways with a grade of 4% or greater shall be hard surfaced within the

ROW. All driveways shall conform to the requirements shown in the applicable design example.

2. For the portion of the driveway within the ROW, the RCKC requires the following minimum thickness for the driveway base and surface:
Gravel – stabilized gravel compacted to a minimum thickness of 8 inches.
Hot Mix Asphalt – 6 inches of compacted gravel base with 3 inches of asphalt placed in two layers
Concrete – 2 inches of compacted gravel base with 6 inches of non-reinforced concrete or 2 inches of compacted gravel base with 4 inches of reinforced concrete.
3. When asphalt road paving projects are undertaken and paved driveways need to be replaced, they shall be replaced to the minimum requirements for HMA specified above. Property owners with concrete driveways may choose to replace their driveway with concrete at their own expense or accept replacement with HMA. The concrete driveways may be removed to the ROW. RCKC staff will assess each driveway situation to minimize the amount of concrete removed.
4. Residential driveways shall be a minimum of 10 feet and a maximum of 20 feet in width unless approved by County Engineer. These measurements do not include the radii.
5. Driveway apron shall be flush with the adjacent edge of road pavement. Apron slope from pavement edge to back edge of shoulder shall be 4% (1/2 inches/foot.) or match existing shoulder slope. Responsibility for maintenance of apron surface area rests with the property owner.
6. Shoulder grades are to be re-established, so driveway apron is at same level. Shoulder gravel shall meet MDOT specifications for 23A material.
7. On roads lined with high back concrete curb, access can be provided by total replacement of curb with concrete gutter or by saw cutting the back of curb. Use of saw cutting shall be approved by the RCKC inspector. If saw cutting is permitted a 1 inch high back of curb lip shall be retained and edges of the curb opening shall not exceed 45°. See Example II. Driveway slope shall conform to current MDOT standard detail R-29 series (Driveway Openings and Approaches and Concrete Sidewalks. Any inlets requiring modification shall be replaced by approved fixtures. Cause for rejection of final work product includes, but is not limited to cracks, voids, exposed reinforcement steel or damage to existing concrete.

V. COMMERCIAL DRIVEWAY REQUIREMENTS

In addition to the rules and standards provided under the GENERAL REQUIREMENTS and PERMITS, the following specific requirements apply.

A. Location and Number of Driveways

In general, one access point is adequate for a single business. If multiple access points are requested, the RCKC may require a traffic impact study from the business owner/property owner to justify the need for the multiple access points. The number of anticipated peak-

hour traffic shall be determined from the current edition of the [Institute of Transportation Engineers Trip Generation](#) manual. Corner parcels shall only be permitted access on the cross street with lower traffic volume and lower speed. Property owners are strongly encouraged to consolidate their driveways with those of adjacent property owners.

A driveway, including the radii but not including the right-turn lanes and tapers, shall be located entirely within the area between the Permittee’s property lines extended to the centerline of the road. A driveway radius may extend outside of that area only if a recorded easement from the adjacent property owner will permit such an extension.

Adjacent driveways on the same side of the road should be spaced according to Table 1. Table 1 shows desirable unsignalized access spacing as a function of posted speed. These distances are based on average acceleration and deceleration considered adequate to maintain good traffic operations. Advisory speeds shall not be used when determining sight distance. Driveway spacing in Table 1 is measured from centerline to centerline.

Table 1. Unsignalized Access Spacing (Adjacent)	
Speed Limit (mph)	Center-to-Center of Access (feet)
25	130
30	185
35	245
40	300
45	350
50 and above	455

To minimize left turning conflicts, driveways should be either aligned with those directly across the road or offset a sufficient distance from those across the road to achieve the minimum spacing standards listed in Table 2. Table 2 provides the desirable distances between two access points on the opposite sides of the road. Advisory speeds shall not be used when determining sight distance.

Table 2. Unsignalized Access Spacing (Opposite)	
Speed Limit (mph)	Center-to-Center of Access (feet)
25	255
30	325
35	425
40	525
45	630
50 and above	750

In accordance with AASHTO guidelines, driveways shall not be situated within the functional boundary of intersections. This boundary includes the longitudinal limits of auxiliary lanes. An access point may be allowed within the above boundary only if the entire property frontage is located in this boundary.

A driveway shall not be constructed along acceleration or deceleration lanes and tapers unless no other reasonable access point is available. RCKC may require an extension of these lanes by the permittee.

Spacing between a road intersection and an access connection shall be sufficient to avoid creating conflicts between driveway traffic movements and road movements at the intersection. The corner clearance required is a function of the types of roads which intersect. In all quadrants of an intersection access points should be located according to the dimensions shown in Figure 1. Table 3 provides the minimum corner clearance dimensions. The spacing requirement in Table 3 are from the centerline of the proposed driveway to the near ROW line of the intersecting road.

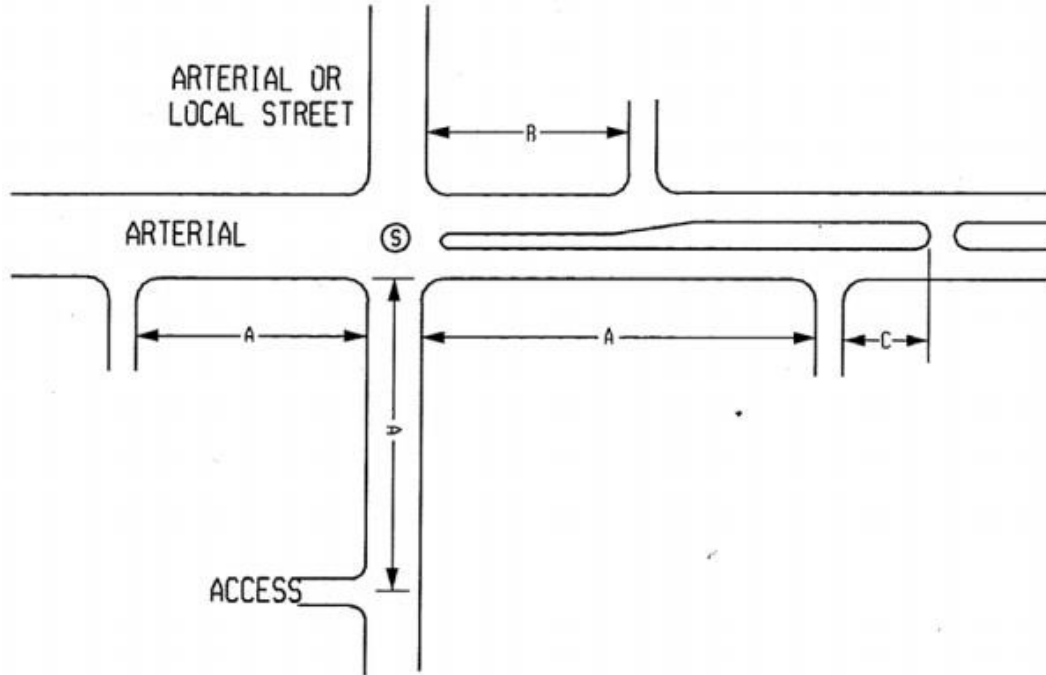


Figure 1. Corner Clearance

Table 3: Corner Clearance			
Speed Limit (mph)	Dimension	Signalized Intersection Control (feet)	Stop Sign Intersection Control (feet)
25 to 35	A	230	115
	B	115	85
	C	75	75
40 to 55	A	460	230
	B	230	170
	C	150	150

In the event that a particular parcel or parcels lack sufficient frontage to maintain adequate spacing, the owner(s) may seek an exception from the RCKC per the guidance in this document.

B. Sight Distance Requirements

Acceptance of site access onto an existing public road is subject to the field review and recommendations of the County Engineer. Considerations include, but are not limited to vehicle speed, sight distance, and topography. An area of clear vision, free from obstructions and encroachments, shall be provided. Fences, trees, shrubs, poles, signs,

boulders, mailboxes, and other obstacles shall be removed or modified in this area to afford an unobstructed view in both directions of the approaching traffic.

A clear-vision area, as shown in Figure 2, shall be provided at, all commercial driveways entering onto a road under the jurisdiction of the RCKC.

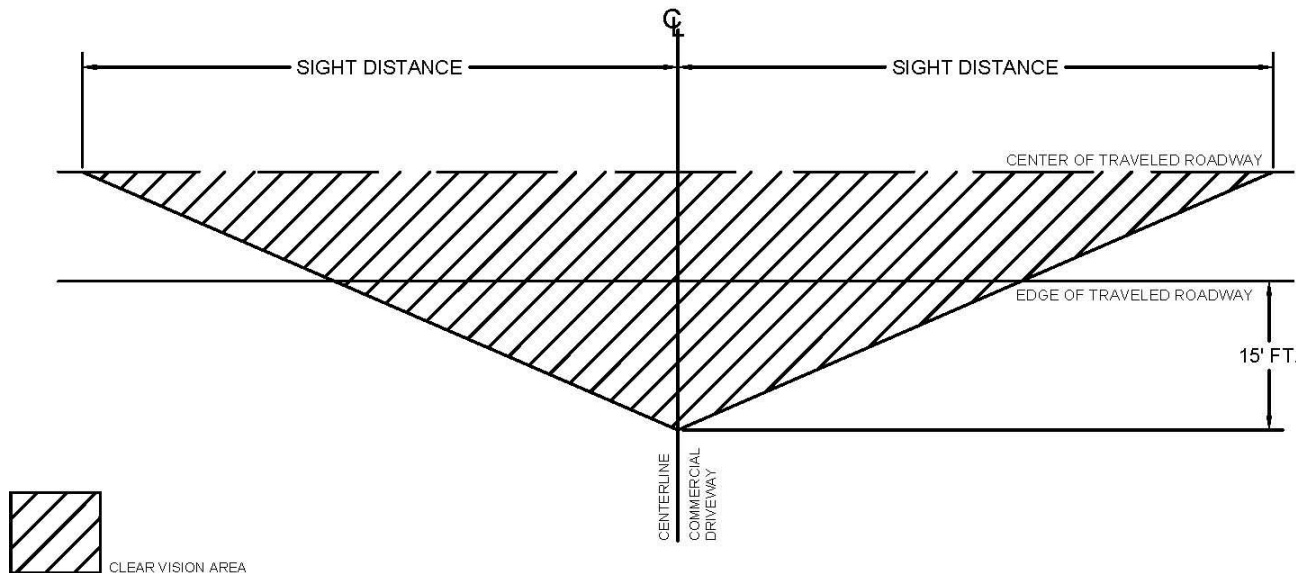


Figure 2. Clear-vision requirement for commercial driveways.

Sight distance, looking each way from the driveway centerline, shall be measured from an eye height of 3 feet 6 inches to an object 3 feet 6 inches above the road centerline. The eye height at the driveway centerline shall be positioned 15 feet from the edge of the traveled road.

The following minimum sight distances are based on 0% grade roads and the regulatory speed limit. Advisory speeds shall not be used when determining sight distance. Requirements for the clear-vision area are:

Speed Limit (mph)	Sight Distance (feet)
25	280
30	335
35	390
40	445
45	500
50	555
55	610

*Distances are based on AASHTO guidelines.

C. Auxiliary Lanes and Taper Requirements

Driveways serving large developments frequently generate large numbers of turning movements. On two-lane public roads, this situation can disrupt traffic operations and often makes shoulder maintenance difficult. MDOT Geometric Design Guidance Section 1.1.4

shall be utilized in order to promote a uniform system to determine where right-turn lanes shall be required as a condition of permit issuance. The RCKC reserves the right to require auxiliary lanes for safety reasons based upon crash history, traffic volumes and other data. If the Geometric Design Guidance indicates a right turn taper is needed, RCKC would require the full right turn lane.

MDOT Geometric Design Guidance Section 1.1.5 shall be utilized in order to promote a uniform system to determine where left turn lanes are required as a condition of permit issuance. The RCKC reserves the right to require auxiliary lanes for safety reasons based upon crash history, traffic volumes, and other data. RCKC does not permit the use of passing flares.

The permittee shall provide right-turn lanes as part of a commercial driveway system if the RCKC determines per MDOT Geometric Design Guidance or an approved traffic impact study that such right-turn lanes or tapers are required to minimize congestion or hazard on the road caused by vehicles entering the permittee's driveways. Minimum design standards for right and left turn lanes can be found in Appendix A.

For the submittal of the application, the permittee shall provide calculations for the estimated number of peak hour trips for the development. These calculations shall be determined by using the current edition of the [Institute of Transportation Engineers Trip Generation](#) manual. Based upon these calculations and the MDOT Geometric Design Guidance Sections 1.1.4 and 1.1.5, RCKC will determine the need for auxiliary lanes.

D. Driveway and Site Plans

An application for a permit shall be accompanied by plans or drawings containing the required information listed under GENERAL REQUIREMENTS, and shall include applicable design features as illustrated in Examples IV through VII. Additionally, plans shall show internal traffic circulation, existing and proposed buildings and appurtenances and their dimensions, existing topographic contours at no more than 4-foot intervals, finish grades, and how storm water will be retained on site. After RCKC review, any required modifications shall be made, and a final site plan submitted.

E. Material and Quality of Work

1. Type, thickness, and specifications of materials shall be shown on plans. Commercial driveways shall be constructed of approved asphalt or concrete material. All driveways shall conform to requirements shown in the applicable design examples.
2. For the portion of the driveway within the ROW, surface and base shall meet material and thickness requirements to obtain the necessary bearing capacity. Minimum standards are:

Asphalt Driveway

- 2 inches (220 Lbs / Syd) 13A Modified Base Course
- 2 inches (220 Lbs / Syd) 13A Modified Leveling Course
- 2 inches (220 Lbs / Syd) 13A Modified Wearing Course or as approved by the County Engineer
- 8 inches of compacted MDOT 22A aggregate base

Concrete Driveway

- 6 inches, MDOT Grade 3500 Reinforced Concrete Pavement
- 3 inches of compacted MDOT 22A Aggregate Base

All driveways shall be constructed over approved soils. Composition of bituminous mixtures shall conform to requirements in [Section VI. C., 12., Restoring Materials](#), of the RCKC's [Construct, Operate, And/Or Use Within the County Road Right-of-Way](#) Policy.

3. When asphalt road paving projects are undertaken and paved driveways need to be replaced, they shall be replaced to the minimum requirements for HMA specified above. Property owners with concrete driveways may choose to replace their driveway with concrete at their own expense or accept replacement with HMA. The concrete driveways may be removed to the ROW. RCKC staff will assess each driveway situation to minimize the amount of concrete removed.
4. Driveway apron shall be flush with or below the adjacent edge of road pavement. Apron slope from pavement edge to back edge of shoulder shall be 4% or match existing shoulder slope. Responsibility for maintenance of apron surface area rests with the property owner.
5. Commercial driveways shall be a minimum of 26 feet and a maximum of 36 feet from pavement edge to pavement edge in width. These measurements do not include the radii.
6. Shoulder grades are to be re-established, so the driveway apron is at same level as the shoulder. Shoulder gravel shall meet MDOT specifications for 23A material.
7. On roads lined with high back concrete curb, access can be provided by total replacement of curb with concrete gutter or by saw cutting the back of curb. Use of saw cutting shall be approved by RCKC staff. If saw cutting is permitted, a 1inch high back of curb lip shall be retained. A commercial driveway accessing concrete curb requires the construction of curb along its taper and radii. Expansion joints shall be placed at the adjoining road curb. See Example V. Any inlets requiring modification shall be replaced by approved fixtures and driveway slope shall not exceed 4%. Cause for rejection of final work product includes, but is not limited to cracks, voids, exposed reinforcement steel or damage to existing concrete.
8. Driveway culverts shall meet specifications described under GENERAL REQUIREMENTS, Driveway Culvert.

9. Construction of auxiliary lanes and tapers may require installation of culverts to maintain ditch line flow. Clean out structures are required for every 300 feet of enclosed drainage pipe.

VI. LOW USE AND TEMPORARY DRIVEWAY REQUIREMENTS

In addition to the rules and standards provided under GENERAL REQUIREMENTS and PERMITS, specific requirements outlined below shall apply. The permit application shall be accompanied by plans or drawings containing the required information listed under GENERAL REQUIREMENTS, Plans, and include applicable design details. Example I illustrates typical design features. Driveway culverts shall meet specifications described under GENERAL REQUIREMENTS, Driveway Culvert.

A. Low Use (Agricultural or Utility) Driveway

1. Driveways designed to access cultivated or undeveloped land, or utility structures, are allowed every 1,000 feet.
2. Type and thickness of material will be specifically approved on the permit. Gravel or paved driveways may be accepted. Where SESC is a perceived problem, hard-surfaced driveway shall be required.
3. Sight distance requirements will be based on the requirements for residential driveways.

B. Temporary Driveway

1. A temporary driveway shall be allowed for a maximum 12-month period and is to service a site for a specific function or project. If a temporary driveway is removed by permittee within the allowable time, a portion of the fee may be returned to the permittee, as determined by RCKC staff. If permittee does not complete the obligations of the permit within the agreed period of time, RCKC shall remove the driveway without notice. The temporary driveway may be allowed a 12-month extension provided an additional residential driveway fee is submitted and the extension is approved by the County Engineer.
2. Type and thickness of material will be specifically approved on the permit. Gravel or paved driveways will be allowed, depending on use, erosion potential, maintenance, and other safety factors.
3. Sight distance requirements will be determined by the RCKC depending on proposed use.

VII. DRIVEWAY ACCESS DETERMINATIONS

Applying for a determination of accessibility is not the same as applying for a driveway permit. As outlined in the provisions of [Land Division PA 288 of 1967](#), as amended, MCL 560.109, when seeking approval of a parcel split, each resulting parcel must be accessible in order for the proposed split to be approved. The driveway access determination allows for land

divisions to occur prior to having detailed plans prepared that are needed for a driveway permit approval.

Having an approved driveway access determination is not a driveway permit and does not guarantee that a driveway permit will automatically be issued. A separate application submittal must be made for a driveway permit. A determination of accessibility is not binding on the RCKC in the future, if there are changes in the law which occurs subsequent to this determination. Those changes could prohibit the issuance of a driveway permit or other use of the public and private roads if such uses or improvements are not in place prior to any such change in the law.

These procedures, guidelines and specifications for developing public roads in Kalamazoo County are the published rules adopted by the Board to carry out the provisions of the [Land Division PA 288 of 1967](#), as amended, MCL 560.101 et seq.

VIII. EXCEPTION FROM CONSTRUCTION GUIDELINES

All information regarding a exception from the construction guidelines is located in [Appendix G](#).

IX. SEVERABILITY CLAUSE

If any part of these requirements and specifications shall be found to be invalid, such invalidity shall not affect the validity of the remaining portions of this policy.

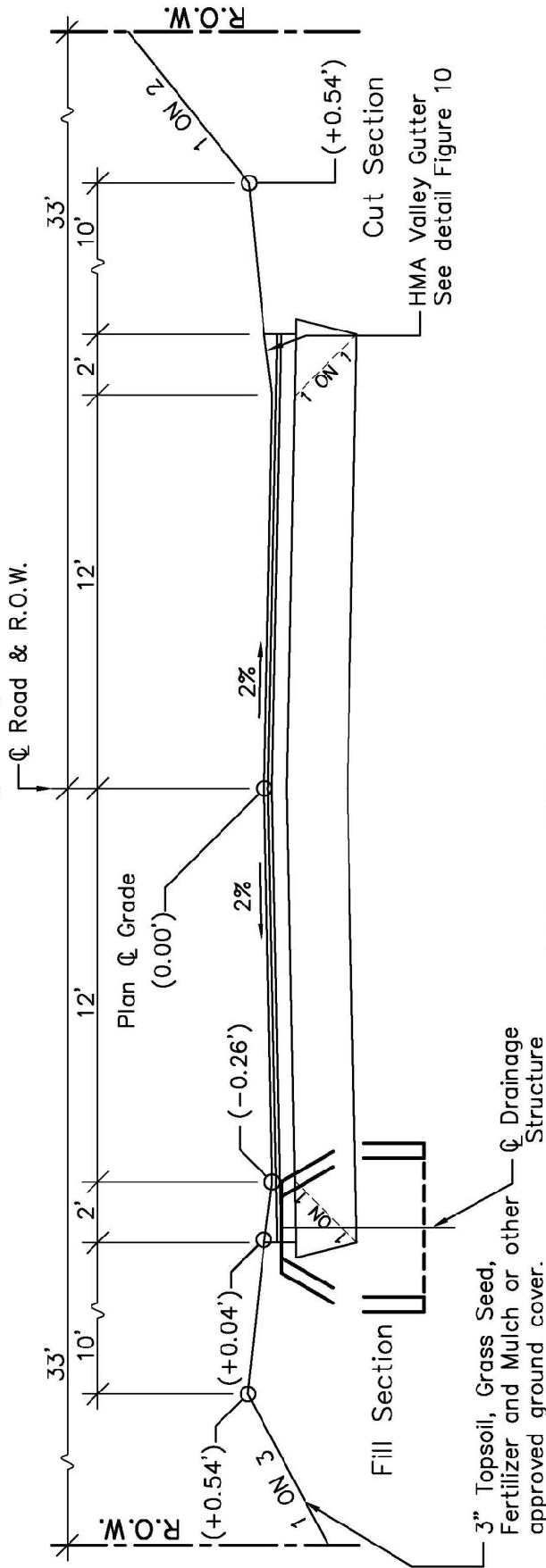
APPENDIX A

FIGURES, TABLES, AND LETTER OF CREDIT FORMAT

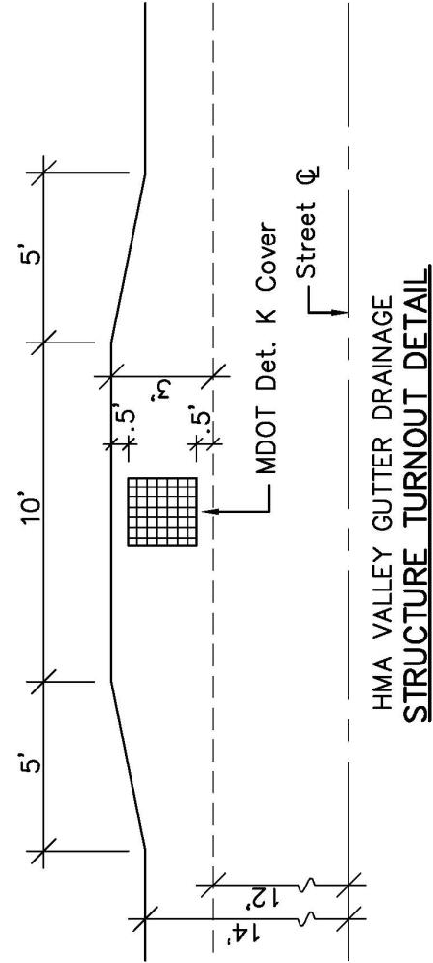
INDEX OF PAGES

	<u>Page Number</u>
Typical Cross Section: Residential HMA Valley Gutter Road — Figure 1	75
Typical Cross Section: Residential Mountable Curb & Gutter Road — Figure 2	76
Typical Cross Section: Residential High Back Curb & Gutter Road — Figure 3	77
Typical Cross Section: Commercial HMA Pavement Road — Figure 4	78
Typical Cross Section: Commercial Concrete Pavement Road — Figure 5	79
Typical Cross Section: Residential Boulevard — Figure 6	80
Typical Cross Section: Commercial Boulevard — Figure 7	81
Typical Cross Section: County Local Road — Figure 8	82
Typical Cross Section: County Primary Road — Figure 9	83
Curb & Gutter Details — Figure 10	84
Typical Cross Section: Left Turn Lane — Figure 11	85
Typical Cross Section: Right Turn Lane and Taper — Figure 12	86
Cul-de-Sac Turnaround Detail — Figure 13	87
Clear Vision Area Requirements — Figure 14	88
Typical On Street Parking Design — Figure 15	89
Typical Roundabout Design — Figure 16	90
Sample Format for Letter of Credit	91
Completion Escrow Agreement	92

Figure 1 Residential HMA Valley Gutter Road Minimum Design Requirements



TYPICAL CROSS SECTION SCALE: 1"=5'

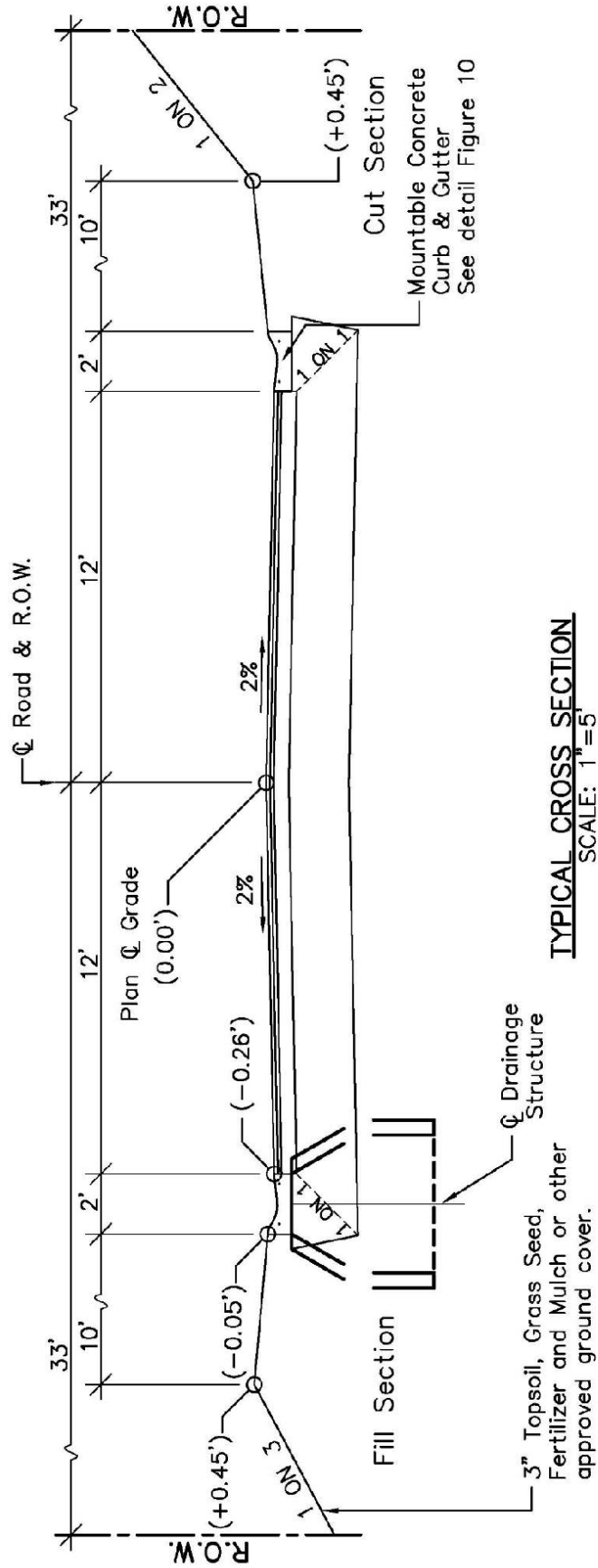


Notes:
1. See Appendix E for Typical Minimum Cross Section Requirements

2. Build valley gutter turnout at all drainage structures in HMA valley gutter sections. Set flow line of drainage structures in valley gutter section 0.40' below centerline grade. Set centerline of drainage structures 13.5' - 14.5' left or right of road centerline.



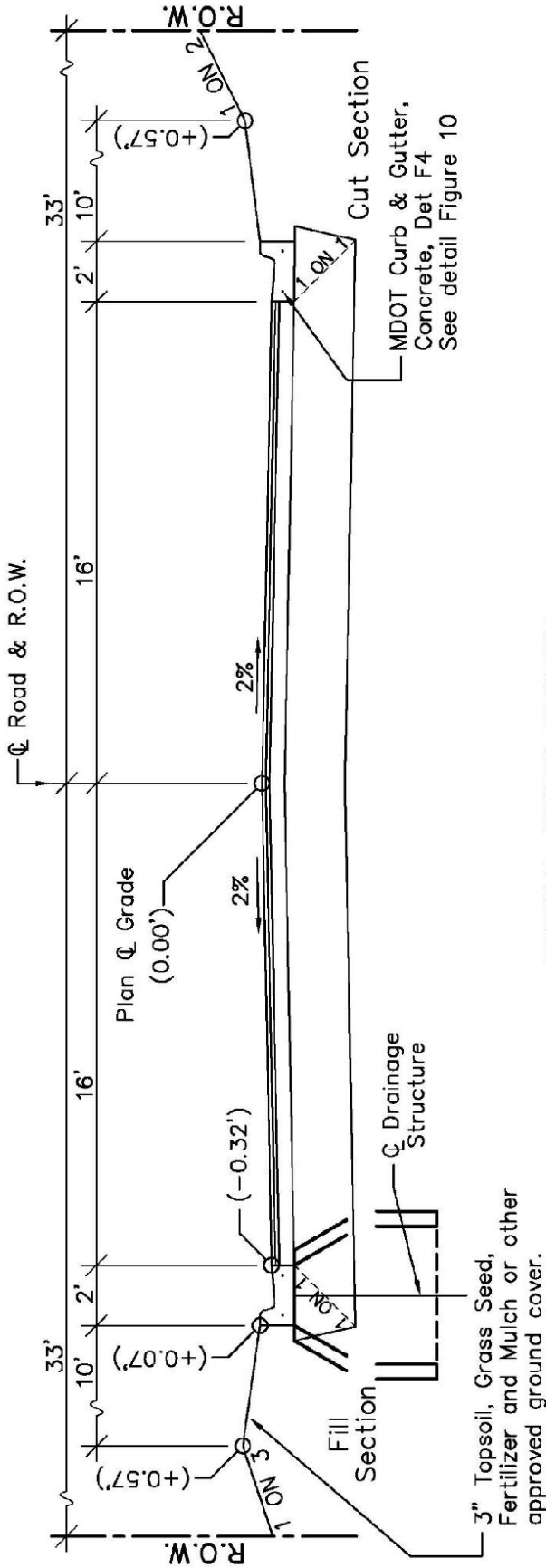
Figure 2
Residential Mountable Curb & Gutter Road
Mountable Concrete Curb & Gutter
Minimum Design Requirements



Notes:
 1. See Appendix E for Typical Minimum Cross Section Requirements



Figure 3
Residential High Back Curb & Gutter Road
 High Back Concrete Curb & Gutter
 Minimum Design Requirements

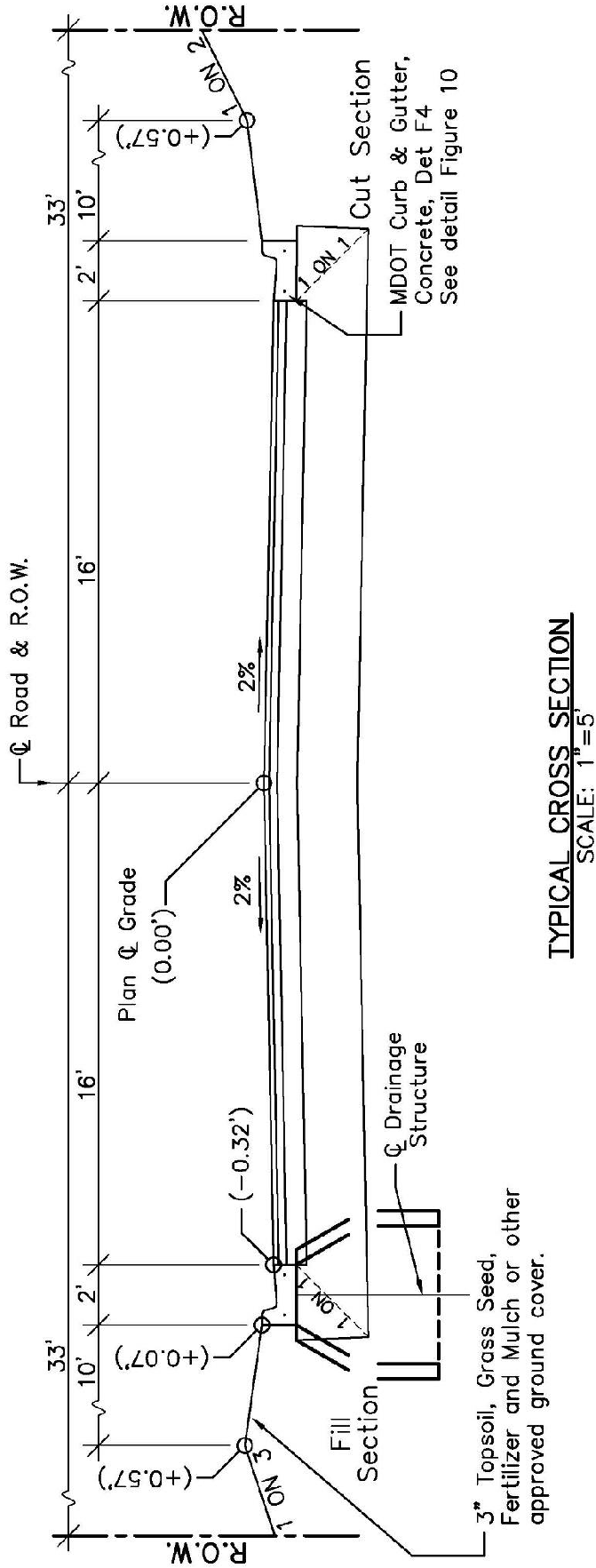


TYPICAL CROSS SECTION
 SCALE: 1"=5'

Notes:
 1. See Appendix E for Typical Minimum Cross Section Requirements



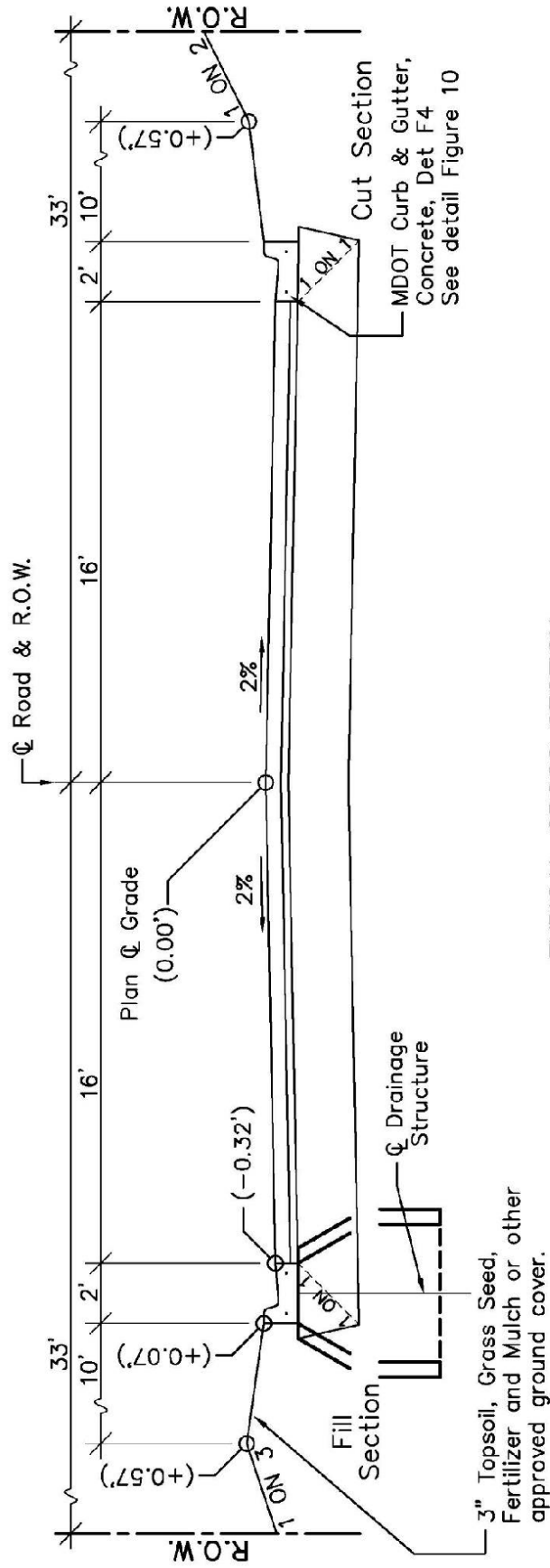
Figure 4
Commercial HMA Pavement Road
High Back Concrete Curb & Gutter
Minimum Design Requirements



Notes:
 1. See Appendix E for Typical Minimum Cross Section Requirements



Figure 5
Commercial Concrete Pavement Road
High Back Concrete Curb & Gutter
Minimum Design Requirements



TYPICAL CROSS SECTION
 SCALE: 1"=5'

Notes:
 1. See Appendix E for Typical Minimum Cross Section Requirements

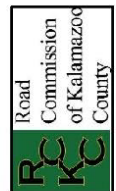
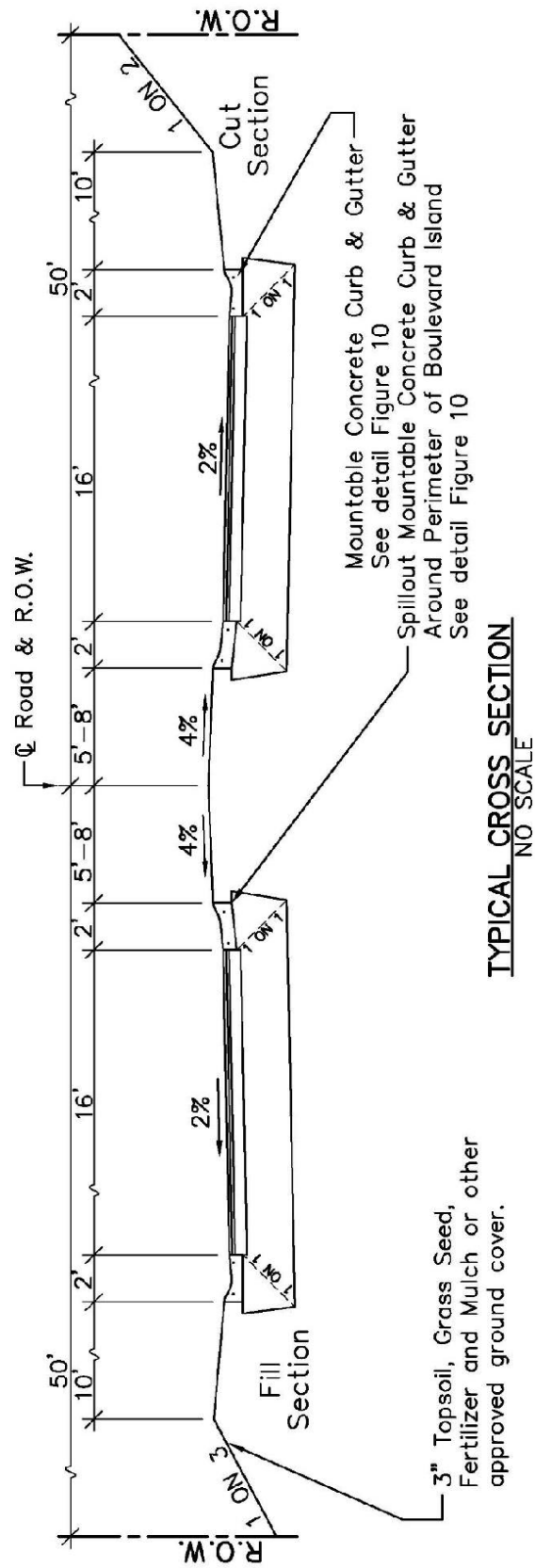


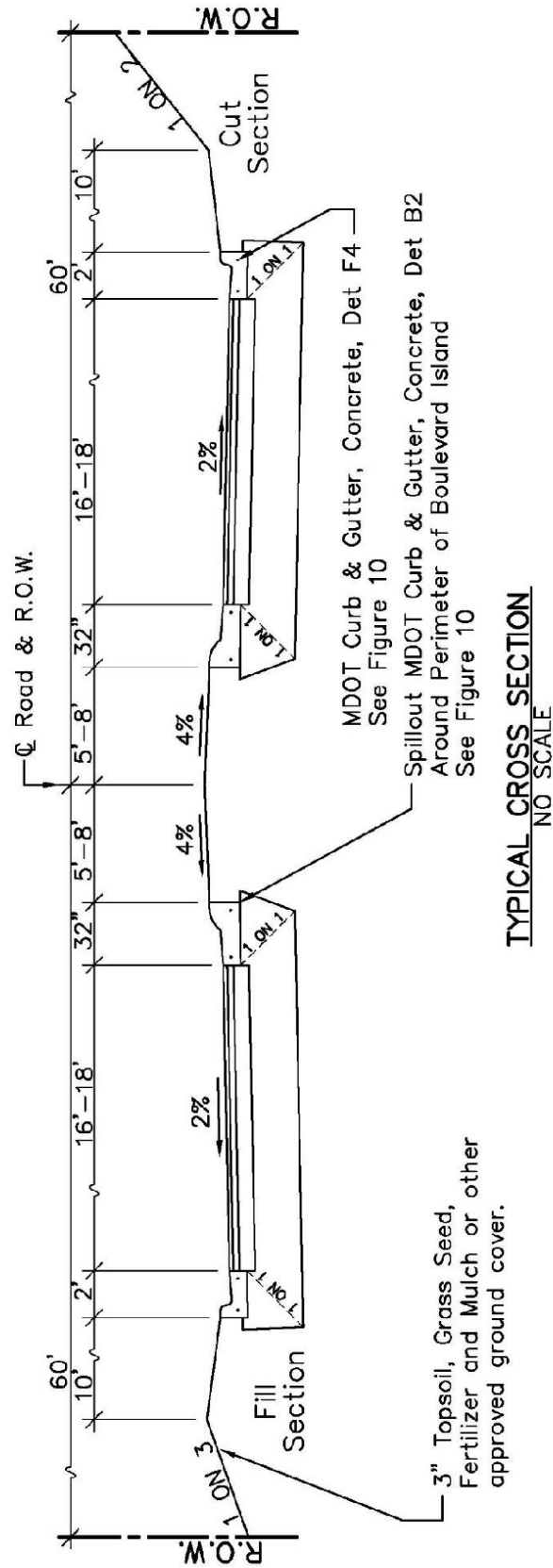
Figure 6
Residential Boulevard
100' R.O.W.
Minimum Design Requirements



NOTE:
 See Appendix E for Typical Minimum Cross
 Section Requirements



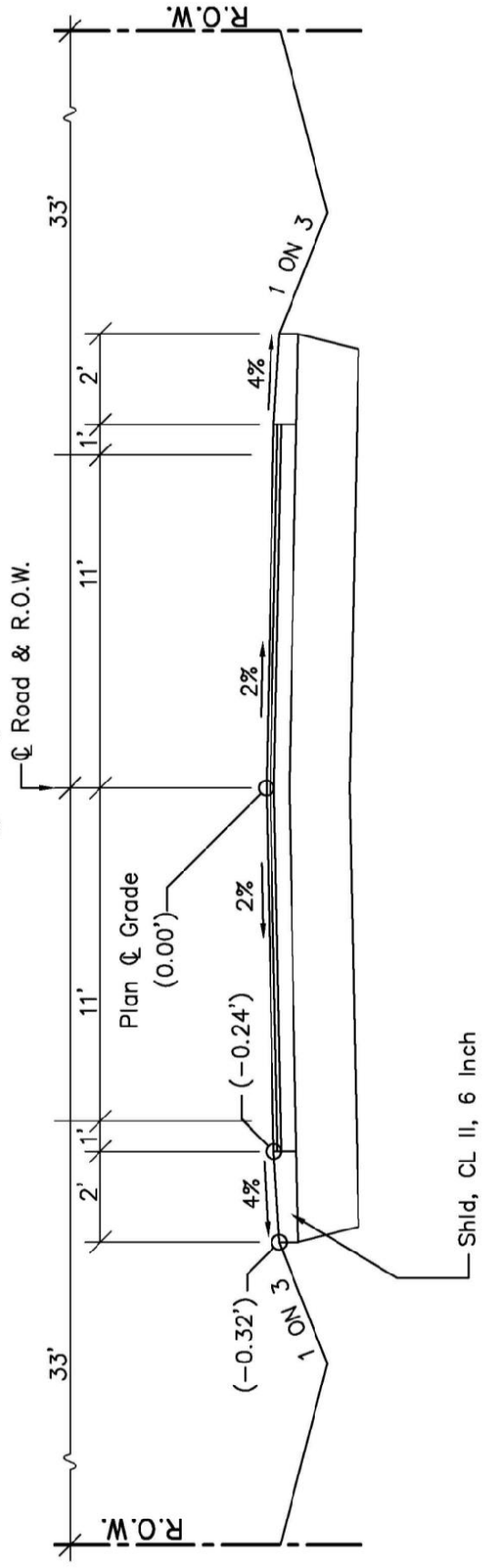
Figure 7
Commercial Boulevard
120' R.O.W.
Minimum Design Requirements



Notes:
 1. See Appendix E for Typical Minimum Cross Section Requirements

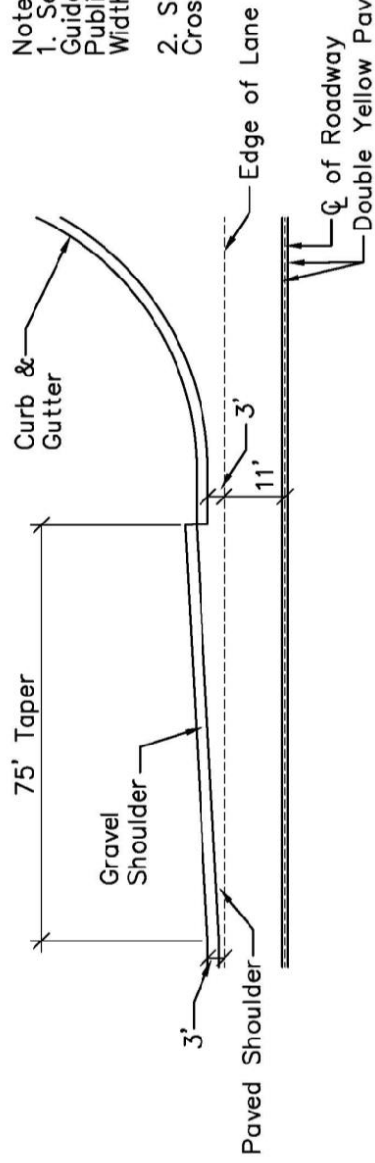


Figure 8
County Local Road
Minimum Design Requirements



TYPICAL CROSS SECTION
 SCALE: 1"=5'

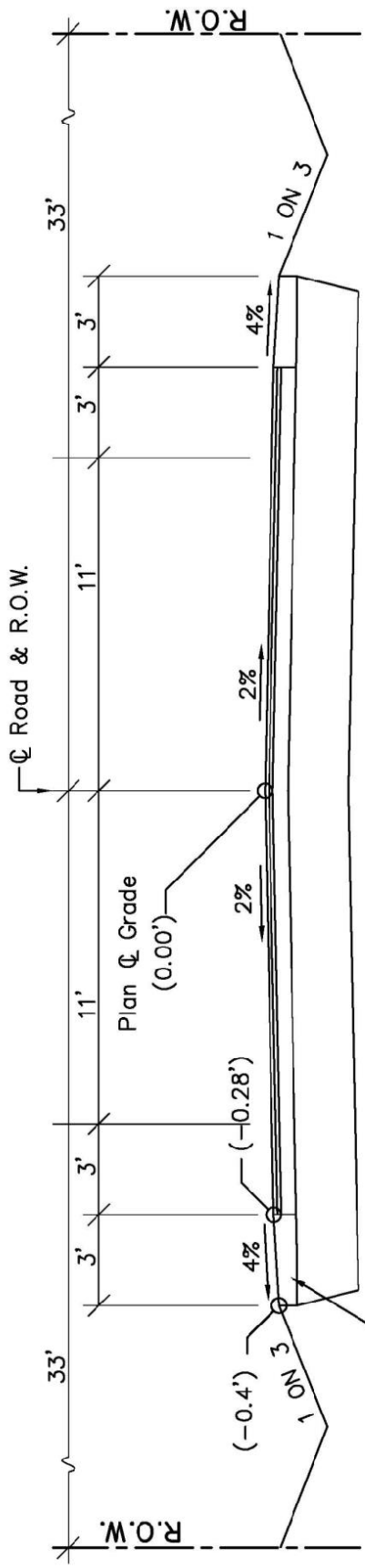
- Notes:
1. See Section V.D.3. of the Procedures, Guideline, and Specification for Developing Public Roads for information on Typical Road Width Requirements.
 2. See Appendix E for Typical Minimum Cross Section Requirements



INTERSECTION APPROACH DETAIL
 SCALE: 1"=30'

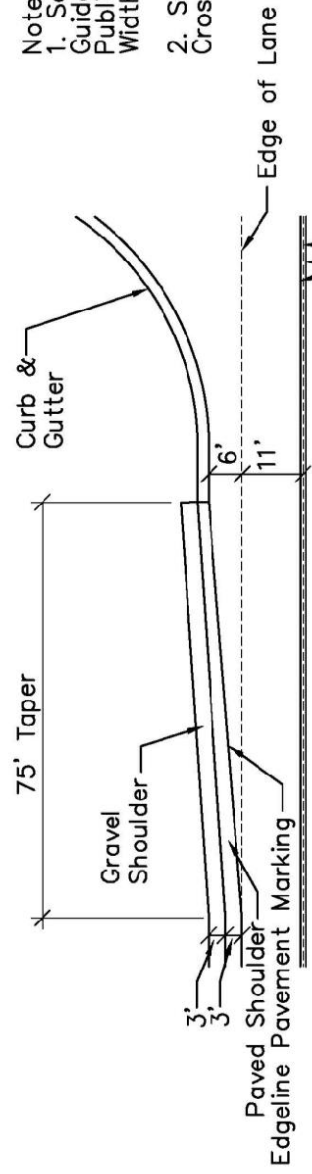


Figure 9
County Primary Road
 Minimum Design Requirements



TYPICAL CROSS SECTION
 SCALE: 1"=5'

Notes:
 1. See Section V.D.4. of the Procedures, Guideline, and Specification for Developing Public Roads for information on Typical Road Width Requirements.
 2. See Appendix E for Typical Minimum Cross Section Requirements



INTERSECTION APPROACH DETAIL
 SCALE: 1"=30'

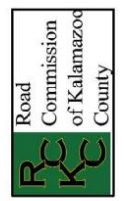
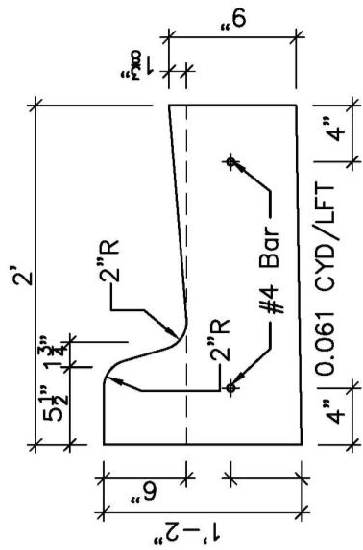
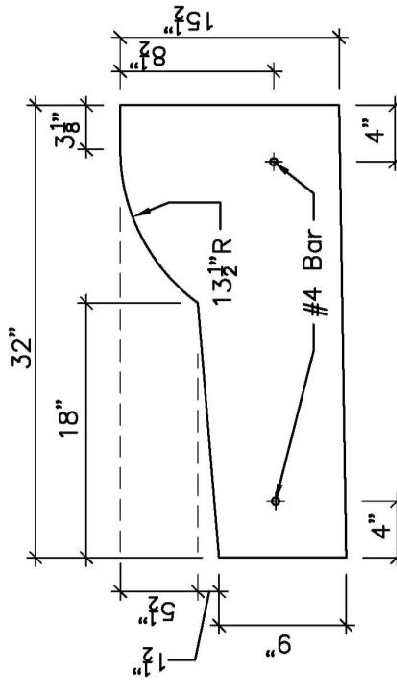


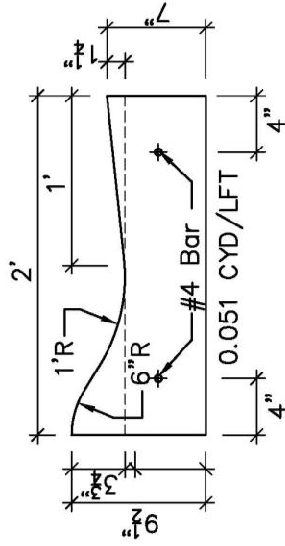
Figure 10
Curb & Gutter Details



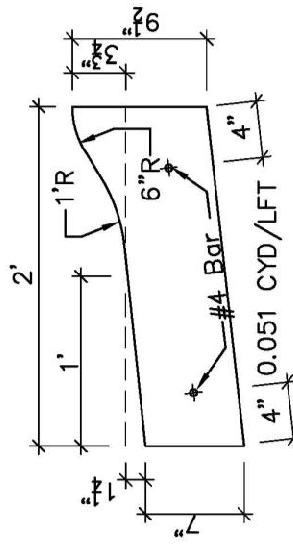
MDOT DETAIL F4
CONCRETE CURB & GUTTER



0.086 CYD/LFT
SPILLOUT MDOT DETAIL B2
CONCRETE CURB & GUTTER



RCKC SPECIAL DETAIL
MOUNTABLE CONCRETE CURB & GUTTER



RCKC SPECIAL DETAIL
SPILLOUT MOUNTABLE CONCRETE CURB & GUTTER



RCRC SPECIAL DETAIL
HMA VALLEY GUTTER



Figure 11
Left Turn Lane
Minimum Design Requirements

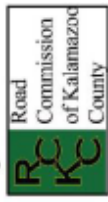
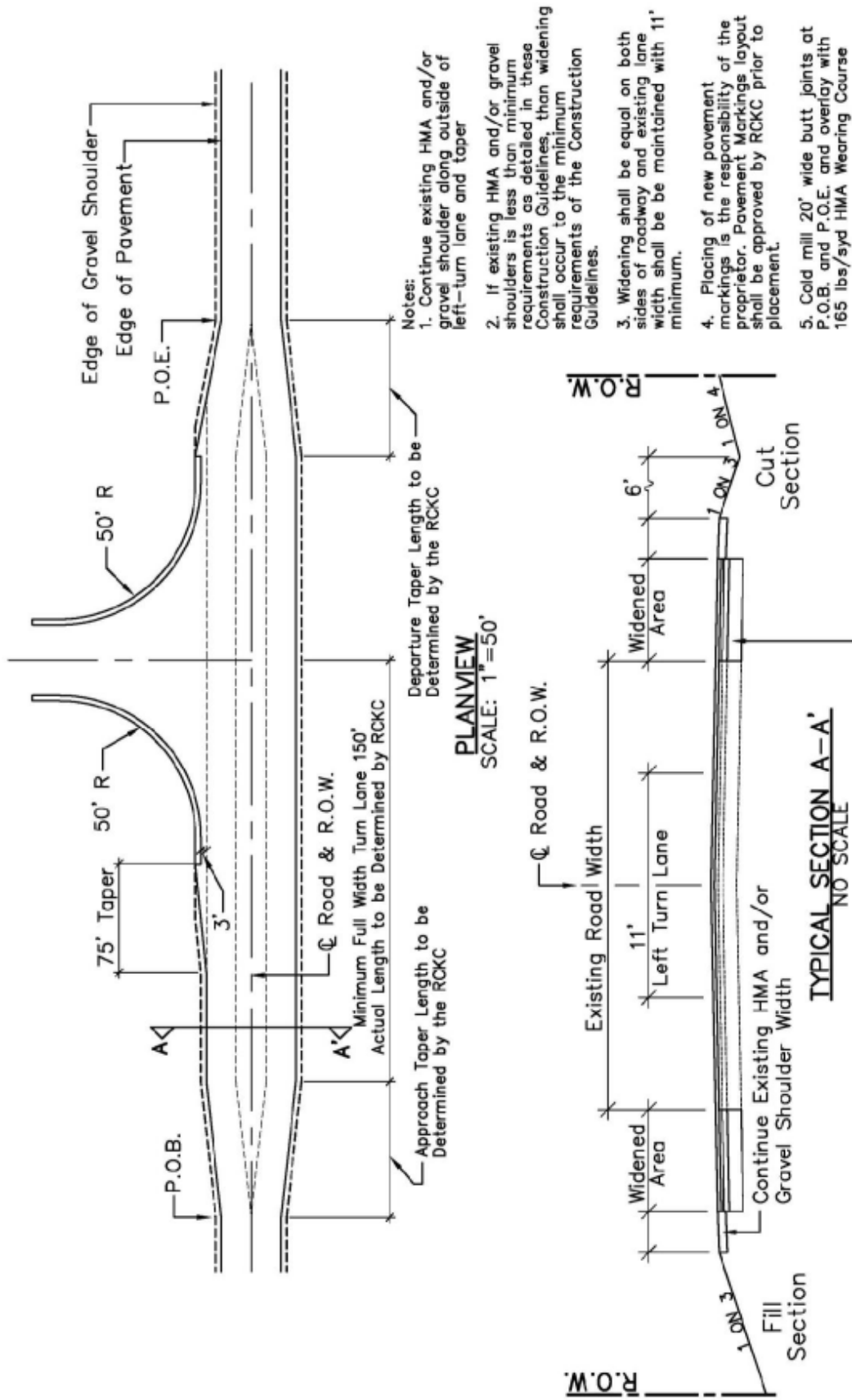
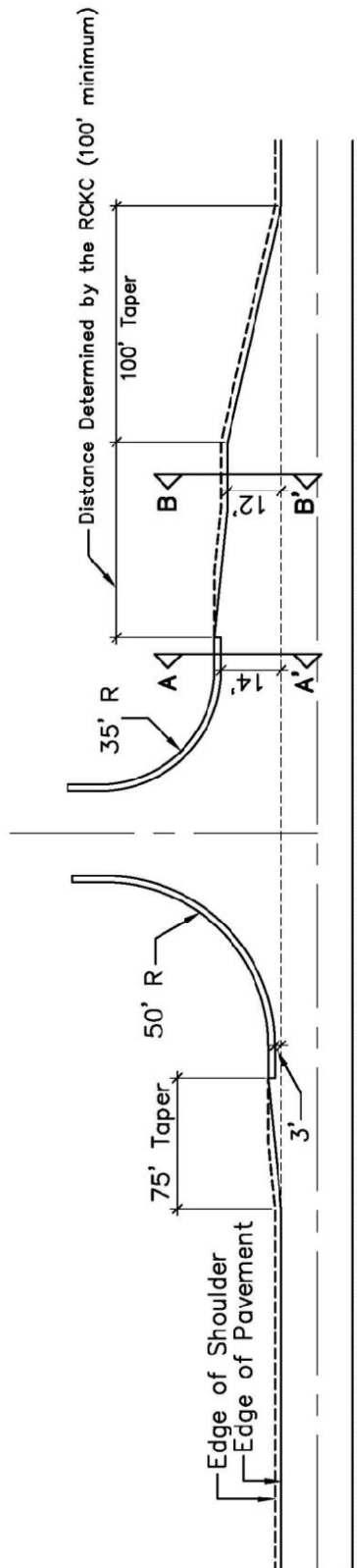


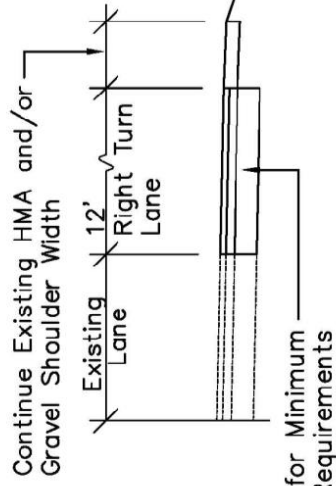
Figure 12

Right Turn Lane and Taper

Minimum Design Requirements

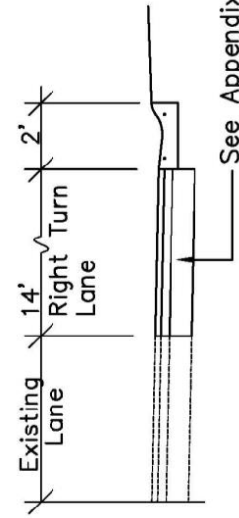


PLANVIEW
SCALE: 1"=50'



TYPICAL SECTION B-B'
NO SCALE

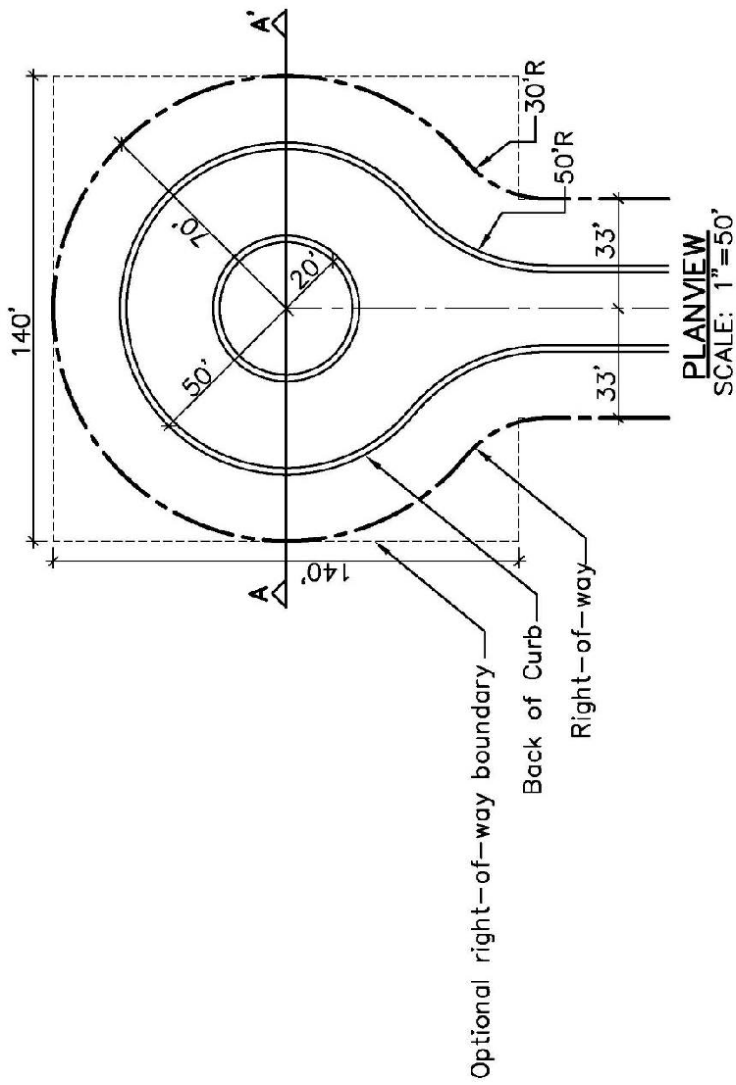
- Notes:
1. Continue existing HMA and/or gravel shoulder along outside of right-turn lane and taper
 2. If existing HMA and/or gravel shoulders is less than minimum requirements as detailed in these Construction Guidelines, then widening shall occur to the minimum requirements of the Construction Guidelines.
 3. Placing of new pavement markings is the responsibility of the proprietor. Pavement Markings layout shall be approved by RCKC prior to placement.
 4. Cold mill 20' wide butt joints at P.O.B. and P.O.E. and overlay with 165 lbs/syd HMA Wearing Course



TYPICAL SECTION A-A'
NO SCALE



Figure 13
Cul-De-Sac Turnaround
 Minimum Design Requirements



- Notes:
1. Alternate configurations of the turnaround will be allowed if found to be acceptable for traffic maneuvering.
 2. Center island optional for residential roads only.

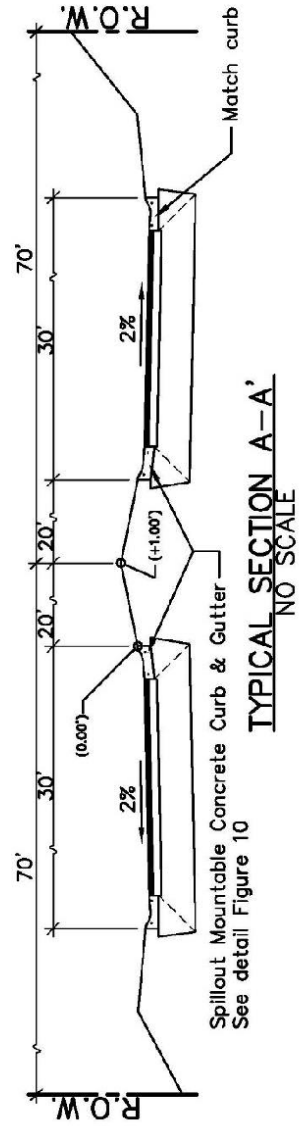
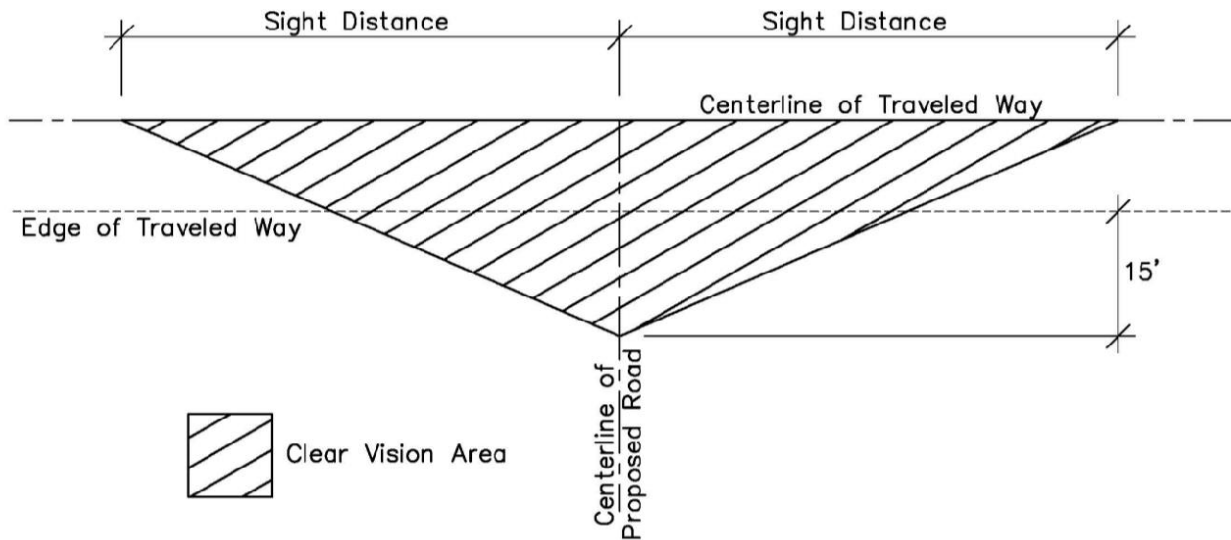


Figure 14

Clear Vision Area Requirements

Minimum Design Requirements



Requirements for proposed roads intersecting existing Kalamazoo County Roads

To provide for adequate vision, all obstructions must be removed or minimized within the clear vision area. Sight distance, looking each way from the proposed road centerline, must be measured from an eye height of 3.5 feet to an object height of 3.5 feet above the roadway centerline. The eye height at the proposed road centerline must be positioned 15 feet from the edge of the traveled way.

The following information is based on the 85th percentile speed.

Distance requirements for the Clear Vision Area are:

25 MPH = 280 FT	45 MPH = 500 FT
30 MPH = 335 FT	50 MPH = 555 FT
35 MPH = 390 FT	55 MPH = 610 FT
40 MPH = 445 FT	

Referencing the current AASHTO Policy on Geometric Design of Highways

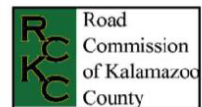
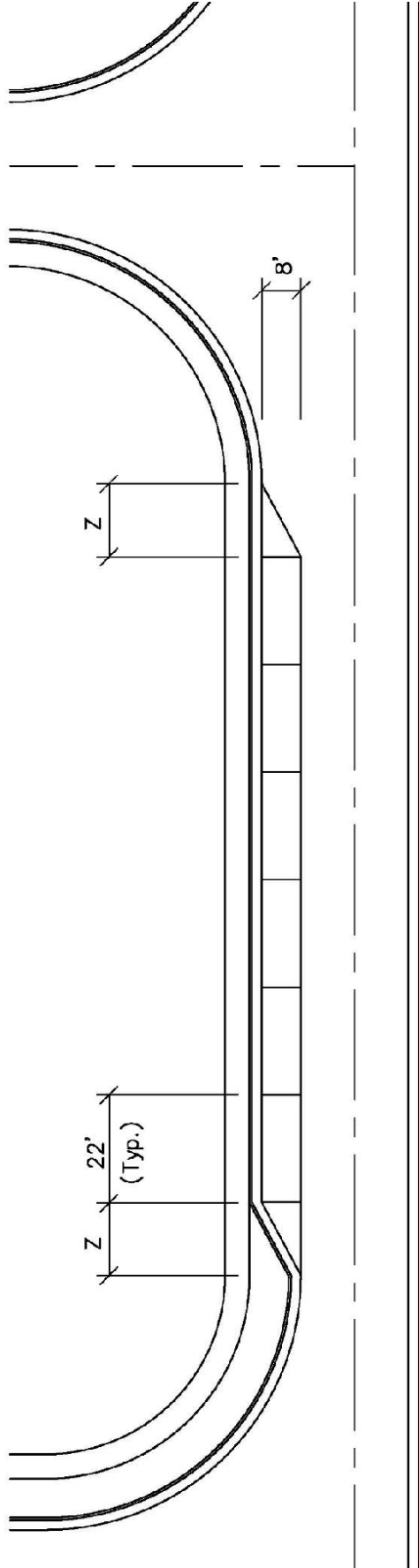


Figure 15
On Street Parking
 Minimum Design Requirements



TYPICAL ON STREET PARKING DESIGN

SCALE: 1"=30'

- Notes:
1. All parking zone markings shall be 4 inch white lines.
 2. Spaces shall not be designated for special purposes such as handicapped or loading zones
 3. Painting of curb will not be allowed.

Intersection Type	"Z" (FT)
No Traffic Control, No Crosswalk	15
No Traffic Control, With Crosswalk	20
Traffic Control Present	30
See Section 257.674 of the Michigan Vehicle Code for more information	



Figure 16

Typical Roundabout Design

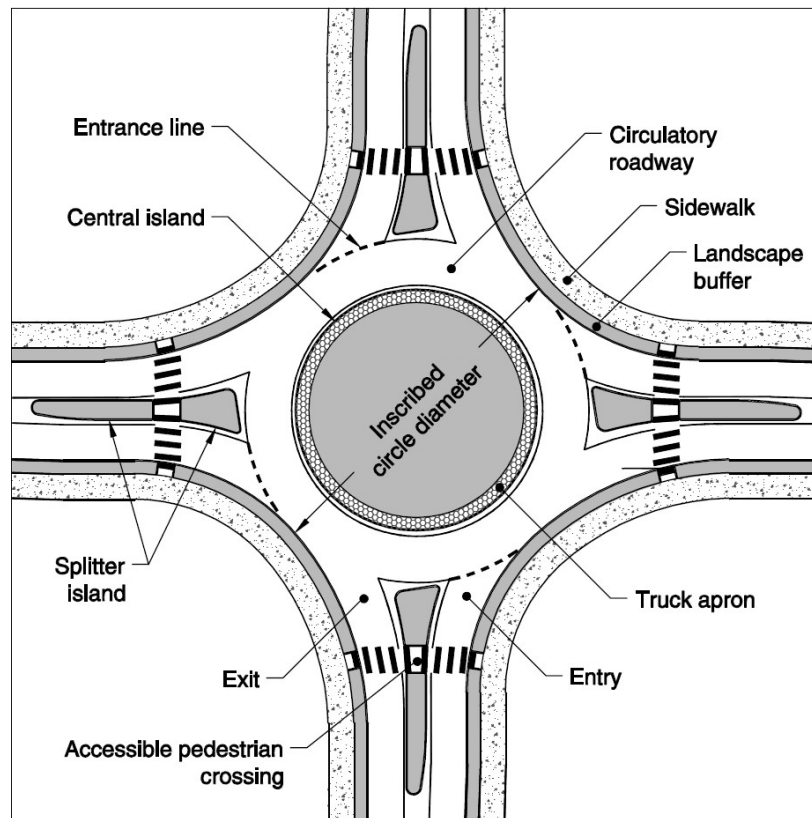


Exhibit 6-2 from NCHRP Report 672

RCKC Design Guidance for Roundabouts

The following are some basic design guidelines for RCKC roundabouts. For detailed design parameters, the designer should be familiar with NCHRP Report 672 Roundabouts : An Informational Guide and the MDOT Roundabout Design Aid. Before starting design of a roundabout, the designer should meet with RCKC engineers to discuss design goals.

- Typical inscribed circle diameter range: 95 feet to 140 feet for a single lane roundabout.
- Splitter islands: should be 50 feet to 100 feet in length and mountable. Islands should be 6 foot wide at any pedestrian refuge areas.
- The central island shall be mountable with truck aprons as necessary. A raised island in the center is preferred for signage.
- Truck aprons may be required around the roundabout depending on anticipated truck turning movements.
- Cross slopes should be 1.5% to 2.0% toward the outside of the roundabout.
- A red colored concrete is typically used on all islands and mountable surfaces to provide visual contrast for motorists.

SAMPLE FORMAT FOR LETTER OF CREDIT

Letter Head of Lending Institution

Today's Date

To: Board of County Road Commissioners of Kalamazoo County
3801 E. Kilgore Road
Kalamazoo, MI 49001

Dear Commissioners:

We hereby establish our Irrevocable Letter of Credit No. _____, and hereby authorize the Road Commission of Kalamazoo County to draw on us at sight for the amount of Proprietor's name and address up to a total amount of _____, \$ _____.

Funds are available hereunder in an amount not exceeding in the aggregate \$ _____, for the completion of construction of name of development in the Township of _____.

This Letter of Credit will expire on date.

All drafts shall be marked "Drawn under Letter of Credit of Name of Proprietor, No. _____, dated _____,"

We hereby agree with the drawers, endorsers, and bona fide holders, that all drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored on due presentation to the drawers on or before expiration date.

The original Letter of Credit shall be presented to us upon drawing hereunder.

All required fees will be paid for by: name of proprietor.

Signature and Title of Authorized Personnel _____

SAMPLE COMPLETION ESCROW AGREEMENT

THIS AGREEMENT has been entered into by and between the Board of County Road Commissioners of the County of Kalamazoo, whose address is 3801 East Kilgore Road, Kalamazoo, MI 49001 (the "Road Commission"), and the undersigned(s) ("Proprietor").

RECITALS

A. Proprietor is developing real property, including a road or roads intended to be dedicated to the Road Commission as public, which real estate and road(s) are described on **Exhibit A** attached hereto ("Property" and "Road", respectively). Proprietor has submitted a written request to utilize the escrow procedure for completion of the Road pursuant to Section VIII. of the Road Commission's Procedures, Guidelines, and Specifications for Developing Public Roads ("Escrow Procedures");

B. Article IX of the Escrow Procedures provides for the escrow of funds or provision of a letter of credit by Proprietor until such time as the Road is properly completed and approved for final acceptance;

C. Proprietor agrees to provide the Road Commission with either a cash escrow or an irrevocable letter of credit, as set forth below, which is intended by the parties to be held by the Road Commission to secure proper completion and final approval of the Road.

AGREEMENT

In consideration of the foregoing, and intending to be legally bound, the parties agree as follows:

1. Remaining Improvements. The work to be completed to finish the Road ("Improvements") is set forth on **Exhibit B** attached hereto.

2. Escrow of Funds. The Road Commission hereby acknowledges receipt from Proprietor of the "Funds" identified on **Exhibit B**, which represents 175% of the approved contract costs of the remaining improvements and the cost to develop as-built plans if not furnished as of the date hereof. The Funds have been provided in the form of either:

- Cash or cash equivalent; or
- Irrevocable letter of credit with an expiration date of not more than one year from the date of its issuance ("Letter of Credit").

3. Deposit of Funds. The Funds, if paid in cash or cash equivalent, shall be held by the Road Commission in such interest-bearing bank accounts as it, from time to time, may deem appropriate. All interest earned on the deposit shall inure to the benefit of Proprietor provided that it timely and properly completes the Improvements, and in all other respects complies with this Agreement and the Procedures.

4. Payment to Proprietor. The Letter of Credit may be terminated, as applicable, upon completion of the Improvements and final approval of the Road. The Road Commission, however, shall not be liable for any loss or impairment of funds due to bank failure, insolvency, or suspension. Completion shall be deemed to have occurred at such time as the Road has been approved by the County Engineer (as defined in the Procedures) and the Road Commission grants final acceptance. Completion of the development shall occur within one year of the date hereof, unless circumstances arise

that the Road Commission determines to be justification for extending this period. In no case shall this period exceed two years, and the deposit of the Funds shall be extended by the same period.

5. Maintenance. The Proprietor shall maintain the Road within the Property until completion of the Road as set forth in the preceding paragraph. Maintenance of the Road shall include all aspects of maintenance including, but not limited to, snow and ice removal as well as soil erosion and sedimentation control.

6. Non-completion. If the completion of the Improvements shall not have occurred on or before one year from the date hereof (unless such period is extended by the Road Commission pursuant to paragraph 4 above) the Funds, and any interest earned thereon, may be utilized by the Road Commission and applied to payment for completion of the Road. In such event, if the Funds are inadequate to pay for completion of the Road; the Proprietor shall reimburse the Road Commission for all costs and expenses actually incurred in completion of the Improvements which exceeds the amount of the Funds.

7. Indemnity & Insurance. The Proprietor agrees to indemnify, defend and hold the Road Commission, its agents, officers, Board members and employees, harmless from any claims, which may be made against them for damages arising from the use of roads within the Property that have not been accepted into the County Road System. Until completion of the Improvements and final acceptance of the Road by the Road Commission, the Proprietor shall maintain liability insurance in accordance with the Road Commission's liability insurance requirements in effect as of the date hereof. A copy of the insurance policy and certificate of insurance naming the Road Commission as an additional insured shall be filed with the Road Commission by the Proprietor.

8. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Michigan.

9. Severability. If any part of this Agreement or the Procedures are found to be invalid, such invalidity shall not affect the validity of the remaining portions of this Agreement or the Procedures.

10. Compliance with Court Order. The Proprietor hereby authorizes and directs the Road Commission to accept, comply with, and obey any and all writs, orders, judgments or decrees entered or issued by any court with jurisdiction over the improvements; and in case the Road Commission obeys or complies with any such writ, order, judgment or decree of any court, it shall not be liable to any of the parties hereto or any other person, by reason of such compliance, notwithstanding that any such writ, order judgment or decree be subsequently reversed, modified, annulled, set aside or vacated. In case the Road Commission becomes a party to any suit or proceedings regarding this Agreement or the Improvements, the Proprietor, for themselves, their heirs, personal representatives, successors and assigns, jointly and severally, agree to pay to the Road Commission, upon written demand, all costs, reasonable attorney's fees, and expenses incurred with respect hereto. If the costs, fees and expenses are not paid, then the Road Commission shall have the right to reimburse itself out of the Funds.

11. Counterparts. This Agreement and any written amendments hereto, may be executed in counterparts, each of which shall be deemed an original and all such counterparts together shall constitute one and the same instrument.

12. Notices. All notices required or permitted hereunder and all notices of change of address shall be deemed sufficient if personally delivered or sent by registered mail, postage prepaid and return receipt requested, addressed to the recipient party at the applicable address shown herein. For purposes

of calculating time periods under the provisions of this Agreement, notice shall be deemed effective upon mailing or personal delivery, whichever is applicable.

13. Binding. This Agreement shall be binding upon and inure to the benefit of the parties and their respective legal representatives, successors and assigns. No party may assign any rights or duties under this Agreement without the prior written consent of the other parties, except as may be provided herein.

14. Amendment. This Agreement may not be altered or modified except by writing signed by all parties.

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of this ___day of ,
20_

[Execution page follows.]

SAMPLE

PROPRIETOR(S):

**ROAD COMMISSIONERS OF
KALAMAZOO COUNTY**

**Name:
Address:**

**By:
Its: Managing Director**

**Name:
Address:**

**Name:
Address:**

If executing on behalf of entity(ies):

Entity Name:

Entity Name:

Entity Address:

Entity Address:

Office(s) or position(s) of signatories:

Office(s) or position(s) of signatories:

State of incorporation, organization, etc:

State of incorporation, organization, etc

SAMPLE EXHIBIT A

(Legal descriptions)

The real property constituting the development under the Agreement is located in the Township of _____, Kalamazoo County, Michigan, and is further described as follows (or attach legal description):

The road or roads to be completed are located in the Township of _____, Kalamazoo County, Michigan, and are further described as follows (or attach legal description(s)):

SAMPLE EXHIBIT B

(Improvements)

Following is a description of the work necessary to complete the road or roads subject to the Agreement, including an estimate of the cost thereof (and/or attach plans, specifications and estimates) :

175% of the approved contract costs of the remaining improvements and the cost to develop as-built plans if not furnished:

\$ _____

APPENDIX B

CHECKLISTS OF PROCEDURES, GUIDELINES AND SPECIFICATIONS FOR DEVELOPING PUBLIC ROADS

CHECKLIST FOR PRELIMINARY REQUIREMENTS AND PLAN DEVELOPMENT

1. I have read and understand the RCKC Construction Guidelines Policy

 X
(signature)

Date: _____

2. Checklist for Preliminary Requirements and Plan Development submitted _____

3. Letter of transmittal submitted _____

4. Plan Review Fee submitted _____

5. Preliminary plan requirements

a. An electronic reproducible file (PDF or similar) of plans on 24 inches x 36 inches sheets

b. Plans signed and sealed by Registered Land surveyor or Professional Engineer _____

c. Plans drawn to scale not smaller than 1 inch = 200 feet horizontal,
1 inch =10 feet vertical _____

d. Sketch of proposed development including all non-motorized facilities
showing relationship to existing road system _____

e. Plans show proposed street layout with ROW dimensions _____

f. Street layout is compatible with existing street system _____

g. Street layout provides for continuous circuit _____

h. Plans show layout of entire parcel from which proposed
development is taken and tied down to section and/or
1/4 section lines using bearings and distances _____

i. Property owners of unplatted land within 300 feet of development
boundaries are identified with names and parcel numbers _____

j. All existing streets, streams, lakes, cemeteries, railroad tracks,
county drains, and any other applicable features are shown _____

k. Zoning of all abutting land is shown _____

l. Contours are shown using USGS datum at not more than 4 foot intervals _____

m. Centerline profile of intersected public road is shown for a distance
of 600 feet in both directions from development entrance _____

- n. Section and 1/4 section line roads are centered on section or 1/4 section lines _____
- o. No lot access on primary roads, minimum lot access on local roads _____
- p. No out lots; access streets for development of adjoining parcels is provided as required for future development _____
- 6. Minimum ROW requirements.
 - a. Residential development roads 66 feet _____
 - b. Residential development roads — Boulevard 100 feet _____
 - c. Commercial development roads 66 feet _____
 - d. Commercial development roads — Boulevard 120 feet _____
 - e. Primary roads 100 feet _____
 - f. County local roads 100 feet _____
 - g. A dedicated ROW on the side of existing county road adjacent to the development is equal to at least ½ the minimum width as listed above _____
 - h. A private easement for public utilities is shown _____
- 7. Preliminary design criteria
 - a. Intersection legs have 100 feet straight-away and meet at 90° angle _____
 - b. Centerline-to-centerline of intersections is not less than 266 feet primary and/or local roads _____
 - c. Proposed cul-de-sacs are provided with written justification and are approved by County Engineer _____
- 8. Clear vision area at public road is free of obstructions and encroachments _____
- 9. Left or rightturn lane required by County Engineer _____
- 10. No private reserve strips of land will be allowed _____
- 11. Submit cover letter requesting Preliminary Plat Approval by the Board of County Road Commissioners of the County of Kalamazoo. _____
- 12. An [application and agreement for non-motorized facilities](#) has been submitted _____

Note: In accordance with PA 288 of 1967(Amended by Act. No. 525 of 2004) Preliminary Plat Approvals are granted by the Board of County Road Commissioners of the County of Kalamazoo. Site Condominiums and Planned Unit Developments (PUD's) are not subject to the PA 288 process.

CHECKLIST FOR CONSTRUCTION REQUIREMENTS AND PLAN DEVELOPMENT

1. I have read and understand the RCKC Construction Guidelines Policy

 X
(signature)

Date: _____

2. Checklist for Construction Requirements and Plan Development submitted _____

3. Construction plan requirements

a. An electronic reproducible PDF file (PDF or similar) of construction road and drainage plans on 24 inches x 36 inches sheets _____

b. Application for permit to work in the ROW _____

c. Cover sheet for plans including:

- Name of development _____
- Index of sheets _____
- Location of proposed development in relationship to existing public roads _____
- Proprietor company name, responsible person's name, address, phone and email address _____
- Signed and sealed by Professional Engineer registered in the State of Michigan _____

d. Letter of approval for all proposed street names _____

e. Plans drawn to scale not smaller than 1 inch = 50 feet horizontal, 1 inch = 5 feet vertical _____

f. Plans and profile views shown for all proposed streets and all non-motorized facilities _____

g. Typical cross section of all proposed streets shown, including all non-motorized facilities _____

h. Permanent RCKC benchmark installed and shown on plans, or temporary benchmark established and shown on plans, using USGS datum _____

i. Soil boring logs and locations one (1) for every 500 feet of road, three (3) minimum shown on plans _____

j. SESC Plan Sheet included _____

k. Plan notes as follows: All unsuitable material shall be removed to a depth of 2 feet below top of subgrade or as directed by the County Engineer and backfilled with MDOT Granular Material Class III. _____

And

All work shall comply with the provisions of Part 91 of the Erosion and Sedimentation Control Act of the Natural Resources and Environmental Protection PA 451 of 1994, as amended, and as administered by the KCDC, or local jurisdiction.

- 4. Locations of proposed utilities meets RCKC requirements as outlined in these guidelines _____
- 5. Minimum road design criteria
 - a. Proposed road cross sections on plans as shown in Figures 1, 2, 3, 4, 5, 6, 7, 8 and 9 and approved by the County Engineer _____
 - b. Maximum street grade of no more than 7%, or other approved grade _____
 - c. Minimum street grade of 0.75% for concrete curb, or 1% for HMA curb. _____
 - d. Minimum grade of 1.25% along gutter flow line of cul-de-sac turnaround Intersection approach grades are per page 40, paragraph 4. _____
 - e. Data for all horizontal and vertical curves shown on the plans _____
 - f. Horizontal curves shall have a minimum of 165 feet centerline radius. 90° curves shall have a minimum of 45 feet inside-edge-of-pavement radius. _____
 - g. All intersections shall have a minimum edge-of-pavement radius of 25 feet _____
 - h. Approved turnarounds shall meet design criteria as shown in Figure 13, [Appendix A](#), or approved alternative _____
 - i. While meeting minimum requirements, horizontal and vertical road design shall be to as high a standard as is appropriate _____
 - j. Pavement design submitted (commercial roads only) _____
- 6. Drainage system requirements
 - a. Storm sewer system design calculations, submitted with the construction plans
 - 1. Design criteria used _____
 - 2. Sketch of drainage areas _____
 - 3. Storm basin sizing — volume required — volume provided _____
 - 4. Storm system outlet at least 2 feet higher than bottom elevation of basin _____
 - b. Storm drainage system underground _____
 - c. Storm sewer meets requirements of KCDC _____
 - d. Storm sewer design based on minimum 10-year storm of 20 minutes _____

- duration and not less than 30% imperviousness _____
- e. Storm sewer has positive outlet to natural low area or constructed discharge area If leaching basins are approved for use, include in storm sewer design calculations _____
- f. Storm sewer pipe is of concrete or smooth-lined corrugated-plastic pipe conforming to MDOT specifications _____
- g. Storm sewer pipe is 12 inches in diameter or larger _____
- h. Details of all proposed drainage structures are shown, 2 feet sumps required for mainline drainage structures _____
- i. All lengths, types, sizes, percent of grades, depths and locations of all drainage structure and pipes are shown _____
- j. Drainage structures are provided at the highest side of radii where water may cross intersection _____
- 7. Requirements for crossroad culverts and bridges
 - a. Crossroad culverts and bridges meet AASHTO and MDOT specifications and are approved by County Engineer _____
 - b. Proposed crossroad culverts are not less than 15 inches in diameter _____
 - c. All necessary permits for crossings have been obtained from agency having jurisdiction over the watercourse involved _____
 - d. In accordance with requirements of MDOT, scour analysis supplied for structures with natural stream bottom _____
- 8. Proposed street lighting poles are no closer than 6 feet to back-of-curb and gutter and are of a breakaway design _____
- 9. All proposed materials conform to current MDOT and/or RCKC specifications _____
- 10. Variations from minimum design standards or specifications approved by County Engineer _____
- 11. If right-turn lane and taper is required, minimum design requirements in Figure 12, [Appendix A](#), are met. _____
- 12. If left-turn lane is required, minimum design requirements in Figure 11, [Appendix A](#), are met _____
- 13. Traffic control plans per MMUTCD are shown on the plans _____
- 14. Signing & pavement marking plans provided (if necessary) _____

15. Proposed non-motorized facilities are shown on the plans and appropriately placed in relation to the roadway

16. Letter received for approval for street names from Kalamazoo County Department of Planning & Community Development

CHECKLIST FOR GENERAL REQUIREMENTS

After construction plan approval and prior to the beginning of construction

1. I have read and understand the RCKC Construction Guidelines Policy

 X
(signature)

Date: _____

- 2. Checklist for General Requirements submitted _____
- 3. Permit to work in the ROW in place _____
- 1. Proof of liability insurance submitted _____
- 4. Preconstruction meeting scheduled _____
 - Progress schedule submitted _____
 - Inspection fee paid _____
 - Written permission document for grading beyond property line submitted _____
- 5. Traffic control construction signing in place _____

Final Acceptance

- 2. HMA paving complete and approved _____
- 3. All road and drainage construction complete and approved _____
- 4. Landscape restoration complete and approved _____
- 5. Clear vision area clean of all obstructions _____
- 6. If construction is not completed:
 - All required documentation submitted and approved, such as utility installation permits, drainage agreements/easements, and hold-harmless/maintenance agreements for boulevards _____
 - Escrow arrangement accepted by RCKC _____
 - Letter of credit or cash escrow submitted in the amount of 175% of the estimated cost to complete construction _____
- 7. If temporary turnaround is constructed:
 - Temporary easement supplied _____
 - Cash escrow or letter of credit submitted in the amount of 175% of the estimated cost to complete construction or the turnaround _____
- 8. Letter of understanding from Proprietor concerning SESC control responsibilities _____

- 9. Reproducible mylar as-built plans submitted, CAD as-built plans furnished _____
- 10. Driveway restrictions are noted on pertinent recorded document _____
- 11. All requested material test reports are submitted (e.g. pipe testing)
- 12. RCKC permanent benchmark installed _____
- 13. An [application and agreement for non-motorized facilities](#) has been approved _____
- 14. If development is not to be platted the following items are required
 - Land within ROW deeded to RCKC, title insurance included _____
 - All documentation outlined in checklist for Non-Platted Developments submitted and accepted by County Engineer _____

CHECKLIST FOR REQUIRED LEGAL DOCUMENTS FOR NON-PLATTED DOCUMENTS

- 1. Checklist for Required Legal Documents for Non-Platted Developments submitted _____

- 2. This a condominium, site condominium, or land-split development.
A copy of the Master Deed and any amendments or a draft of the proposed Master Deed have been supplied. _____

- 3. The developer has considered the creation of a Homeowners Association with mandatory, automatic membership upon becoming a member. _____

The Homeowners Association will make provisions for dues and/or assessments from owners to provide a fund from which to pay costs related to the duties and obligations of maintenance and upkeep set forth in the agreement with the RCKC. _____

- 4. A drainage agreement shall be required if the KCDC office does not accept responsibility for storm sewer and appurtenances located outside the ROW. _____

The Master Deed or Homeowners Association Agreement includes a system to handle the duties and obligations of maintenance and upkeep set forth in the agreement with the RCKC for the future. _____

Someone has been designated to bear responsibility for current and/or future maintenance and upkeep duties for storm water discharge areas and easements. _____

It has been decided who will be allowed to discharge storm water into the designated area: RCKC, developer/landowner, adjacent land owners. Someone has been designated to maintain liability insurance in the future as set forth in the agreement with the RCKC. _____

Names and addresses of all owners of land that are relevant to the drainage agreement have been submitted. _____

- 5. All legal descriptions are complete, accurate and drafted in a recordable manner. Required descriptions for Drainage Agreement: _____
 - a. Entire developer parcel. _____
 - b. All pertinent roads. _____
 - c. The storm water discharge areas. _____
 - d. The continuous or connecting parcels. _____
 - e. All easements. _____

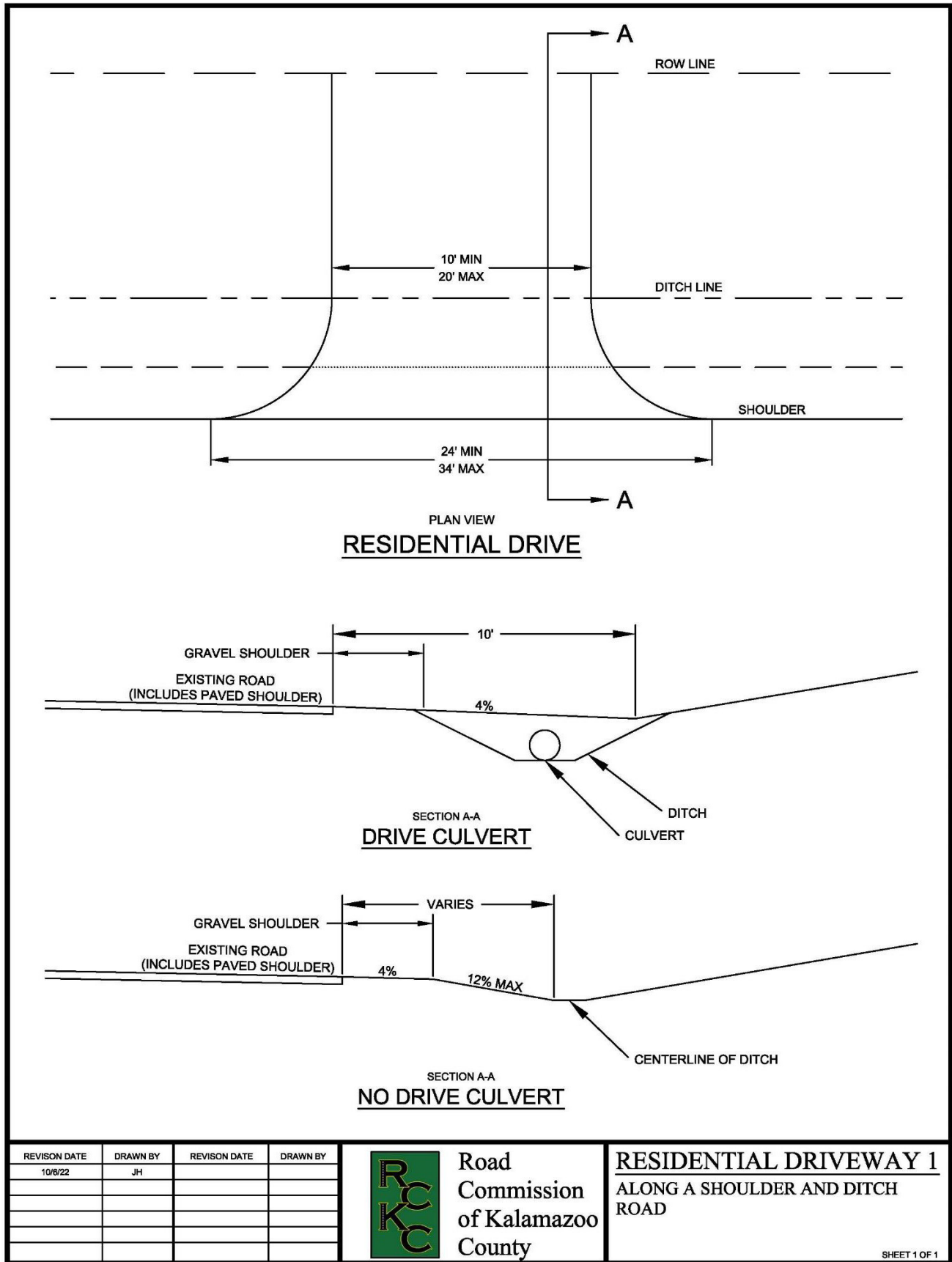
- 6. All exhibits to documents are titled as shown here. _____

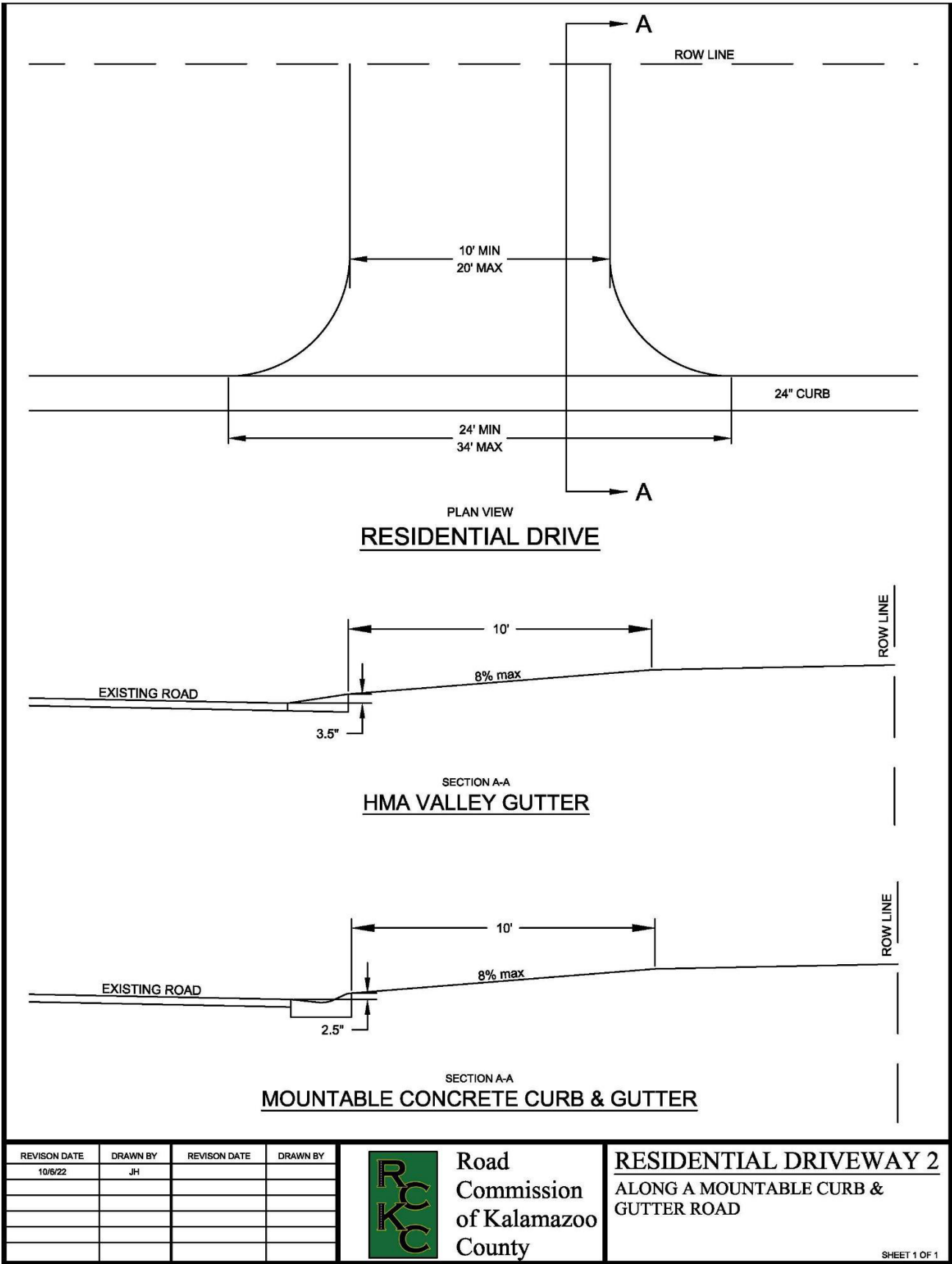
APPENDIX C

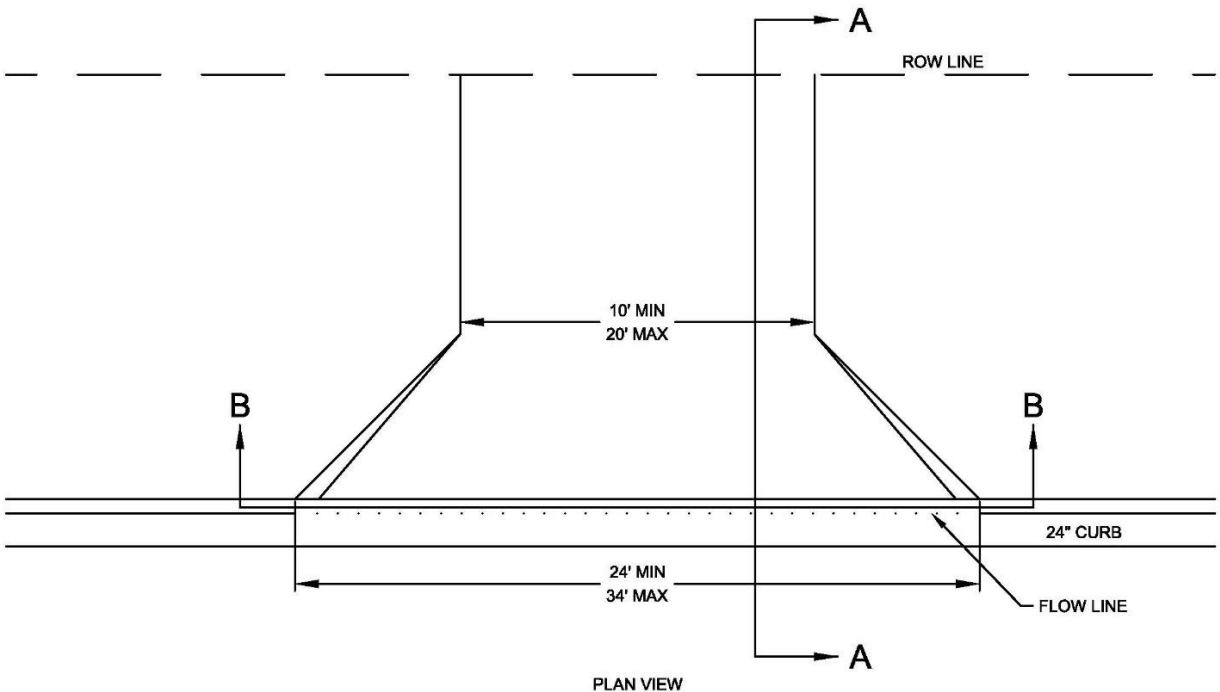
EXAMPLE DRIVEWAY SKETCHES

INDEX OF PAGES

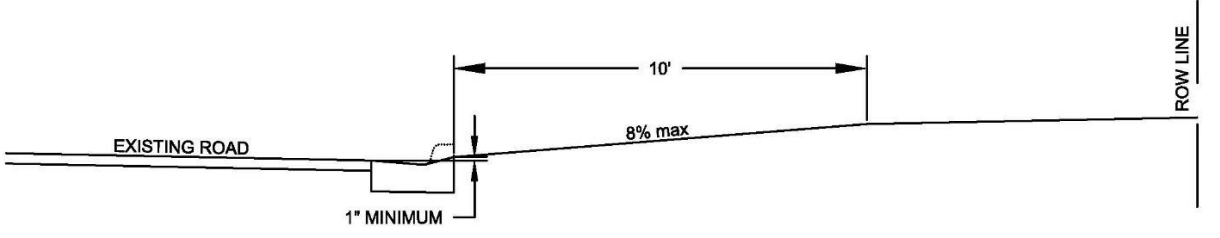
	<u>Page Number</u>
Residential Driveway 1 – Along a shoulder and ditch road	109
Residential Driveway 2 – Along a mountable curb and gutter road	110
Residential Driveway 3 – Along a high-back curb and gutter road	111
Commercial Driveway 1 – Along a shoulder and ditch road without a right turn lane	112
Commercial Driveway 2 – Right turn lane without curb & gutter along a shoulder & ditch road	113
Commercial Driveway 3 – Right turn lane with curb & gutter along a shoulder & ditch road	114
Commercial Driveway 4 – Along a curb & gutter road without a right turn lane	115
Commercial Driveway 5 – Right turn lane with curb & gutter along a curb & gutter road	116



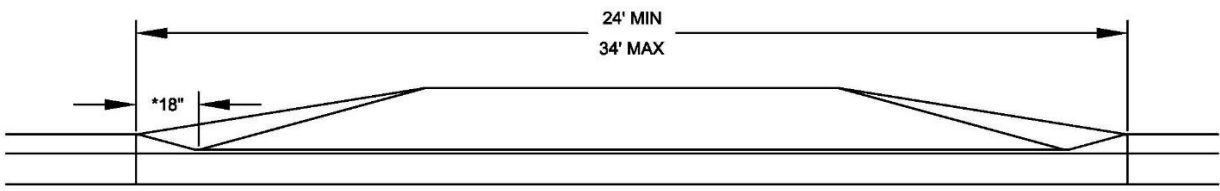




PLAN VIEW
RESIDENTIAL DRIVE



SECTION A-A
HIGH-BACK CURB & GUTTER



SECTION B-B
HIGH-BACK CURB & GUTTER

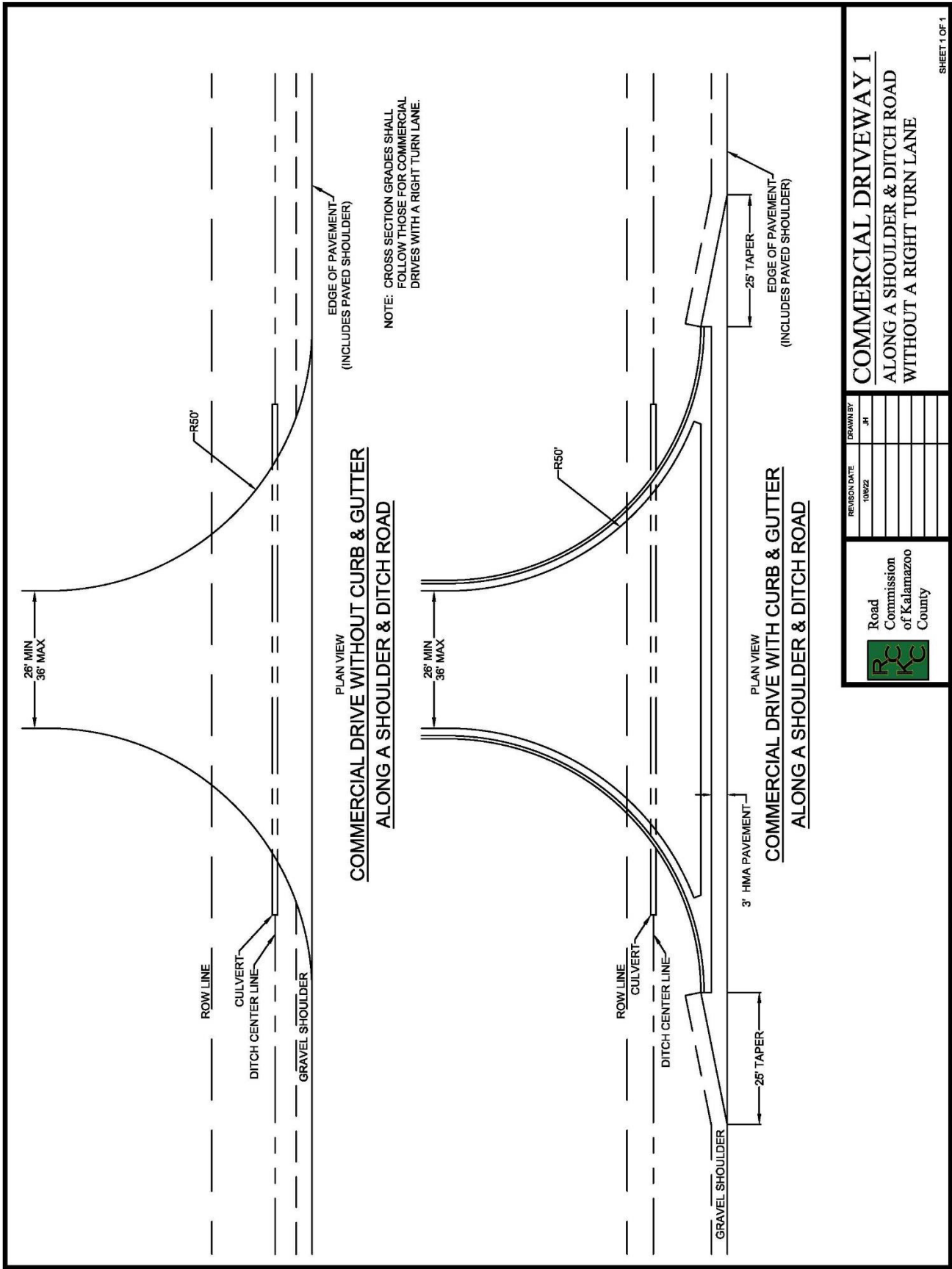
* If sidewalk is located adjacent to the back of curb, this distance must be adjusted so the slope along the top of curb does not exceed 8.3%

REVISION DATE	DRAWN BY	REVISION DATE	DRAWN BY
10/8/22	JH		



Road Commission of Kalamazoo County

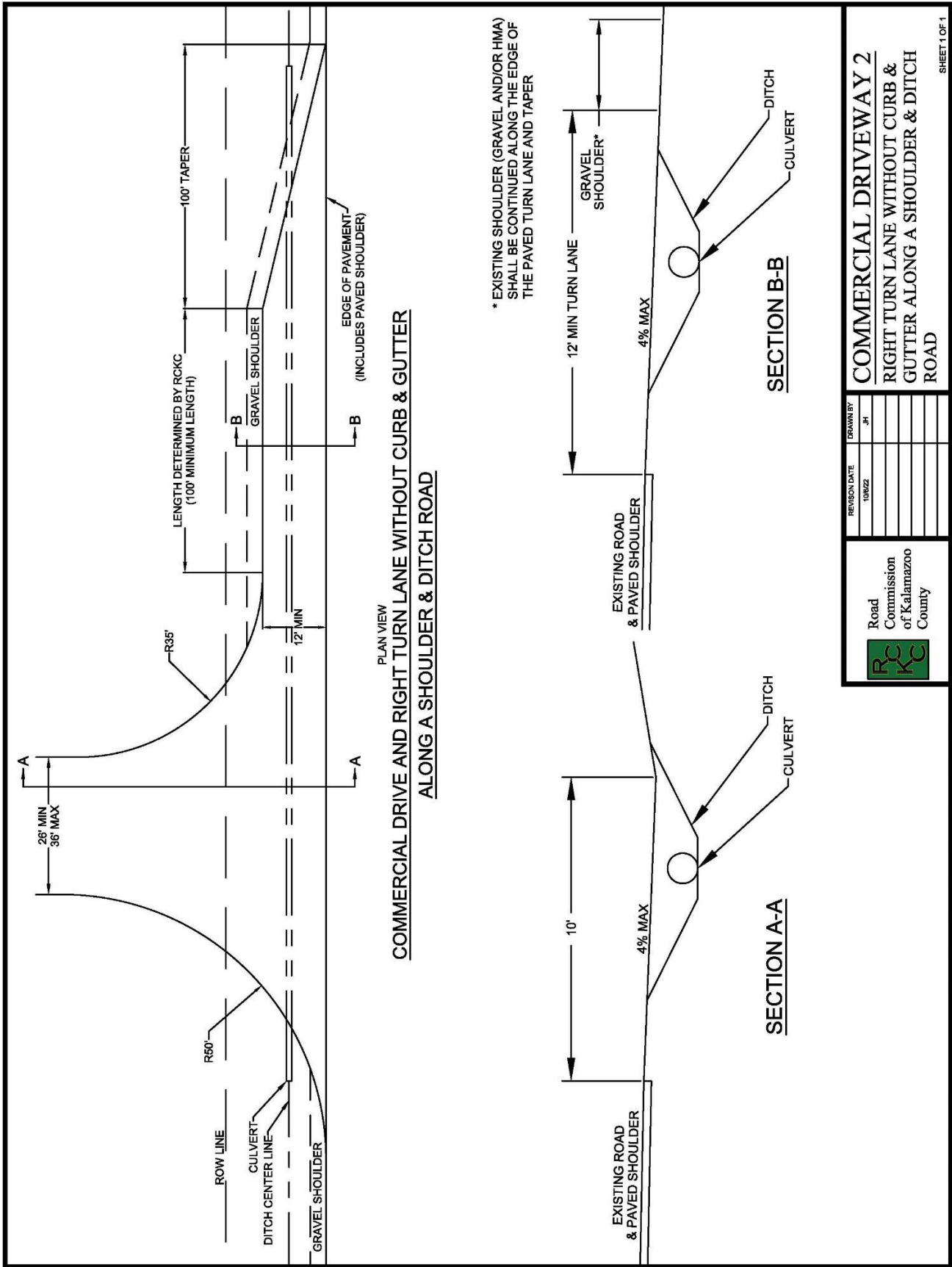
RESIDENTIAL DRIVEWAY 3
ALONG A HIGH-BACK CURB & GUTTER ROAD




COMMERCIAL DRIVEWAY 1
ALONG A SHOULDER & DITCH ROAD
WITHOUT A RIGHT TURN LANE

REVISION DATE	DRAWN BY
10/22	JH





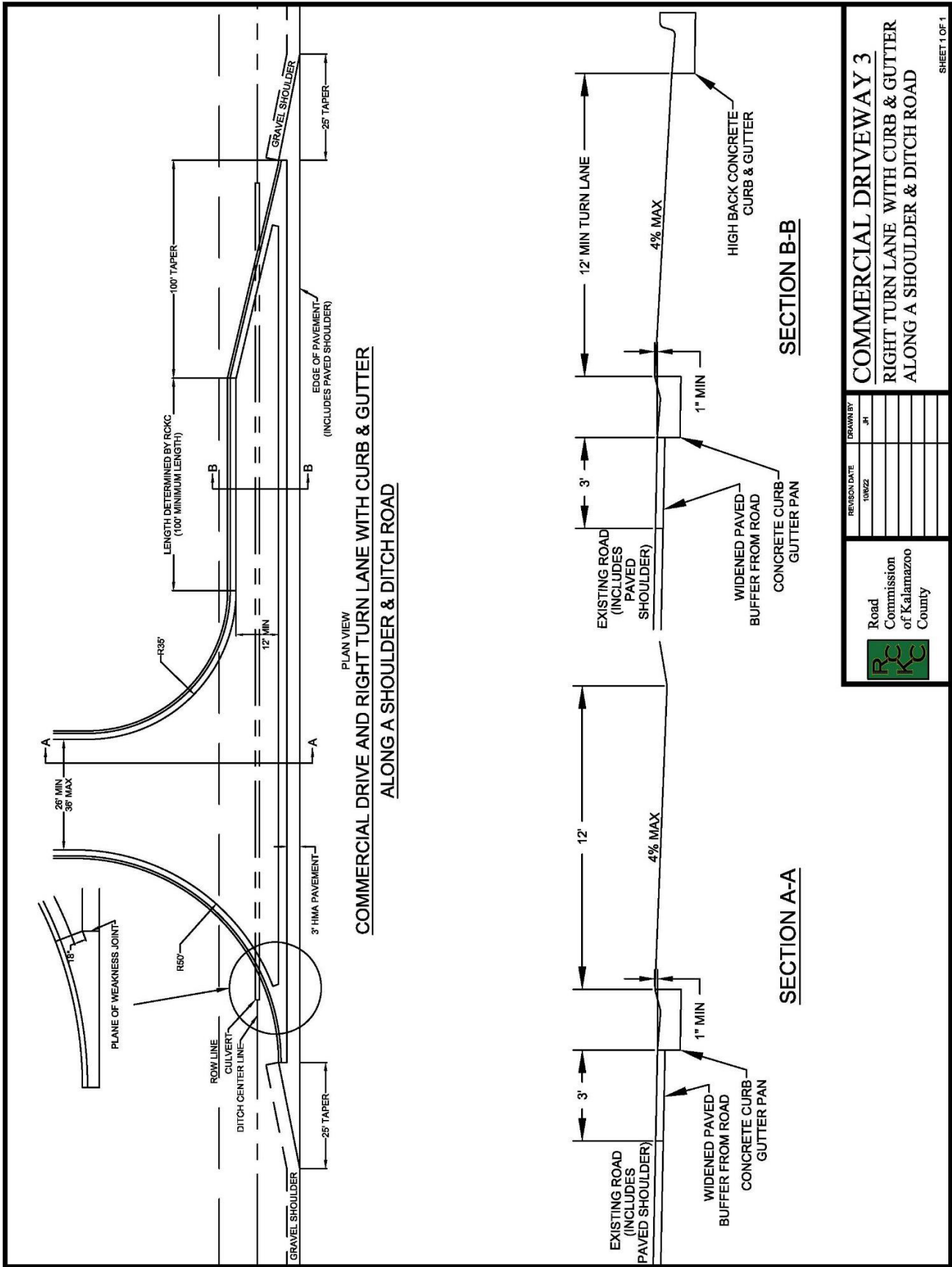


Road
Commission
of Kalamazoo
County

REVISION DATE	DRAWN BY
10/22	JH

COMMERCIAL DRIVEWAY 2

RIGHT TURN LANE WITHOUT CURB &
GUTTER ALONG A SHOULDER & DITCH
ROAD





Road
Commission
of Kalamazoo
County

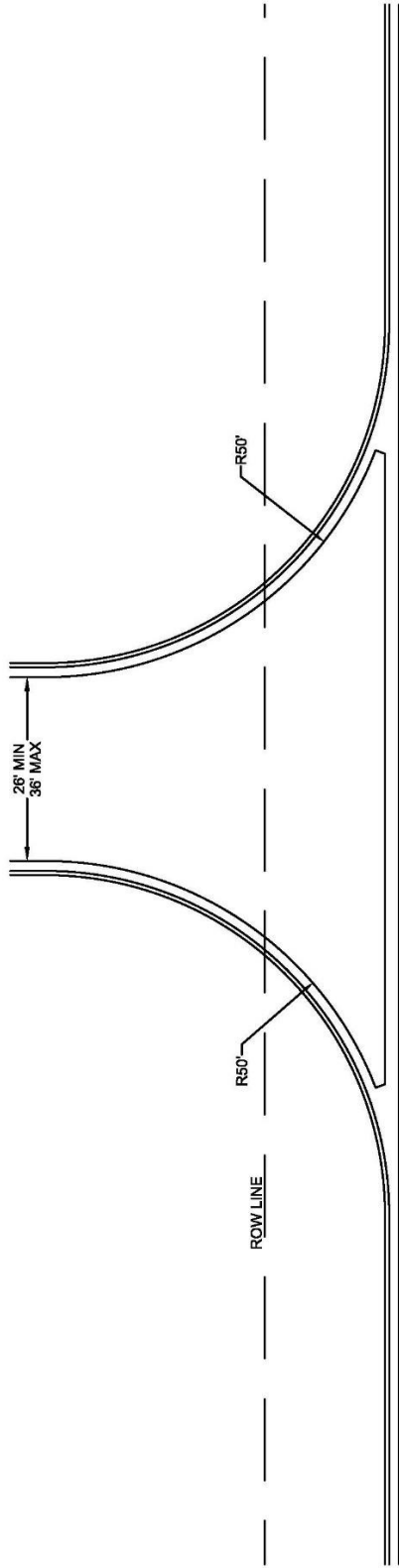
REVISION DATE	DRAWN BY
10/22	JH

COMMERCIAL DRIVEWAY 3

RIGHT TURN LANE WITH CURB & GUTTER

ALONG A SHOULDER & DITCH ROAD

SHEET 1 OF 1



PLAN VIEW
COMMERCIAL DRIVE WITH CURB & GUTTER
ALONG A CURB & GUTTER ROAD

NOTE: CROSS SECTION GRADES SHALL FOLLOW THOSE FOR COMMERCIAL DRIVES WITH A RIGHT TURN LANE.

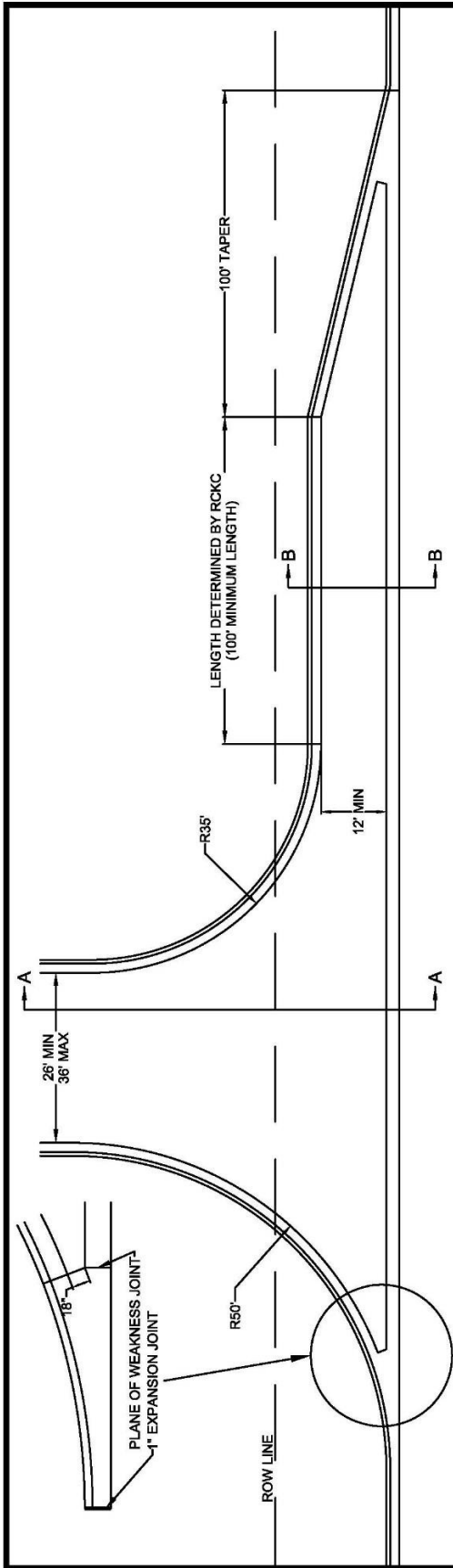


Road
 Commission
 of Kalamazoo
 County

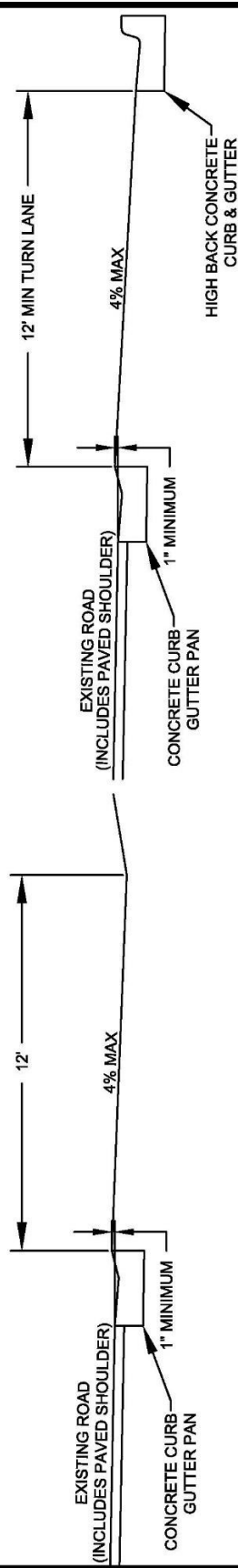
REVISION DATE	DRAWN BY
10/22	JH

COMMERCIAL DRIVEWAY 4
 ALONG A CURB & GUTTER ROAD
 WITHOUT A RIGHT TURN LANE

SHEET 1 OF 1



PLAN VIEW
**COMMERCIAL DRIVE AND RIGHT TURN LANE WITH CURB & GUTTER
 ALONG A CURB & GUTTER ROAD**



SECTION B-B

SECTION A-A



Road
Commission
of Kalamazoo
County

REVISION DATE	DRAWN BY
10/22	JH

COMMERCIAL DRIVEWAY 5
 RIGHT TURN LANE WITH CURB & GUTTER
 ALONG A CURB & GUTTER ROAD

SHEET 1 OF 1

APPENDIX D

UTILITY LOCATIONS WITHIN THE ROW

PRIMARY ROAD AND THROUGH LOCAL ROADS

- Telephone, fiber optic, or cable television lines, when hung or buried separately from the gas and electrical facilities, shall be located within the area 0 to 5 feet off the westerly or southerly ROW lines. Telephone, fiber optic, or cable television lines, when hung or buried with gas and electrical facilities, shall be located within the area 5 feet to 7 feet off the westerly or southerly ROW lines.
- Gas and electric lines shall be located within the area 5 feet to 7 feet off the westerly or southerly ROW lines.
- Water main shall be located within the area 10 feet to 12 feet off the easterly and northerly ROW lines.
- Gravity sanitary sewer shall be located within 6 feet east or north of the road centerline. The manhole casting shall be placed 5 to 6 feet east or north of the road centerline.
- Force main sanitary sewer shall be located in the area between the road curb and westerly or southerly ROW lines. In no case may it be closer than 10 feet to the edge of pavement
- Storm sewer shall be located under the curb line, generally 13-12 feet to 17 feet west or south of the ROW centerline.

LIMITED ACCESS, SECTIONS OF SPRINKLE ROAD

- Telephone, fiber optic, or cable television lines, when hung or buried separately from the gas and electrical facilities, shall be located within the area 0 to 5 feet off the west ROW line. Telephone, fiber optic, or cable television lines, when hung or buried with gas and electrical facilities, shall be located within the area 5 feet to 7 feet off the west ROW line.
- Gas and electric lines shall be located in the area 5 feet to 7 feet off the west ROW line.
- Water main shall be located in the area 5 feet to 7 feet off the east ROW line.
- Gravity sanitary sewer shall be located within 10 feet off the east ROW line.
- Force main sanitary sewer shall be located in the area 10 feet off the west ROW line

PRIVATE UTILITIES

- Private utilities shall not be permitted within the ROW.

APPENDIX E

MINIMUM ROAD CROSS SECTION REQUIREMENTS

RESIDENTIAL ROADS

190 lbs / syd (1 3/4 inches) RCKC HMA Mix 36A, Mod. Wearing Course
250 lbs / syd (2 1/4 inches) RCKC HMA Mix 13A Mod. Leveling Course
8 inches CIP MDOT 22A or MDOT 21AA Aggregate Base (as approved by County Engineer)
24 inches CIP MDOT Granular Material Class III Subbase

COMMERCIAL ROADS

220 lbs / syd (2 inches) RCKC HMA 13A Mod. or 36A Mod. Wearing Course (as approved by County Engineer)
220 lbs / syd (2 inches) RCKC HMA 13A Mod. Leveling Course
220 lbs / syd (2 inches) RCKC HMA 13A Mod. Base Course
8 inches CIP MDOT 22A Aggregate Base
24 inches CIP MDOT Granular Material Class III Subbase

Or

6 inches MDOT Grade 3500 Reinforced Concrete Pavement
8 inches CIP MDOT 22A Aggregate Base
24 inches CIP MDOT Granular Material Class III Subbase

COUNTY LOCAL ROADS & COUNTY PRIMARY ROADS

220 lbs / syd (2 inches) RCKC HMA 13A Mod. or 36A Mod. Wearing Course (as approved by County Engineer)
220 lbs / syd (2 inches) RCKC HMA 13A Mod. Leveling Course
220 lbs / syd (2 inches) RCKC HMA 13A Mod. Base Course
8 inches CIP MDOT 22A Aggregate Base
24 inches CIP MDOT Granular Material Class III Subbase

Note: The leveling course for County Local Roads may be omitted depending on design of the roadway and if approved by the County Engineer.

GRAVEL ROADS

Full surface width shall be removed to a minimum depth of 8 inches and replaced with MDOT 22A aggregate
24 inches of CIP MDOT Class III granular material

APPENDIX F

DRIVEWAY PERMIT APPLICATION CHECKLIST

I have read and understand the RCKC Construction Guidelines Policy

X

(signature)

Date: _____

GENERAL

- Submitted Driveway Permit Application Checklist with plans
- Submitted an Application to [Construct, Operate, Use and/or Maintain Within the Right-of-way, Or to Close, A County Road](#) for constructing a new driveway or changing an existing driveway
- Paid fee
- North arrow
- Road ROW labeled
- Property lines
- Existing physical features (e.g. trees, shrubs, highway pavement, fire hydrants, shoulders, ditches, utility poles, service boxes, etc.)
- Show all existing and proposed driveways with:
 - Widths and distance from property lines
 - Radii of turns
 - Angle of drive to centerline
 - Dimension of adjacent traffic lanes
 - Driveway surface material
- Distance from each existing and proposed driveway to:
 - Nearest intersecting street
 - Nearest driveway on adjacent property
 - Street or drive opposite the site
 - Unobstructed site distance to approaching traffic
- Drainage structures and culverts
- Depth of ditch
- Direction of surface water flow
- No additional water is being diverted to ROW
- Drainage structures protected from damage and sedimentation
- Soil erosion and sedimentation control meet requirements: include standard details of measures on plan
- If culvert is required – it is installed inline at the same grade as the ditch and meets standards
- NO headwalls allowed
- Culverts over 30 inch diameter require steel end sections

LOW USE AND TEMPORARY (if applicable)

- Driveways for cultivated/undeveloped land or utility structures are allowed every 1,000 feet
- Can be gravel or paved. If soil erosion is an issue – driveway must be paved
- Site distance determined by RCKC
- Temporary driveway permitted for a maximum of 12 months for a specific purpose

COMMERCIAL (if applicable)

- Show existing and finish contours and grades (contours at no more than 4 foot intervals)
- Show how stormwater will be retained
- 24 inches x 36 inches plans at a scale of at least 1 inch = 50 feet horizontal and 1 inch = 5 feet vertical
- Only ONE driveway is permitted – unless waived b/c of supporting evidence
- Site distance requirements are met
- Passing lane/turn lane has been determined if necessary (if yes, see requirements)
- Show internal traffic circulation
- Existing and proposed buildings shown with dimensions
- Type of pavement, thickness, and specifications of pavement shown on plans
- Within the ROW:
 - 220 lbs / syd (2 inches) RCKC HMA 13A Mod. or 36A Wearing Course*
**as determined by the County Engineer*
 - 220 lbs / syd (2 inches) RCKC HMA 13A Mod. Leveling Course
 - 220 lbs / syd (2 inches) RCKC HMA 13A Mod. Base Course
 - 8 inches CIP MDOT 22A Aggregate Base
 - 24 inches CIP MDOT Granular Material Class III Subbase
- OR
 - 6 inches MDOT Grade 3500 Reinforced Concrete Pavement
 - 3 inches CIP MDOT 22A Aggregate Base
 - 24 inches CIP MDOT Granular Material Class III Subbase
- Driveway widths: 26 feet minimum and 36 feet maximum (excluding radii)
- Radii in the ROW are a minimum 50 feet
- Curb cut is replaced with concrete gutter and expansion joints at road curb
- Auxiliary lanes and tapers may need culverts with cleanouts every 300 feet

RESIDENTIAL (if applicable)

- When frontage \leq 300 feet only one driveway is permitted (unless waived)
- Driveway edge must be at least 115 feet from ROW of nearest cross street
- If frontage is greater than 300 feet then up to two driveways are allowed
- Corner parcels may have a driveway on both cross streets unless only one is a low speed and low volume road – then the driveway must be on that road
- Site distance requirements are met
- Driveways at 0%-4% slope may be concrete, gravel or HMA
Driveways at greater than 4% slope must be concrete or HMA
- Driveway material thickness:
 - Gravel – minimum 8 inches compacted stabilized gravel
 - HMA – 3 inches of asphalt placed in two layers over 6 inches compacted gravel base
 - Concrete – 6 inches non-reinforced concrete on 2 inches compacted gravel base-OR-
 - Concrete – 4 inches reinforced concrete on 2 inches compacted gravel base
- Minimum driveway width = 10 feet / Maximum driveway width = 20 feet
- Driveway apron must be flush or lower than roadway and slope back at 4%
- Shoulder at same level as driveway
- Curb cut must retain 1 inch high back curb lip. Opening must be no more than 45 degrees
- Driveway slope can be no greater than 8% w/out a sidewalk and no greater than 10% w/ a sidewalk

APPENDIX G

EXCEPTION FROM CONSTRUCTION GUIDELINES

EXCEPTION FROM CONSTRUCTION GUIDELINES REQUEST SUBMITTAL

An exception from the stated procedures, guidelines and specifications may be requested. Such a request must be in writing with a form supplied by the RCKC. This written request shall include sufficient detail and supporting material to consider a reasonable justification for the request.

All request for an exception submittals must include the non-refundable fee. The current amount of the fee can be found in the [Schedule of Fees](#). Approval of an exception request is not granting of a permit. All necessary permit documentation, reviews and fees will be required to be submitted following a decision on the exception request.

STAFF DECISION OF EXCEPTION REQUEST

The completed exception request shall be submitted to the County Engineer for consideration prior to preliminary or construction plan approval. Although instances may arise that requests for an exception may be submitted after the plan approval, in such instances the plans shall be resubmitted with the approved revisions. Please allow 10-14 business days for review and processing of an exception request. Once a decision has been reached at the staff level, the County Engineer shall provide a written response to the request for an exception.

APPEAL OF STAFF DECISION ON EXCEPTION REQUEST

If the County Engineer does not grant the request for an exception, that decision may be appealed to the Board. A written request including sufficient detail to support a reasonable justification for the request shall be submitted to the RCKC. A exception will be allowed by the Board only in cases involving practical difficulties or unnecessary hardship and when the record on the appeal to the Board supports the following affirmative findings:

1. The hardship or difficulties, or both, are exceptional or unique to a given site.
2. Allowing the exception will result in substantial justice being done, considering the benefit to the public and the individual hardships that will be suffered by a failure of the Board to grant the exception.
3. The conditions and circumstances, which are the basis of the exception request, shall not be self-imposed.

EXPIRATION OF GRANTED EXCEPTION REQUEST

If an exception has been granted and the construction authorized with the exception has not commenced within one year from the date of its approval, the exception will be automatically rescinded. Any submitted fees shall not be refunded and the exception request process shall start over if construction is still desired to continue.

REQUEST FOR EXCEPTION FROM CONSTRUCTION GUIDELINES

The goal of the Board of County Road Commissioners of the County of Kalamazoo (Board) is using our expertise, energy and funds to provide the safest and most convenient road system possible. All requests for deviations from Policy shall keep these objectives in mind.

Date: _____

Note to Applicant: *Please pay careful attention to answer the questions in the application as accurately and completely as possible. If Board action is necessary, this will give you the best possibility of your application appearing on the earliest agenda.*

Should the request need to go before the Board, the applicant will be advised of the date, time and location of the meeting and is requested to present a verbal summary of the request to the Board.

A non-refundable fee of \$990.00 must accompany your application.

Applicant Name: _____

Address: _____

Property Address (if different than above): _____

Daytime Phone: _____

Legal Description of Property:** _____

Permanent Parcel (Tax) Number: _____

Briefly State the Requested Exception (Citing the specific section(s) of the Construction Guidelines from which you are seeking an exception):**

** (Use Attachments if Necessary)

Please check all the items below which are applicable to your request for exception:

- ___a. The situation which causes you to seek an exception does not result from any action of yours.
- ___b. A grant of the exception would do substantial justice to you as well as to other property owners and will not be of substantial detriment to neighboring properties.
- ___c. The request for exception is based upon conditions and circumstances described on the attached sheet which are unique to your property and not generally applicable to others in your area.
- ___d. Compliance with the Construction Guidelines/Policy would unreasonably prevent you from using the property or would be unnecessarily burdensome.

Narrative Statement:

Please attach a narrative statement setting forth:

- a. What you wish to do with the property.
- b. Why you need the exception.
- c. The specific decision you seek.
- d. The reason your project cannot be accomplished within the requirements of the construction guidelines/driveway policy.
- e. All the alternatives that have been sought and reviewed prior to seeking the exception request.

Site Plan:

Submit an electronic reproducible file (PDF or similar) of a detailed, **scaled** site plan showing the nature of the exception request, including, but not limited to: property boundaries, existing and proposed structures, the distance from the property lines of each existing and proposed driveway, and show and label nearest cross street(s). *Additional information may be required by the County Engineer.*

The Board may attach conditions to the granting of an exception.

Please be advised that substantial steps toward effecting the exception must be taken within twelve (12) months of approval of an exception, or the exception will become null and void per Appendix G of the Road Commission of Kalamazoo County Construction Guidelines.

Date: _____

Signature of Applicant

Print Name

Signature of Property Owner
(If Different from Applicant)

Print Name



APPENDIX H

TRAFFIC IMPACT STUDIES

The RCKC recognizes the direct correlation between land use decisions and traffic operations. The Permittee's proposed project or development, and its needs for access, will create traffic impacts on the public roads. The intent of these procedures and regulations is to provide a framework for proper evaluation and remediation of those impacts. In order that the RCKC may continue to meet its statutory duty to maintain roads under its jurisdiction in reasonable repair, so as to be reasonably safe and convenient for public travel, the RCKC may require, as a permit condition, the completion by the Permittee's engineer of a Traffic Impact Study. This study will further promote the following objectives:

- A. Provide a standard set of analytic tools and format for traffic impact analysis.
- B. Provide a consistent and comprehensive approach to the overall impact of development on the public roads.
- C. Allow the community to assess the effects that a proposed project may have on the transportation network by outlining information needed and evaluation procedures to be used.
- D. Promote reasonably safe and convenient traffic operating conditions on roads and intersections after development of a proposed site.
- E. Reduce the negative traffic impacts created by individual developments, in the interests of the public and of the development, by helping to ensure that the transportation system can accommodate the expected traffic safely and efficiently.
- F. Realize a comprehensive approach to the overall impacts of various developments along a corridor or within part of a community rather than a piecemeal approach.
- G. Provide direction to governmental agencies and developers of expected impacts of a project.
- H. Alert the community, governmental agencies, and developers to the need for improvements or modifications to the road, access or site design.
- I. Protect the substantial public investment in the existing road system by facilitating the RCKC ability to maintain roads under its jurisdiction as required by statute.

APPENDIX I

HELPFUL LINKS

KALAMAZOO COUNTY

[KCDC Site Development Rules](#)

[Kalamazoo County Department of Planning & Community Development](#)

[Best Management Practices - KCDC Soil Erosion and Sedimentation Control \(SESC\)](#)

[KCDC Section 433 Agreement](#)

ROAD COMMISSION OF KALAMAZOO COUNTY (RCKC)

[RCKC Permit Applications](#)

[RCKC Application to Construct, Operate, Use and/or Maintain Within the ROW, Or to Close, A County Road](#)

[RCKC Roadside Vegetation Management Policy](#)

[RCKC Accommodation of Mailboxes and Newspaper Delivery Boxes on County Road Right-of-Way Policy](#)

[RCKC Schedule of Fees](#)

[RCKC Insurance Requirement Policy](#)

[RCKC Driveway Permit Application](#)

[RCKC Driveway Permit Application Information](#)

[RCKC Transportation Permits](#)

[RCKC Non-Motorized Facilities Policy, Application, and Agreement](#)

MDOT

[MDOT National Truck Network and Special Designated Highways](#)

[MDOT Standard Specifications for Construction 2020](#)

[MDOT Geometric Design Guidance Section 1.1.4 and 1.1.5 \(excluding references to passing flares\)](#)

[MDOT Special Detail Index](#)

LEGISLATURE

[PA 300 of 1949 Michigan Vehicle Code](#)

[MCL 257.719a Michigan Vehicle Code](#)

[MCL 257.722 Michigan Vehicle Code](#)

[MCL 257.725 Michigan Vehicle Code](#)

[PA 174 of 2013 Miss Dig Underground Facility Damage Prevention and Safety Act](#)

[PA 200 of 1969 Driveways, Banners, And Parades](#)

[MCL 247.327 Existing Driveways](#)

[PA 451 of 1994 Natural Resources and Environmental Protection](#)

[PA 288 of 1967 Land Division](#)

[MCL 560.183 Final Plat](#)

[PA 197 of 1975 Downtown Development Authority](#)

[PA 283 of 1909 Public Highways and Private Roads](#)

[MCL 224.19b Public Highways and Private Roads \(Excerpt\)](#)

[The National Truck Network](#)

[23 CFR 658 Truck Route Designations](#)

OTHER

[Institute of Transportation Engineers \(ITE\) Trip Generation Publications](#)

[Other agencies/municipalities](#)