

ROAD COMMISSION FOR OAKLAND COUNTY
PERMIT RULES, SPECIFICATIONS AND GUIDELINES



ROAD COMMISSION FOR OAKLAND COUNTY

DEPARTMENT OF CUSTOMER SERVICES

PERMITS DIVISION

2420 PONTIAC LAKE ROAD

WATERFORD, MI 48328

JULY 8, 2021

**COPY OF RESOLUTION ADOPTED BY THE BOARD OF COUNTY
ROAD COMMISSIONERS OF THE COUNTY OF OAKLAND,
MICHIGAN, UNDER DATE OF JULY 8, 2021**

WHEREAS, Article VII, Section 29 of the Michigan Constitution of 1963 provides in part that no person operating a public utility shall have the right to the use of the highways, streets, alleys or other public places of any county for wires, poles, pipes, tracks, conduits or other utility facilities, without the consent of the constituted authority of the county; and further provides that, except as otherwise provided in that Constitution, the right of all counties to the reasonable control of their highways, streets, alleys and public places is reserved to such local unit of government;

WHEREAS, Act 283 of 1909 provides in part that a person shall not construct, operate, maintain or remove a facility or perform any other work within the right of way of a county road, except sidewalk installation and repair, without first obtaining a permit from the county road commission having jurisdiction over the road;

WHEREAS, ACT 200 of 1969 provides for regulation of driveways banners events and parades into, upon and over highways, and for the prescription of requirements, issuance of permits, and promulgation of rules therefor;

WHEREAS, Act 283 of 1909 and Act 200 of 1969 provide that the Board of County Road Commissioners may after a public hearing adopt requirements and rules, and

WHEREAS, the Board of County Road Commissioners of the County of Oakland has promulgated rules entitled "Road Commission for Oakland County Permit Rules, Specifications and Guidelines" for administration of aforesaid statutes;

WHEREAS, after the required public notice was published, a public hearing was held at the Board Meeting for the Road Commission for Oakland County on July 08, 2021, at which time there were no objections;

WHEREAS, this Board hereby determines that the rules as promulgated are consistent with the public safety and are based upon the traffic volumes, drainage requirements, and the character of the use of land adjoining the highways and other requirements of the public interest, and that the rules do prescribe reasonable standards for the design and the location of driveways; and

WHEREAS, from the findings of the Board it is deemed appropriate to adopt the aforementioned rules so as to regulate and manage activity in and affecting the public right of way, including without limitation, the installation construction, operation, maintenance, closure or removal of a facility or driveway, the installation, maintenance and removal of a banner, decoration or similar object overhanging the traveled way of a highway, the temporary closure of a highway or portion of a highway for a parade, celebration, festival or similar activity, or the performance of any other work or activity in or affecting the public right of way;

NOW, THEREFORE, BE IT RESOLVED, that:

1. The "Road Commission for Oakland County Permit Rules, Specifications and Guidelines" dated June 23, 2021, be and are hereby adopted.
2. All prior rules, standards and procedures conflicting with this resolution are hereby repealed.
3. The effective date of aforesaid "Road Commission for Oakland County Permit Rules, Specifications and Guidelines" shall be July 8, 2021.

I hereby certify that the above is a true and correct copy of a resolution adopted by the Board of County Road Commissioners of the County of Oakland, Michigan, under date of

Shannon J. Miller, Deputy-Secretary/Clerk of the Board

BOARD OF ROAD COMMISSIONERS FOR OAKLAND COUNTY

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COMMISSIONER

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COUNTY HIGHWAY ENGINEER

GARY PIOTROWICZ, P.E., P.T.O.E.

DIRECTOR OF DEPARTMENT OF CUSTOMER SERVICES

DAVID CZERNIAKOWSKI

INTRODUCTION

The following Rules apply to the issuance of permits for activities, other than ordinary public travel, being done in the Right-of-Way under the jurisdiction of the Road Commission for Oakland County. These Rules are made part of any permit issued by the Road Commission for Oakland County for these activities.

Questions regarding Construction Specifications or Standards may be directed to the Department of Customer Services - Permits Division at (248) 858-4835.

Application for permits may be made at:

**Department of Customer Services
Permits Division
Road Commission for Oakland County
2420 Pontiac Lake Road
Waterford, Michigan 48328**

**ROAD COMMISSION FOR OAKLAND COUNTY
PERMIT RULES, SPECIFICATIONS, AND GUIDELINES**

July 8, 2021

**Department of Customer Services
Permits Division**

Road Commission for Oakland County

2420 Pontiac Lake Road

Waterford, Michigan 48328

(248) 858-4835

TABLE OF CONTENTS

Page No.

Board Resolution i-iii

BOARD OF ROAD COMMISSIONERS FOR OAKLAND COUNTY iv

INTRODUCTION 1

TABLE OF CONTENTS 3-5

Part 1 GENERAL PROVISIONS

1.1	Activities that Require Permitting-----	6-7
1.2	Definitions -----	7-12
1.3	Preservation of Government Land Corner Survey Monuments-----	12-13
1.4	Compliance -----	13
1.5	Issuance of Work Authorizations-----	13
1.6	Revocation of Permits-----	13

Part 2 PERMITTING PROCESS

2.1	Authorized Applicant-----	14
2.2	Applications for Permit (s)-----	14
2.3	Plan Requirements for Proposed Right-of-Way Activity -----	14-15
2.4	Design and Placement Requirements -----	15
2.5	Conditions and Limitations of Permits -----	15-19
2.6	Review of Permit Denial or Request for Variance -----	19
2.7	Installation without Permit or in Non-Compliance with Permit Conditions-----	19-20
2.8	Liability, Indemnity, and Insurance-----	20
2.9	Permit Fees -----	20
2.10	Security for Road Restoration-----	21
2.11	Refunds of Application Fees, Permit Fees, Deposits, and Unused Balances	21
2.12	Interpretations and Approvals-----	21

Part 3 MAINTAINING TRAFFIC AND TRAFFIC CONTROLS

3.1	Signs and Signing -----	22
3.2	Lane Closures-----	22-42
3.3	Approval of Road Closures and Detour Routes -----	42-43
3.4	Detours and Temporary Routes -----	43-44
3.5	Steel Plating -----	44-45
3.6	Traffic Control Devices and Equipment -----	45

3.7	Guardrails -----	45
3.8	Pavement Markings-----	45

PART 4 TREE REMOVAL, TRIMMING, OR TUNNELING

4.1	Permit Requirements-----	46
4.2	Disposal of Materials -----	46
4.3	Tunneling or Boring Under Trees -----	46-47
4.4	Replacement of Trees-----	47

PART 5 UNDERGROUND CONSTRUCTION STANDARDS

5.1	Road Crossings-----	48-49
5.2	Pavement Removal-----	49-50
5.3	Backfilling and Compaction of Backfill -----	50-51
5.4	Pavement Replacement-----	52-54
5.5	Gravel Roads-----	54
5.6	Utility Structures -----	54-55
5.7	Depth of Utility Cover -----	55
5.8	Geophysical and Hydrogeological Investigations-----	55-57
5.9	Discharge of Storm Water from Private Property to Road Drainage System	57

Part 6 DRIVEWAY DESIGN STANDARDS

6.1	Driveway Locations and Grade-----	58-59
6.2	Clear Vision Areas, Buffer Areas, and Sight Distances -----	59-61
6.3	Definitions of Standard Driveway Dimensions-----	62-63
6.4	Standard Dimensions for Residential Driveways -----	63-64
6.5	Standard Dimensions for Commercial Driveways and Private Roads -----	64-66
6.6	Standard Dimensions for Utility Driveway Entrances -----	67
6.7	Auxiliary Lane and Taper Requirements -----	67-74
6.8	Paving and Curbing-----	75-76
6.9	Right-of-Way Drainage -----	77
6.10	Parking and Storage -----	77
6.11	Traffic Control Devices at Drive Approaches -----	77-78
6.12	Private Roads -----	78
6.13	Temporary Road Approaches-----	78

Part 7 RESTORATION

7.1	Shoulders-----	79
7.2	Beyond the Shoulders-----	79
7.3	Drainage Systems-----	80
7.4	Borings -----	80

Part 8 LANDSCAPING

8.1	Landscaping Requirements -----	81
8.2	Landscaping Guidelines -----	81-82
8.3	Non-Motorized Paths and Pedestrian Facilities -----	82-85

Part 9 BANNER PERMITS

9.1	Authorized Applicants -----	86
9.2	Application Forms -----	86
9.3	Minimum Requirements -----	86
9.4	Design and Placement Requirements -----	86-87
9.5	Conditions of Issuance of Banner Permits-----	87

Part 10 PARADES, CELEBRATIONS, AND FESTIVALS

10.1	Authorized Applicants -----	88
10.2	Application Forms -----	88
10.3	Minimum Requirements -----	88
10.4	Road Closure Permit Conditions -----	88-89
10.5	Annual Parade Permits -----	89

Part 11 SMALL WIRELESS FACILITIES

11.1-28.13	-----	90-119
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PART 1 GENERAL PROVISIONS

RULE 1.1 ACTIVITIES THAT REQUIRE PERMITTING

- 1.1.1 After the effective date of these Rules, no Person shall undertake or conduct any of the following activities on, within, beneath, or along county roads, county road Right-of-Way, or county road highway easements, unless and until the Road Commission for Oakland County's Department of Customer Services - Permits Division has issued a permit to allow such activity:
- (A) Construct, reconstruct, relocate, surface, widen, or resurface a driveway or private road connection to a county road, or pave, widen or modify a county road.
 - (B) Erect or suspend a banner, decoration, or similar object, with or without community approval.
 - (C) Close a section of a county road to normal traffic for any purpose, including without limitation, the staging of a parade, celebration, festival, movie shoot, or similar activity, even with community approval.
 - (D) Install place, or maintain any structures, facilities, landscaping, decorative items or obstructions, including without limitation, any speed humps, berms, barriers, plantings over 36 inches high, sprinklers, lights, signs, entrance markers, U.S. Postal Service approved mailbox structures, stones, boulders, fencing, poles, or any other such items.
 - (E) Place or store any equipment or materials on, or park any vehicles in, areas not designated for parking.
 - (F) Cut down, remove, trim, or tunnel under, any tree or trees.
 - (G) Install, repair, or maintain a non-motorized pathway.
 - (H) Install, maintain, or connect to any underground or overhead public or private utility, pipeline, wire, conduit, or sewer.
 - (I) Conduct geophysical or hydrological investigation.
 - (J) Any other activity which requires excavation in the Right-of-Way, working from the Right-of-Way to reach private property, or disruption of normal traffic patterns.
 - (K) Install, construct, modify, alter, remove, decorate or in any manner tamper with any traffic or pedestrian signal, sign, warning beacon or self powered warning system.
 - (L) Discharge of water, gravel, soil, or other such substance into the Right-of-Way.
- 1.1.2 Construction permitted within the Right-of-Way shall conform to the following specifications:
- (A) The current edition of the M.D.O.T. "Standard Specifications for Construction."
 - (B) The current edition of the "Michigan Manual of Uniform Traffic Control Devices."
 - (C) Road Commission for Oakland County: "Permit Rules, Specifications, and Guidelines."
 - (D) Road Commission for Oakland County: "Supplemental Specifications & Special Provisions."
 - (E) The current edition of the AASHTO: "Policy for Geometric Design of Highways and Streets."
 - (F) Road Commission for Oakland County: "Rules and Regulations for Plat Development."

- (G) The American with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, and their implementing regulations, guidelines and standards.
- (H) Michigan Public Act 53 of 1974 (MISS-DIG), and all applicable OSHA and MIOSHA laws and regulations, including any ANSI standards adopted by MIOSHA.

1.1.3 No Person shall construct a road approach to a county road without first obtaining a permit for the approach from the Department of Customer Services, Permits Division. Construction of the approach, tapers, passing lane, and, if the new road is intended to become a county road, the new road itself, shall be in accordance with Approved Plans therefor and the specifications approved by the Subdivision Improvement Division of the Engineering Department of the Road Commission for Oakland County. Geometric and construction standards shall conform as applicable to the current “Rules and Regulations for Plat Development” approved by the R.C.O.C.

1.1.4 When the use of the land served by the driveway is changed or expanded, and the change or expansion causes the existing driveway to be a safety concern, the driveway will be considered a new driveway subject to Act 200 of 1969, as amended by Act 83 of 1978, being MCL 247.321 et seq. Factors that constitute a safety hazard shall include, but are not limited to, the following:

- (A) Increased accident rate at or near driveway or Private Road.
- (B) Increased traffic volume on main road.
- (C) Increased turning movements using driveway or Private Road.
- (D) Improper drainage.
- (E) Inadequate Sight Distance.
- (F) Excessive grades of driveway.
- (G) Improper driveway design for use.
- (H) Creation of a potential risk of harm to the traveling public.

RULE 1.2 DEFINITIONS

1.2.1 **A.A.S.H.T.O.**

The American Association of State Highway and Transportation Officials.

1.2.2 **A.D.A.**

The Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, and their implementing regulations, guidelines and standards.

1.2.3 **APPLICANT**

A Person who applies for a permit to construct, install, operate, maintain or remove a facility or utility, or to perform any other activity, other than ordinary public travel, within the Right-of-Way of a county road; for a permit to use the Right-of-Way of a county road for purposes other than ordinary public travel; for a permit to cut down, remove, trim or tunnel under, a tree in the Right-of-Way or which would impact the Right-of-Way; or for a permit to temporarily close a county road or a part thereof. Applicant includes without limitation, a Property Owner, or a Property Owner’s authorized legal agent who applies for a permit to connect a “driveway” to a county road pursuant to Act 200 of 1969, as amended (MCL 247.321 et seq.); or an authorized government official applying for a permit to temporarily close a county road for a parade, celebration, festival or similar activity pursuant to the same Act 200.

1.2.4 **APPROVED EXCAVATED MATERIAL**

Material excavated from within the Right-of-Way or from elsewhere (excluding peat, marl, muck, silt, blue clay, frozen material, topsoil, and other organic or hydric soils), that has been classified, optimum moisture and maximum density determined, that meets the criteria set forth in Rule 5.3.1(E) below, that has been tested, and that has been approved by the R.C.O.C. as acceptable for backfill material.

1.2.5 **APPROVED PLANS**

Plans and drawings submitted by the Applicant and approved by the R.C.O.C. as part of permit approval. Approved Plans include notes and comments made by the R.C.O.C. Approved Plans do not include contracts, proposals and other documents, unless specifically noted in the permit or approved by the R.C.O.C.

1.2.6 **BANNER**

Any arrangement of words, lettering, symbols, or decorative device, including holiday decorations, suspended over any portion of a road or adjacent to a travel lane.

1.2.7 **BOARD**

The Board of County Road Commissioners of the County of Oakland, a statutory Michigan public body corporate, also known as the Road Commission for Oakland County.

1.2.8 **BOND**

A document of financial assurance, satisfactory to the R.C.O.C., from a surety satisfactory to the R.C.O.C., that guarantees a specific level of expenditure for restoration of a site, upon which the R.C.O.C. can draw if the Permit Holder does not accomplish in a reasonable time interval the restoration of the Right-of-Way to a safe and acceptable condition as determined by the R.C.O.C.

1.2.9 **BUFFER AREA**

An area of the Right-of-Way adjacent to a roadway which serves as a physical divider between vehicular traffic on the travelled portion of the roadway and activity on the adjacent private property.

1.2.10 **BUTT JOINT**

A saw-cut joint, to provide a clean edge in the existing pavement against which to butt new construction.

1.2.11 **CERTIFIED CLOSURE REPORT**

A report by a certified consultant, following the removal of an underground storage tank and the remediation of site contamination, which report attests that a former underground storage tank site has been remediated and now conforms to state standards in regards to onsite contaminate concentrations.

1.2.12 **CIRCLE DRIVEWAY**

A private driveway which enters and leaves private property at two points within the same property's Road Frontage.

1.2.13 **CLEAR VISION AREA**

An area that should be clear of obstructions that might block a driver's view of potentially conflicting vehicles or objects, as determined by the R.C.O.C. in accordance with standard practices of the R.C.O.C.

1.2.14 **COMMERCIAL DRIVEWAY**

A driveway serving a commercial establishment, industry, governmental or educational institution, hospital, church, apartment building, mobile home Park, and not included in the definitions of Residential Driveway or Utility Driveway.

1.2.15 DIRECTIONAL DRIVEWAY

A driveway system designed, with critical turning movements to and from the property restricted at certain access points, so that traffic leaving the road is separated from and does not conflict with traffic entering the road. (Also known as a “one-way” drive.)

1.2.16 DIVIDED DRIVEWAY

A driveway so designed that traffic entering the driveway is separated by a traffic island from the traffic leaving the driveway.

1.2.17 DRIVEWAY PROPERTY

The lot or parcel of property for which a driveway permit is applied or issued.

1.2.18 EMERGENCY ACCESS

Access maintained for the purpose of emergency vehicles, including all police, fire and paramedic equipment.

1.2.19 H.M.A.

Hot mix asphalt.

1.2.20 INTRUSIVE TESTING

Testing and Investigation which penetrates the land surface, and which may include extraction of physical samples, and/or soil boring, and/or installation of Monitoring Wells. Samplings and testing can be conducted manually, by boring, by drilling rigs, by geo-probe equipment (or the equivalent), and/or by other means.

1.2.21 LANE CLOSURE

Blocking one lane of a multi-lane roadway in such manner that the lane is unavailable for normal traffic usage.

1.2.22 LEGAL DEPARTMENT

The legal department for the R.C.O.C., or an attorney engaged by the R.C.O.C.'s general counsel to represent the R.C.O.C. in the particular matter.

1.2.23 LIMITED ACCESS RIGHT-OF-WAY

Right-of-Way in respect to which owners or occupants of abutting lands and other persons have no legal right to access to or from the same, except pursuant to limited areas and manners determined by the public authority having jurisdiction over such road, street or highway.

1.2.24 LOCAL TRAFFIC

Traffic, which uses a particular street or route to access residences, businesses, or other abutting properties and has no alternative route to said residence, business, or other abutting property.

1.2.25 MAJOR ROADS

County Primary Roads or County Local Roads that carry substantial traffic volume (greater than 500 vehicles per day) and provide continuous route for Through Traffic.

1.2.26 **M.D.E.Q.**

Michigan Department of Environmental Quality.

1.2.27 **M.D.N.R.**

Michigan Department of Natural Resources.

1.2.28 **M.D.O.T.**

Michigan Department of Transportation.

1.2.29 **M.D.O.T. STANDARD SPECIFICATIONS FOR CONSTRUCTION**

The current Standard Specifications for Construction which shall also include the current Road Commission for Oakland County Supplementary Specifications and Design Standards on file at the Permits Division.

1.2.30 **M.I.O.S.H.A.**

Michigan Occupational Safety and Health Act, being Act 154 of 1974, including any and all regulations adopted thereunder and any American National Standards Institute standards adopted by M.I.O.S.H.A. and/or regulations adopted thereunder.

1.2.31 **M.M.U.T.C.D.**

The current edition of the Michigan Manual of Uniform Traffic Control Devices.

1.2.32 **MONITORING WELLS**

Temporary subsurface sampling stations (wells) installed to obtain periodic groundwater samples and/or water levels.

1.2.33 **M.M.U.T.C.D.**

The current edition of the Michigan Manual of Uniform Traffic Control Devices.

1.2.34 **MUNICIPAL RESOLUTION**

A resolution passed by a local governing body authorizing a specific official or officials to apply to the Permits Division for an individual permit, or for all permits in the case of a blanket resolution, and wherein the governing body agrees to indemnify and save harmless the Board and all its agents and employees from claims of every kind arising out of activities authorized by the permit or permits issued.

1.2.35 **NON-INTRUSIVE TESTING**

Testing and/or investigation that does not penetrate the surface of the soil or involve extraction of physical samples. These will generally include geophysical or hydrogeological investigations or surveys.

1.2.36 **NON-STANDARD MAILBOX STRUCTURE**

Any mailbox that has one or more of the following characteristics:

- (A) Is mounted to a support that is not approved by the U.S. Postal Service; or
- (B) Is not made of a lightweight material that will easily break away; or
- (C) Has a metal pipe supports with a diameter greater than 2 inches; or
- (D) Has wood post supports greater than 4 inches square, or with a diameter of more than 4.5 inches; or
- (E) Has post supports that extend more that 24 inches into the ground; or
- (F) Has post supports set in concrete.

1.2.37 O.S.H.A.

Occupational Safety and Health Act of 1970 and any and all regulations adopted thereunder.

1.2.38 PERMIT HOLDER

The Person to whom the Permits Division issues a permit pursuant to these Rules. May also be referred to as "License Holder" in R.C.O.C. permits and associated documents.

1.2.39 PERMITS DIVISION

The division within the Department of Customer Services of the Road Commission for Oakland County which issues permits and inspects activities which take place within the Right-of-Way for compliance with the Board's rules, specifications and procedures.

1.2.40 PERSON

An individual, sole proprietor, partnership, limited liability company, corporation, governmental entity, trustee, association, or any other business, public, private, religious, charitable or community group, organization, entity, fiduciary or functionary.

1.2.41 PRIVATE ROAD

A road which is not under the jurisdiction of a public body and provides access to two or more businesses, homes, or lots.

1.2.42 PROFESSIONAL ENGINEER

The engineer, actively licensed in the State of Michigan as a professional engineer, who is employed by the Property Owner to prepare plans and/or supervise construction.

1.2.43 PROPERTY OWNER

A Person having an ownership interest in the land involved.

1.2.44 R.C.O.C.

The Board of County Road Commissioners of the County of Oakland, a statutory Michigan public body corporate, also known as the Road Commission for Oakland County.

1.2.45 RESIDENTIAL DRIVEWAY

Driveway(s) serving one single family dwelling.

1.2.46 RIGHT-OF-WAY

The land over which the R.C.O.C. has highway jurisdiction and which is subject to use for highway purposes.

1.2.47 RIGHT-OF-WAY LINE

A boundary along the Road Frontage which denotes the limit of width of the Right-of-Way.

1.2.48 ROADBED

With respect to paved roads, that portion of the roadway between the finished edge of the road shoulders or 2 feet behind the curbs; with respect to unpaved roads or roads without shoulders or curbs, that portion of the roadway between two feet outside the traveled portion of the roadway.

1.2.49 ROAD CLOSURE

Physically or operationally blocking all improved lanes of a roadway preventing the flow of Through Traffic. Local Traffic and Emergency Access is maintained where possible.

1.2.50 ROAD FRONTAGE

The private property that abuts the road Right-of-Way.

1.2.51 RULES

These Permit Rules, Specifications, and Guidelines.

1.2.52 SIGHT DISTANCE

The length of clear view along a county road required so that a specified object is visible to the driver, or the required distance of clear vision required to safely enter or cross a county road.

1.2.53 THROUGH TRAFFIC

Traffic whose destination or origin is not to or from residences, businesses, or other properties, which abut a particular street or route.

1.2.54 TRAFFIC REGULATOR

An individual who actively controls the flow of vehicular traffic into and/or through a temporary traffic control zone using hand signal devices or an Automated Flagger Assistance Device as defined in the M.M.U.T.C.D.

1.2.55 UTILITY DRIVEWAY

Any driveway serving a farmyard, out-building, cultivated or uncultivated field, timberland, or undeveloped land, or a utility installation or structure, such as a pumphouse or substation which operates automatically and requires only occasional access.

1.2.56 WORK AUTHORIZATION

A written order by an Engineer in charge over the Permits Division, engaging an R.C.O.C. construction or maintenance crew or an outside contractor, to remove or correct an unsafe condition, or to repair damage to public or private property, or to correct or complete work causing an unacceptable delay or inconvenience to the travelling public.

1.2.57 ZONE OF INFLUENCE

That area outside of the Roadbed, but within the area defined by a one-on-one slope extended from the edge of the Roadbed.

RULE 1.3 PRESERVATION OF GOVERNMENT LAND CORNER SURVEY MONUMENTS

To ensure compliance with the provisions of Act 74 of 1970, as amended (Public Act 74), being MCL 54.201 et seq., regarding the monumentation of survey monuments and witnesses, the following procedures shall

apply to all permit Applicants and Permit Holders, and their engineers, surveyors, contractors, and anyone performing activity within the Right-of-Way under the supervision or control of any of them:

- (A) Public land survey corners and property controlling corners (as defined in Public Act 74) located within a construction area shall be witnessed prior to the commencement of construction and their locations shall be noted on plans submitted as part of a permit application. They shall then be re-established in accordance with Public Act 74. During the construction activities, the Permit Holder and contractors shall coordinate their activities with a land surveyor licensed in the State of Michigan engaged by the Applicant or Permit Holder, for the purpose of placing monument boxes in new roadway, including any median area:
 - (1) If a survey corner is located in a public roadway that is hard surfaced, the monument shall be flush with the finished pavement elevation on all sides.
 - (2) If a survey corner is located in a public roadway that is not surfaced, the monument shall be at least 6 inches below the surface of the finished road.
 - (3) All monuments shall be in accordance with M.D.O.T. Standard Specifications for Construction and M.D.O.T. standard plan R-11 Series.

- (B) Upon completion of the requirements of Public Act 74, the licensed land surveyor shall submit two copies of the recorded Land Corner Record Certificate (with Liber and Page); one to the Project Engineer and one to the County Permit Engineer at the following address:
 - Road Commission for Oakland County
 - Department of Customer Services
 - Permits Division
 - 2420 Pontiac Lake Road
 - Waterford, MI 48328

RULE 1.4 COMPLIANCE

The Applicant and Permit Holder shall be responsible for ensuring that they and their, employees, agents, architects, engineers, surveyors, and all contractors, subcontractors, laborers and materialmen working under, or in connection with, the permit, are aware of, and comply with, the provisions of these Rules and the laws and requirements cited therein.

RULE 1.5 ISSUANCE OF WORK AUTHORIZATIONS

1.5.1 If the activities of an Applicant or Permit Holder result in a condition that, in the opinion of the Permits Division, is unsafe; is causing unacceptable delay or inconvenience to the traveling public; or is causing damage to the roadway, drainage systems or appurtenances, or damage to public or private property due to flooding, subsidence or otherwise, the Permits Division, after efforts it deems reasonable to notify the Permit Holder or its contractor, may issue one or more Work Authorization to itself, and/or any third party contractor, to correct the situation. Such Work Authorizations shall provide for labor and equipment to install signs, barricades or barriers, and any and all labor, equipment and materials required to restore the roadway and drainage systems. The costs and expenses of such Work Authorizations, including labor and materials, shall be borne by the Applicant and the Permit Holder.

1.5.2 Issuance of a Work Authorization shall not release Applicant or Permit Holder from any liability or expense.

RULE 1.6 REVOCATION OF PERMITS

The rights granted by a permit are revocable at the discretion of the R.C.O.C., and neither the Applicant, nor the Permit Holder, nor any other Person, acquire any rights in or to the Right-of-Way, or any part thereof, as the result of an issuance or revocation of a permit. Applicant and Permit Holder each waive any right to claim any direct or indirect damages or compensation as a result of any revocation of a permit.

PART 2 –PERMITTING PROCESS

RULE 2.1 AUTHORIZED APPLICANT

Applications for permits may be accepted from Property Owners, the Property Owner's contractor or authorized agent, or from government agencies.

RULE 2.2 APPLICATIONS FOR PERMIT (S)

Applicants shall submit applications for permits in the manner prescribed by, and on the appropriate forms supplied by, the Permits Division, together with the appropriate fees as established by the Board. Application and permit Form #226 is required for Residential Driveways. Form 64A is required for application for permits for any other activity covered under Rule 1.1. Permits for activities covered under Rule 1.1, other than Residential Driveways, are issued on Form 20A. Applicants shall submit with the application plans or drawings satisfactory to the Permits Division containing the information required by Rule 2.3.

RULE 2.3 PLAN REQUIREMENTS FOR PROPOSED RIGHT-OF-WAY ACTIVITY

With each permit application, Applicant shall submit five (5) sets of plans or drawings for traffic signal permits and three (3) sets of plans or drawings for all other permits, which plans or drawings shall clearly indicate the following features, or such other features as the Permits Division may require to adequately review the proposed work and/or activities for which a permit application is made:

- 2.3.1 Existing road surface, ditches, Right-of-Way and property lines, road appurtenances, medians (if existing) and dimensions thereof, driveways on adjacent property and on property along and opposite the Road Frontage, names of existing and proposed roads, utilities, Sight Distance triangles, and other physical features which may impact the design, approval, and construction of the proposed work. Applicant shall provide a topographic survey for the entire road width and for the length of the project.
- 2.3.2 All buildings, both proposed and existing, appurtenances to any business being conducted, and dimensions thereof, including notations as to present or proposed use of the buildings.
- 2.3.3 Any and all driveways, tapers, right turn lanes, passing lanes, and center lanes for left turns, which are to be constructed, reconstructed, relocated, surfaced, resurfaced, operated, used, or maintained, shall be designed in accordance with Part 6 of these Rules and include the following dimensions and features:
 - (A) Widths of all driveways.
 - (B) Radii of driveway returns and other points of curvature.
 - (C) Driveway grades or profile view of driveway.
 - (D) Angle of the driveway(s) relative to the roadway edge of pavement if not perpendicular.
 - (E) Dimensions of roadside control island, other traffic islands adjacent to the road and traffic control island/islands in the road.
 - (F) Driveway surface material and traffic island surface material.
 - (G) Sight Distance for the approach.
 - (H) Rumble strips.
 - (I) Dimensions of all taper lengths, lane widths and length, length of curb.
 - (J) Cross-section of proposed pavement showing depth and type of material.
- 2.3.4 Distance from existing driveway(s) and proposed driveway(s) to the nearest Intersecting street or cross-road, dimensions to property lines, property lines extended to the road pavement, and buildings and business appurtenances.

- 2.3.5 All roadside features, in addition to driveways, to be constructed within the Right-of-Way including roadside control island, curb, sidewalks, authorized traffic signs, landscaping, and all other roadside features, such as manholes and poles.
- 2.3.6 All existing and proposed underground and overhead public and private utilities, including but not limited to, water main, storm sewer, sanitary sewer, gas main, electric, and fiber optic structures and facilities.
- 2.3.7 Existing and proposed drainage structures, ditches, sewers, and controls shall include:
 - (A) Size and length of culverts, sewer pipe, outlet controls, and/or ditches.
 - (B) Type of culvert, sewer pipe, outlet control, and/or ditch.
 - (C) Grade of culvert, sewer pipe, and/or ditch.
 - (D) Direction of surface water flow on proposed site.
 - (E) Type, size, and location of drainage structures.
 - (F) Retention volume and outlet control calculations.
 - (G) Other hydrologic/hydraulic information as necessary.
- 2.3.8 North directional arrow and scale of drawing.
- 2.3.9 Location map relating the proposed site to Major Roads.
- 2.3.10 All government land corner survey monuments and witnesses located within the project limits.
- 2.3.11 The name, address, and phone number of the individual preparing the plan. When required by law or the R.C.O.C., the seal of the Professional Engineer who prepared the plans along with his/her name, address and phone number must appear on the plan.

RULE 2.4 DESIGN AND PLACEMENT REQUIREMENTS

The design, location, construction, and operation of those activities covered under Rule 1.1 and related construction within the Right-of-Way shall meet requirements of the current M.D.O.T. Standard Specifications for Construction, the Guidelines of the American Association of State Highway and Transportation Officials (A.A.S.H.T.O.), the A.D.A., the design standards set forth in these Rules, and any other standards used by the R.C.O.C.

RULE 2.5 CONDITIONS AND LIMITATIONS OF PERMITS

All permits issued in accordance with these Rules shall be subject to the following conditions and limitations:

- 2.5.1 The Permit Holder shall abide by the conditions and specifications contained in the permit application, the permit and these Rules.
- 2.5.2 Any activity covered under Rule 1.1 shall be allowed only after an approved permit for that activity has been obtained from the Permits Division. The activity allowed shall only be as described in the approved permit therefor and in the Approved Plans accompanying the permit. The Permit Engineer, Director of the Department of Customer Services or the County Highway Engineer must approve all significant changes in plans and drawings.
- 2.5.3 Prior to commencement of any activity covered by the permit, the Permit Holder must give the Permits Division or its representative at least two (2) days (excluding Saturdays, Sundays and Holidays) notice of the date and time of the commencement of the activity.
- 2.5.4 In the event of failure to comply with the terms and conditions of any permit issued in accordance with these Rules or the failure to obtain an appropriate permit, the Permits Division shall have the right, by issuing a

stop order, to halt the construction or other permitted activity until such time as satisfactory compliance shall have been made.

- 2.5.5 The Permits Division shall at all times have the right to inspect and test any driveway, structure, connection, pathway, etc., constructed within the Right-of-Way, and the Permit Holder shall reimburse the Board for all actual costs associated with any on-the-job inspection or testing which may be required by the R.C.O.C. Such inspection and testing may include, without limitation, inspection of materials, soils, construction methods, compaction, grades, drainage, signing, barricading, maintenance, or other safety precautions that may be necessary in emergencies.
- 2.5.6 If, upon inspection, an activity described in Rule 1.1 is found to be in violation, the Permit Holder shall correct any deficiencies within a period of 30 days, as specified in a notice of violation sent by certified mail to the Permit Holder. The Permit Holder, however, shall immediately correct all dangerous or hazardous conditions. If the Permit Holder fails to make the necessary corrections within the required time period, the Board or its agents may perform the necessary correction(s), with the costs incurred to be reimbursed to the Board by the Permit Holder.
- 2.5.7 If the permitted activity is suspended for any reason, including a dispute between the Permit Holder and the Property Owner, the Permit Holder is responsible for restoring the Right-of-Way and the roadway to a condition acceptable to the R.C.O.C. Restoration shall include paving, stabilization of slopes and ditches, and installation of temporary or permanent drainage facilities or structures. The Permit Holder agrees and understands that the R.C.O.C. will take reasonable actions necessary to ensure safe public travel, preservation of the roadway and drainage, the prevention of soil erosion and sedimentation, and elimination of nuisance to abutting Property Owners. All such costs will be charged to the Permit Holder. If any suspension of work will be protracted, or, will not be completed by the Permit Holder, the Permit Holder shall restore the Right-of-Way to a condition similar to the condition that existed prior to issuance of the permit. Should the Permit Holder fail to restore the Right-of-Way, the R.C.O.C. will notify the Permit Holder and request that the Permit Holder's surety under the bond either complete the work or restore the Right-of-Way.
- 2.5.8 All costs incurred by the Board in obtaining or enforcing compliance with conditions and standards of the permit, failure to obtain a permit, or defective workmanship or materials shall be borne by the Applicant, Permit Holder, or Person undertaking the activity without a permit. The R.C.O.C. may order any Permit Holder who conducts activity in a manner detrimental to the R.C.O.C.'s statutory obligation of maintaining roads and streets at all times in a reasonably safe and fit condition for the traveling public to cease and desist all activities within the Right-of-Way, other than ordinary public travel. If necessary, additional cash deposits and expense of maintaining a R.C.O.C. inspector (full-time) may be required from the Permit Holder prior to the resumption of any work.
- 2.5.9 During any and all construction, the Permit Holder shall have a copy of the permit and associated Approved Plans available at the site.
- 2.5.10 The Permit Holder shall take, provide, and maintain all necessary precautions to prevent injury or damage to persons and property from activities covered by the permit and shall use warning signs and safety devices which are in accordance with the M.M.U.T.C.D. The Permit Holder shall maintain all activities covered under Rule 1.1 set forth in the permit in a manner so as not to damage, impair, interfere with, or obstruct a public road or create a foreseeable risk of harm to the traveling public. Any Permit Holder who conducts activities in a manner detrimental to the R.C.O.C.'s statutory obligation of maintaining roads and streets at all times in a safe and fit condition for the traveling public will be required to cease all activities within the Right-of-Way, other than ordinary public travel. If necessary, additional cash deposits and expenses of maintaining a R.C.O.C. inspector (full-time) may be required from the Permit Holder prior to the resumption of permitted activities.
- 2.5.11 The Permit Holder shall comply with all applicable OSHA and MIOSHA requirements.
- 2.5.12 The Permit Holder shall surrender the permit, cease activities, and surrender all rights under the permit, whenever notified to do so by the R.C.O.C. or its representative, because of the need to use the area

covered by the permit, because of noncompliance with any condition or provision of the permit, or for any other reason determined by the R.C.O.C.

- 2.5.13 Drainage from private property shall not be altered to flow into the Right-of-Way or county road drainage system unless approved by the Permits Division. See Rule 5.9 for storm water discharge requirements.
- 2.5.14 The R.C.O.C. makes no warranty either expressed or implied to any Property Owner, the Applicant, the Permit Holder or to any contractor, engineer or surveyor working on their behalf, or to anyone else, as to the suitability of, or condition of, soils and/or ground water that may be encountered during an excavation. Further, the R.C.O.C. makes no warranty as to the suitability of the subsurface for the work or activity proposed.
- 2.5.15 The road surface may not be used for the storage of materials or any other construction purpose without prior approval of the R.C.O.C. Depending on traffic volumes and other conditions, the R.C.O.C. may require the Permit Holder to provide by-pass lanes (either paved or unpaved), may allow one-lane traffic using Traffic Regulators or other traffic control measures, or some combination of the two. Permit Holder shall maintain traffic controls in accordance with Part 3 hereof, "Maintaining Traffic and Traffic Controls," and the M.M.U.T.C.D.
- 2.5.16 The Permit Holder shall remove any and all excavated materials and surplus materials to an area outside of the limits of the Right-of-Way, unless the permit provides the manner of disposal at locations within the Right-of-Way. Excavated material, removed vegetation (including all cuttings, slash and debris) and raw materials or equipment shall not be stockpiled or stored so as to adversely affect the safety of the traveling public. Permit Holder shall be responsible for the proper disposal of, and shall properly dispose of, in compliance with all applicable laws, regulations, ordinances and codes, any and all excavated and/or surplus materials, including without limitation soils or ground water contaminated by petroleum products or other pollutants, whether or not associated with sites found on a list published under the Michigan Environmental Response Act, being Act 307 of 1982, as amended, or on any other list or reported on appropriate release forms for underground storage tanks. Applicant and Permit Holder shall be responsible for obtaining, and shall obtain, all required federal, state and local permits, including from the county enforcing agency or municipal enforcing agency in accordance with Part 91 of Act 451 of 1994. A permit issued pursuant to these Rules does not authorize any work activity or disposal within wetlands or wetland fringes. The Permit Holder shall not dispose of, or allow the disposal of, any materials into or near any lakes, streams, culverts, drainage ditches, wetlands, flood plains, or any other protected area, without the express permission of the local municipality, the Department of Natural Resources or the U.S. Environmental Protection Agency, as applicable, or such other applicable governmental authorities, even if the Property Owner thereof agrees to, or requests, such disposal.
- 2.5.17 The Permit Holder shall store all materials far enough away from the road surface so that they are not a hazard to the traveling public. The Permit Holder shall maintain sufficient clear areas on the shoulder that a car can park off the road in an emergency. Materials and equipment shall not block the vision of traffic seeking ingress or egress to or from the road. Only those materials being used in the immediate, on-going permitted activities can be stored in the Right-of-Way. All other materials, equipment, and trailers must be stored in an area outside of the Right-of-Way. Stockpiles may require soil erosion and sediment control measures. The Permit Holder shall ensure that all loading and unloading activities are conducted in a manner that is safe and minimizes congestion and delay to the traveling public, and that proper traffic controls are in place prior to temporary Lane Closures to load or unload materials or equipment. The Permit Holder may close through lanes from 9:00 am to 3:00 pm only to load or unload materials.
- 2.5.18 The Permit Holder shall store and manage all polluting materials, including, but not limited to oil, grease, diesel fuel, and gasoline in compliance with current state and federal rules and regulations, and in such a manner as to contain discharges and spills and avoid contamination of the ground or ground water. The Permit Holder is responsible for cleanup and removal of any contaminated soils.
- 2.5.19 Prior to commencing any work activity, the Permit Holder shall obtain all required soil erosion control permits from the Office of the Oakland County Water Resources Commissioner, the local municipality, and/or all

other applicable government agencies. The Permit Holder shall install and maintain all erosion control features shown on the Approved Plans, on the soil erosion and sedimentation control permits, or as may be required during the life of the project. All temporary control measures must be removed prior to final inspection.

- 2.5.20 The Permit Holder shall prevent erosion and sedimentation during any suspension of operations, including disputes between the Applicant and Permit Holder. If the Permit Holder fails to maintain soil erosion or sedimentation control measures, including temporary seeding and mulch, the R.C.O.C. shall have the right to undertake such work at the expense of the Permit Holder.
- 2.5.21 The Permit Holder shall notify the Permits Division in writing of the completion of the permitted activity and request a final inspection. Prior to release of the permit, the Permit Holder shall complete, to the satisfaction of the Permits Division, all work authorized by permit.
- 2.5.22 The Applicant and Permit Holder are responsible for obtaining any other permits and complying with all applicable federal, state, and local laws, rules, regulations, codes and ordinances. These include, but are not limited to, regulation of inland lakes and streams, wetlands, woodlands, flood plains, filling, occupational safety and hours of operation. Issuance of a R.C.O.C. permit does not authorize activities otherwise regulated by federal, state, and local government agencies.
- 2.5.23 The Permit Holder, and not the R.C.O.C., is solely responsible for the correctness and completeness of plans submitted as part of an application for a permit. Any error(s) in the aforementioned plans that become evident after the issuance of a permit and which change the scope of permitted activity is subject to review(s) and may be grounds for revocation of a permit.
- 2.5.24 The R.C.O.C. reserves the right to limit the number of permits issued to a Permit Holder. The number of active permits the Permit Holder has, and the available work force will determine the number of permits that can be issued to a Permit Holder; normally this would be two permits. Failure of a Permit Holder to comply with permit provisions on other permits (active or otherwise) shall constitute just cause to delay or refuse issuance of additional permits.
- 2.5.25 The Permit Holder is responsible for maintaining a minimum of one acceptable access to all abutting occupied properties, driveways, and side streets, unless otherwise indicated on the Approved Plans. The Permit Holder is further responsible for obtaining the written permission of owners or occupants of properties that may lose access during excavation or other work activity. The local police, fire, or emergency service agencies shall define acceptable access. The Permit Holder is responsible for providing signing and other improvements necessary to ensure adequate access until the roadway, driveway, or side street is restored. The Permit Holder shall conduct all its permitted activities in such manner as to minimize inconvenience to abutting Property Owners. The R.C.O.C. may restrict the progress of excavation by the Permit Holder based on the rate of roadway and Right-of-Way restoration, including permanent or temporary pavement. The R.C.O.C. may require that excavation be suspended, until satisfactorily backfilling of open trenches or excavations have been completed, and driveways, side streets, and drainage restored.
- 2.5.26 Permit Holder shall conduct all pumping or de-watering activities in compliance with National Pollutant Discharge Elimination System (N.P.D.E.S.) permits. Permit Holder shall use outlet filters and/or sediment basins to prevent any sediment from reaching roadside ditches, storm sewer inlets, or surface waters. Discharge of water into roadside ditches for extended periods of time is unacceptable. Placement of water discharge lines on or across the surface of the traveled portion of any road is not allowed without advanced written permission from the R.C.O.C. The Permit Holder shall be responsible for all restoration of the road drainage system. If the R.C.O.C. deems it necessary for the Permit Holder to either alter de-watering operations or to cease de-watering operations altogether for public safety, the Permit Holder shall comply. The Permit Holder shall locate all de-watering facilities as far from the road surface as possible. If, due to extenuating circumstances, de-watering facilities are located closer to the road than the back slope of the ditch, the Permit Holder shall place a flashing light at each such location.

- 2.5.27 Normal weight restrictions are in effect at all times, except during the period when reduced seasonal load limitations are in effect. No staging of vehicles or equipment is permitted within the roadway. All vehicles used as part of construction activities shall comply with all applicable federal, state and local laws, codes and regulations governing their operation on public roadways, and Permit Holder shall not utilize any off-road equipment on any county roadway without the prior consent of the R.C.O.C. Permit Holder shall have road cleaning equipment accessible at all times while construction activities are occurring. Permit Holder shall either reduce loads carried on the roadway sufficient to eliminate possible damage to the roadway or enter into an agreement with the R.C.O.C. to make appropriated repairs of the roadway. In either event, Permit Holder is responsible for restoration of any and all damaged roadway caused by heavy and high volume of truck traffic resulting from its activities in the Right-of-Way. The use of tracked or crawler mounted equipment on road pavements is not permitted, unless specifically authorized in advance in writing by the R.C.O.C. Written authorization for such use will usually require complete replacement or resurfacing of the entire pavement so used.
- 2.5.28 The Permit Holder shall maintain all work areas in the Right-of-Way in a safe, dust free condition until all work activity in a given area, including the hauling of materials, is completed. At a frequency determined by the R.C.O.C., the Permit Holder shall provide adequate and permitted dust control measures on any and all unpaved detours, by-passes, and shoulders used by traffic. The R.C.O.C. will not permit the use of oil, and the Permit Holder shall not use chloride for dust control on paved roadways.
- 2.5.29 If the area disturbed by the work activity is one (1) acre or greater, or within 500 feet of a lake or stream and requires a National Pollution Discharge Elimination System (N.P.D.E.S.) permit, the Permit Holder shall notify the Road Commission for Oakland County and provide the name and address of the certified operator.

RULE 2.6 REVIEW OF PERMIT DENIAL OR REQUEST FOR VARIANCE

- 2.6.1 An Applicant wishing a review of a denial of a permit application or a denial of a request for variance from permit specifications, may submit to the Director of the Department of Customer Services a written request for review, stating with specificity the facts in support of the request.
- 2.6.2 Within 30 days of submission of the request, the Director shall either grant the request or forward the request and his recommendation to the County Highway Engineer. The Applicant will be furnished with a copy of the Director's recommendation and have an opportunity to respond in writing to the recommendation.
- 2.6.3 Within 45 days of submission of the request, the County Highway Engineer shall make a final written determination, either granting or denying the request. The R.C.O.C. shall forward a copy of the determination to the Applicant by first class mail. If the request is denied, the response shall set forth the reasons for denial.
- 2.6.4 Failure of the R.C.O.C. to meet the above time guidelines shall not be construed as an approval of the variance requested or permit denied.

RULE 2.7 INSTALLATIONS WITHOUT PERMIT OR IN NON-COMPLIANCE WITH PERMIT CONDITIONS

- 2.7.1 The Permits Division may issue a written notice of violation for any activity covered under Rule 1.1 which is constructed, installed, or performed in violation of these Rules.
- 2.7.2 The Permits Division may issue a written notice of violation for a driveway constructed in violation of these Rules, unless said driveway was in existence on August 6, 1969, and the use of the land served by said driveway has not changed.
- 2.7.3 The notice of violation shall specify which rules are violated, the correction required, and the time for the correction (not less than 30 days), and the R.C.O.C. shall send the notice by certified mail, return receipt requested, to the Property Owner.

- 2.7.4 If the violation is not corrected in the time required by the notice, the R.C.O.C. may perform, or hire a third party to perform, the necessary corrections, remove changes, and restore the Right-of-Way to its previous condition; and the R.C.O.C. shall invoice the owner for the costs it incurred for such work, including allocated overhead.
- 2.7.5 The procedure of this Rule 2.7 is in addition to, and does not negatively affect, the right of the Permits Division to issue a stop order or of the R.C.O.C. to correct conditions within the Right-of-Way creating hazards to vehicular travel.

RULE 2.8 LIABILITY, INDEMNITY AND INSURANCE

- 2.8.1 Permit Holder is responsible for any and all compliance with the terms and conditions of the permit by its employees, agents, contractors, subcontractors, suppliers, laborers and invitees, and any of their suppliers, laborers, and invitees, and Permit Holder shall be liable for any and all noncompliance with the terms and conditions of the permit by any or all of them and for any and all damages to public or private property and injuries to Person or Persons by any or all of them while engaged in activities within the Right-of-Way subject to the permit. If Applicant and Permit Holder are not the same Person, they shall be jointly and severally liable.
- 2.8.2 Prior to commencing any permitted activity in the Right-of-Way, Permit Holder shall have provided to the Permits Division policy endorsements and certificates of insurance satisfactory to the R.C.O.C. for all permits, excluding Residential Driveway permits, in amounts and coverage's specified by the R.C.O.C. The R.C.O.C. shall be a named certificate holder with the provision that it will be given prior notification of any cancellation or reduction of insurance.

The required insurance policy or policies must be obtained in the name of, and maintained in the name of, the Permit Holder who signed the permit. Variations in the coverage or form of insurance may be reviewed by the R.C.O.C. risk management program coordinator and/or the Legal Department for acceptability. Insurance must be kept in force until the permitted activities are completed, inspected, and approved.

Should insurance coverage be reduced below acceptable coverage or canceled, authorization to continue activity under the permit is suspended, and the R.C.O.C. may take appropriate action to restore or protect the road and appurtenances utilizing any inspection or other fees, security deposits, and Bonds to defray expenses.

- 2.8.3 Permit applications and permits will contain indemnity and hold harmless provisions satisfactory to the R.C.O.C., which require the signer to indemnify and hold the Board and its employees harmless for any and all claims arising out of, or in connection with, any permitted activities and/or installation and continued existence of any permitted facilities.

RULE 2.9 PERMIT FEES

Prior to issuance of a permit, Applicant shall pay, in the form of a certified check, bank check, or cash, all amounts indicated on the approved application form for the permit fee, permit deposit, estimated inspection fee, sign fee, signal fee, and pavement striping fee. These amounts may be combined into one certified or bank check.

Personal or corporate checks may be accepted subject to the approval of the Permits Division. No personal checks in excess of \$500 will be accepted.

Inspection fees are estimated and any actual amount over and above the amount estimated, including any costs associated with Work Authorizations, shall be deducted by the R.C.O.C. from the permit deposit. The R.C.O.C. shall bill the Permit Holder for any charges in excess of the permit deposit. The R.C.O.C. shall return to the Permit Holder any unused portion of the permit deposit. The Bond and permit will not be released until such payments are received by the R.C.O.C.

RULE 2.10 SECURITY FOR ROAD RESTORATION

As a condition for obtaining a permit for any activity covered under Rule 1.1, the Permit Holder shall post security in the form of cash, a certified check, irrevocable letter of credit, or Bond to secure the cost of restoring the disturbed portion of Right-of-Way to an acceptable and safe condition as determined by the R.C.O.C. Such cash deposits, certified checks, letters of credit or Bonds are required for all permits issued which would threaten, or otherwise present a potential for surface damages, to the Right-of-Way, and shall provide ready funds or obligations on which the R.C.O.C. can draw if the Permit Holder does not complete in a reasonable time interval the restoration of the Right-of-Way to an acceptable and safe condition as determined by the R.C.O.C. Permit Holders shall provide Bonds on form 75 provided by the Permits Division, or in a form approved by the Legal Department. The Permits Division shall determine the amount of the security required for a particular permit. For clarification of the above Bond requirements or other questions call the Permits Division at (248) 858-4835.

RULE 2.11 REFUNDS OF APPLICATION FEES, PERMIT FEES, DEPOSITS, AND UNUSED BALANCES

Application fees are non-refundable, regardless of whether the application is approved or denied. Permit fees, sign fees, paint fees, and signal fees become non-refundable upon issuance of the permit.

If the activity covered by a permit does not commence, deposits and inspection fees will be refunded to the Permit Holder upon receipt by the R.C.O.C. of a written request from the Permit Holder for the R.C.O.C. to revoke the permit and return the deposit and inspection fees.

If, after completion of the activity covered by the permit, notification of such completion to the R.C.O.C. and final inspection by the R.C.O.C., any unused balances remain for restoration deposits or estimated inspection fees, the R.C.O.C. will issue a refund to the Permit Holder. Sign fees and pavement striping fees are non-refundable if the R.C.O.C. has incurred costs in reliance on the permit issuance, even if the permitted activity did not proceed. Final inspection will not occur until the R.C.O.C. has been satisfied that all repairs have been made, vegetation has been established, and that no settlements will occur.

RULE 2.12 INTERPRETATIONS AND APPROVALS

- 2.12.1 The implementation of, and any variances from, these Rules, and the standards and guidelines cited therein shall be determined in the engineering judgment of the R.C.O.C. All questions which may arise as to the quality and acceptability of work; the manner of performance and rate of progress of the work; the interpretation of designs, specifications, these Rules and the permit terms conditions; and the satisfactory and acceptable fulfillment of the permit terms and conditions shall be decided by the R.C.O.C.
- 2.12.2 Approvals, reviews and inspections of any nature by the R.C.O.C., shall not be construed as a warranty or assumption of liability on the part of the R.C.O.C. All such approvals, reviews, and inspections are for the sole and exclusive purposes of the R.C.O.C., which is acting in a governmental function; and such approvals, reviews and inspections of the R.C.O.C. shall not relieve the Applicant, the Permit Holder, any contractor or any other Person from his, her or its obligations, nor be construed as a warranty of the propriety of the performance of the Applicant, the Permit Holder, any contractor, or any other Person.

PART 3 – MAINTAINING TRAFFIC AND TRAFFIC CONTROLS

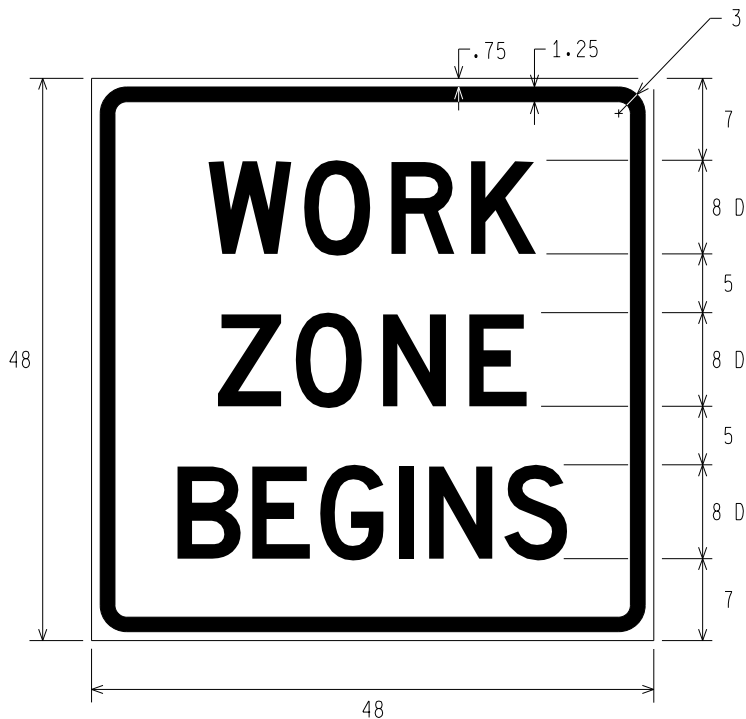
RULE 3.1 SIGNS AND SIGNING

- 3.1.1 The Permit Holder shall furnish, install, and maintain, in accordance with the current edition of the Michigan Manual of Uniform Traffic Control Devices, all necessary signs and sign support standards, barricades, and traffic control devices necessary for the protection of traffic. Signage that is to be in place for a period of 2 weeks or more, shall be installed on ground-mounted posts.
- 3.1.2 In order to facilitate permitted activity but also to prevent misdirection of traffic, the Permit Holder, with the approval of the R.C.O.C. may remove, traffic control signs and street name signs, but only provided it temporarily resets them in the locations and maintains them in the manner provided in the current edition of the M.M.U.T.C.D. and in accordance with any directions of the R.C.O.C., so that they continue to serve their intended purposes and are legible and easily visible to traffic.
- 3.1.3 Upon completion of the project, the R.C.O.C. will reset traffic control signs and street name signs in their proper position. If the R.C.O.C. requires the Permit Holder to furnish and erect temporary speed limit signs along the project, the Permit Holder shall relocate and maintain the temporary speed limit signs as directed by the R.C.O.C.
- 3.1.4 The Permit Holder shall pay for any and all signs erected or relocated by the R.C.O.C. in connection with the permitted activity, both during and immediately after the permitted activity. All erection and replacement of existing signs which are damaged during the course of construction will be charged to the Permit Holder at the rate of not less than \$100.00 for each sign. The R.C.O.C. will inventory all signs at the beginning of a project and upon project completion before final acceptance is made.
- 3.1.5 The Permit Holder shall protect all traffic control devices within the project area from damage due to any and all permitted and related activity, including material hauling, storage, equipment moves, and parking.
- 3.1.6 Whenever the R.C.O.C. requires advisory or information signs in order to direct traffic to commercial or public facilities located within the permitted activity area, the Permit Holder shall be responsible for the fabrication, installation, maintenance, and removal of such signs.
- 3.1.7 Immediately after paving where needed to control traffic, Permit Holder shall place temporary MDOT Type R removable lane markings.

RULE 3.2 LANE CLOSURES

Where the R.C.O.C. approves a Lane Closure for purposes of open-cut crossings, construction within or immediately adjacent to the traveled portion of the road or parallel to the roadway, the following requirements shall apply.

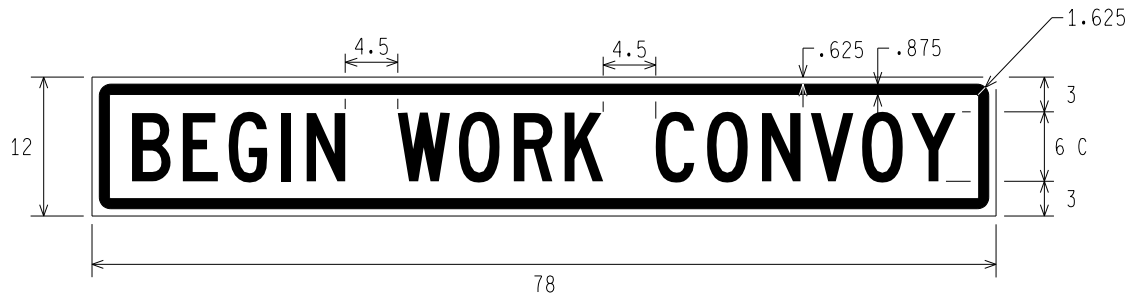
- 3.2.1 Before a Lane Closure begins, all required signage shall be placed in accordance with the M.M.U.T.C.D. and these Rules, and any and all R.C.O.C. required by-pass lanes and other R.C.O.C. required improvements, shall be completed and in place.
- 3.2.2 Lane Closures are restricted to the hours of 9:00 a.m. to 3:00 p.m. unless otherwise specifically authorized by the R.C.O.C.



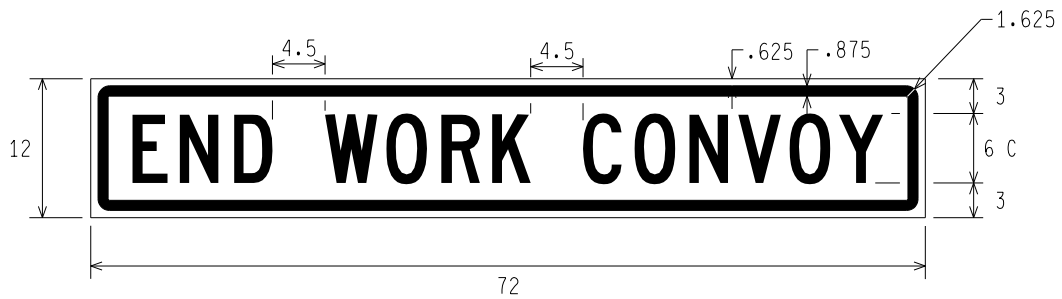
R5-18c
WORK ZONE BEGINS

COLORS

LEGEND AND BORDER - BLACK (NON-REFL.)
 BACKGROUND - WHITE (REFL.)
 CENTRALLY LOCATE ALL LEGENDS



R5-18d
BEGIN WORK CONVOY



R5-18e
END WORK CONVOY

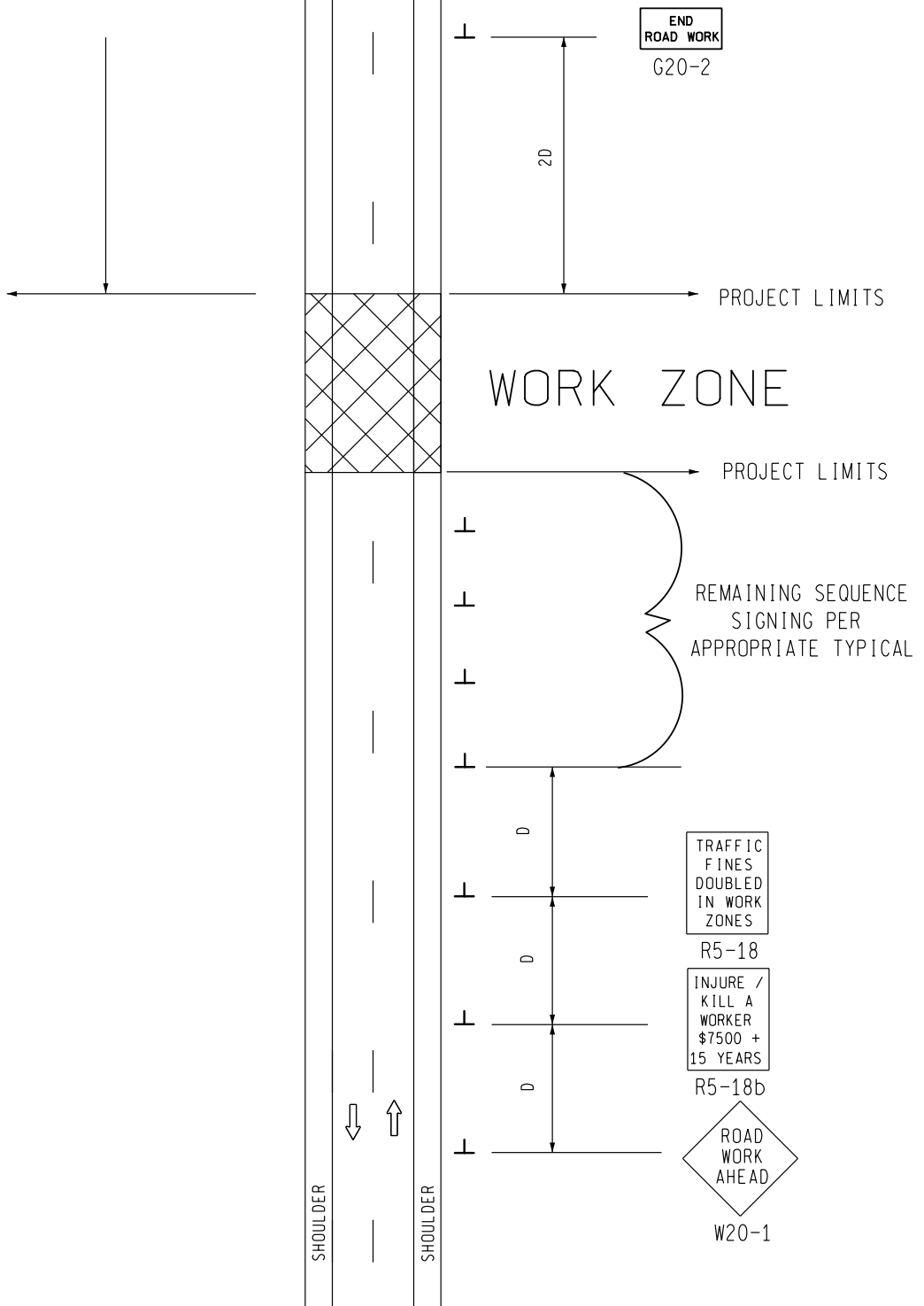
COLORS

LEGEND AND BORDER - BLACK (NON-REFL.)

BACKGROUND - WHITE (REFL.)

CENTRALLY LOCATE ALL LEGENDS

SIGN PLACEMENT
IS THE SAME FOR
BOTH DIRECTIONS



SIGN = 48 f+2 - TYPE B
FOR ONE DIRECTION OF TRAFFIC
W20-1 QUANTITY INCLUDED WITH
APPROPRIATE TYPICAL FOR
SEQUENCE SIGNING

MDOT
Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC
TYPICAL

TYPICAL ADVANCE SIGNING TREATMENT FOR
INTERMEDIATE AND SHORT TERM
STATIONARY WORK ZONE OPERATIONS WHERE
ALL TRAFFIC CONTROL DEVICES ARE
REMOVED AT END OF EACH WORK DAY ON
AN UNDIVIDED TWO-WAY ROADWAY

DRAWN BY: CON:AE:djf
CHECKED BY: BMM:CRB

OCTOBER 2011
PLAN DATE:

M0050a

SHEET
1 OF 2

NOT TO SCALE


FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0050a.dgn REV. 10/13/2011

NOTES

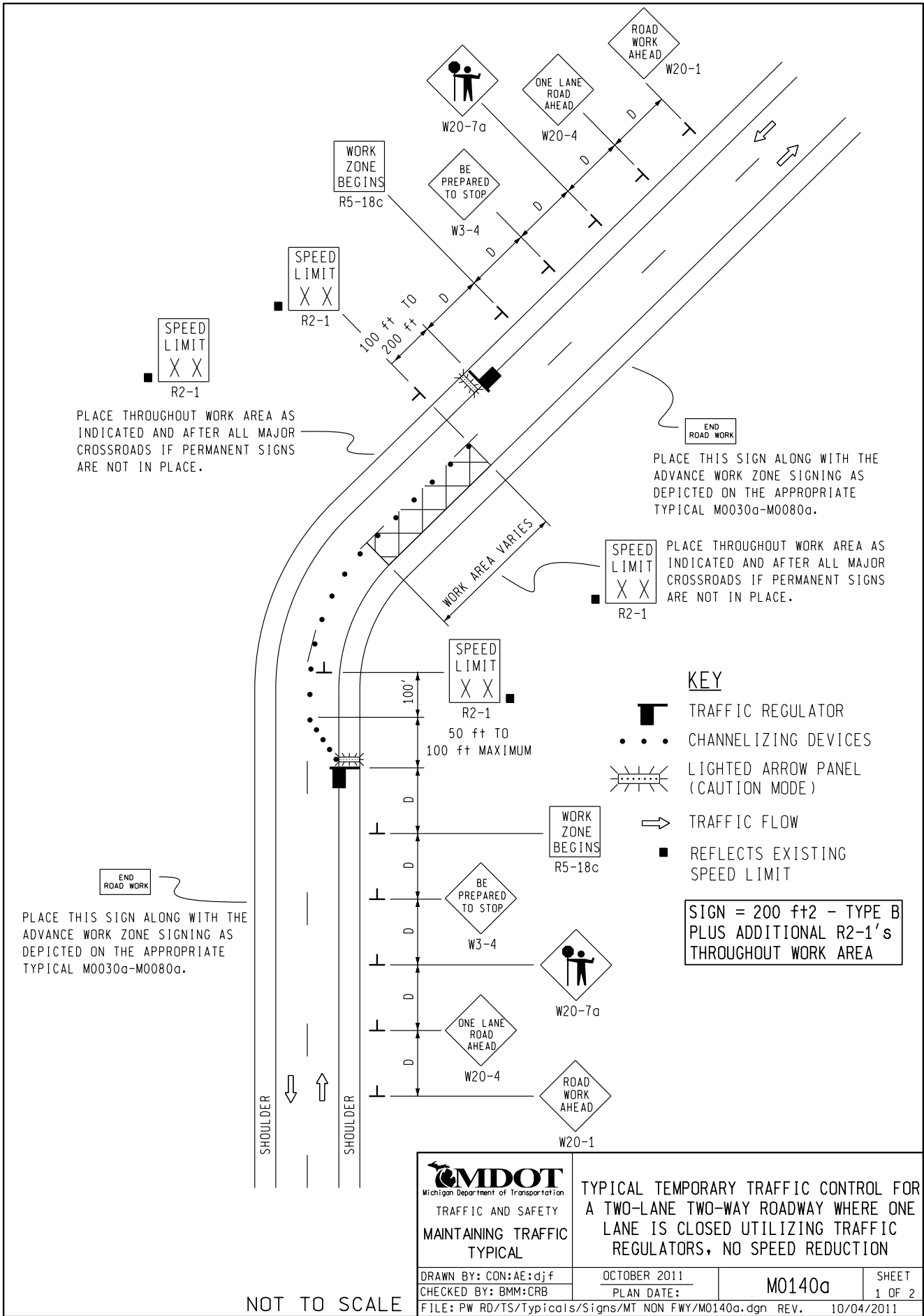
- 30. THE APPROPRIATE ADVANCE SIGNING SEQUENCE(S), (M0030a THROUGH M0080a) SHALL BE USED ON ALL PROJECTS.
- 35. THESE SIGNS ARE INTENDED TO BE USED WITHIN THE LIMITS OF THE TEMPORARY SEQUENCE SIGNING AS IS SHOWN ON 1 OF 2. THESE SIGNS ARE NOT TO BE INTERMINGLED WITH ANY OTHER TEMPORARY SEQUENCE SIGNING EXCEPT AS SHOWN.

SIGN SIZES

G20-2	-	48" x 24"
R5-18	-	48" x 60"
R5-18b	-	48" x 60"
W20-1	-	48" x 48"

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL ADVANCE SIGNING TREATMENT FOR INTERMEDIATE AND SHORT TERM STATIONARY WORK ZONE OPERATIONS WHERE ALL TRAFFIC CONTROL DEVICES ARE REMOVED AT END OF EACH WORK DAY ON AN UNDIVIDED TWO-WAY ROADWAY		
	DRAWN BY: CON:AE:djf	OCTOBER 2011	M0050a
CHECKED BY: BMM:CRB		PLAN DATE:	
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0050a.dgn REV. 10/13/2011			

NOT TO SCALE




NOTES

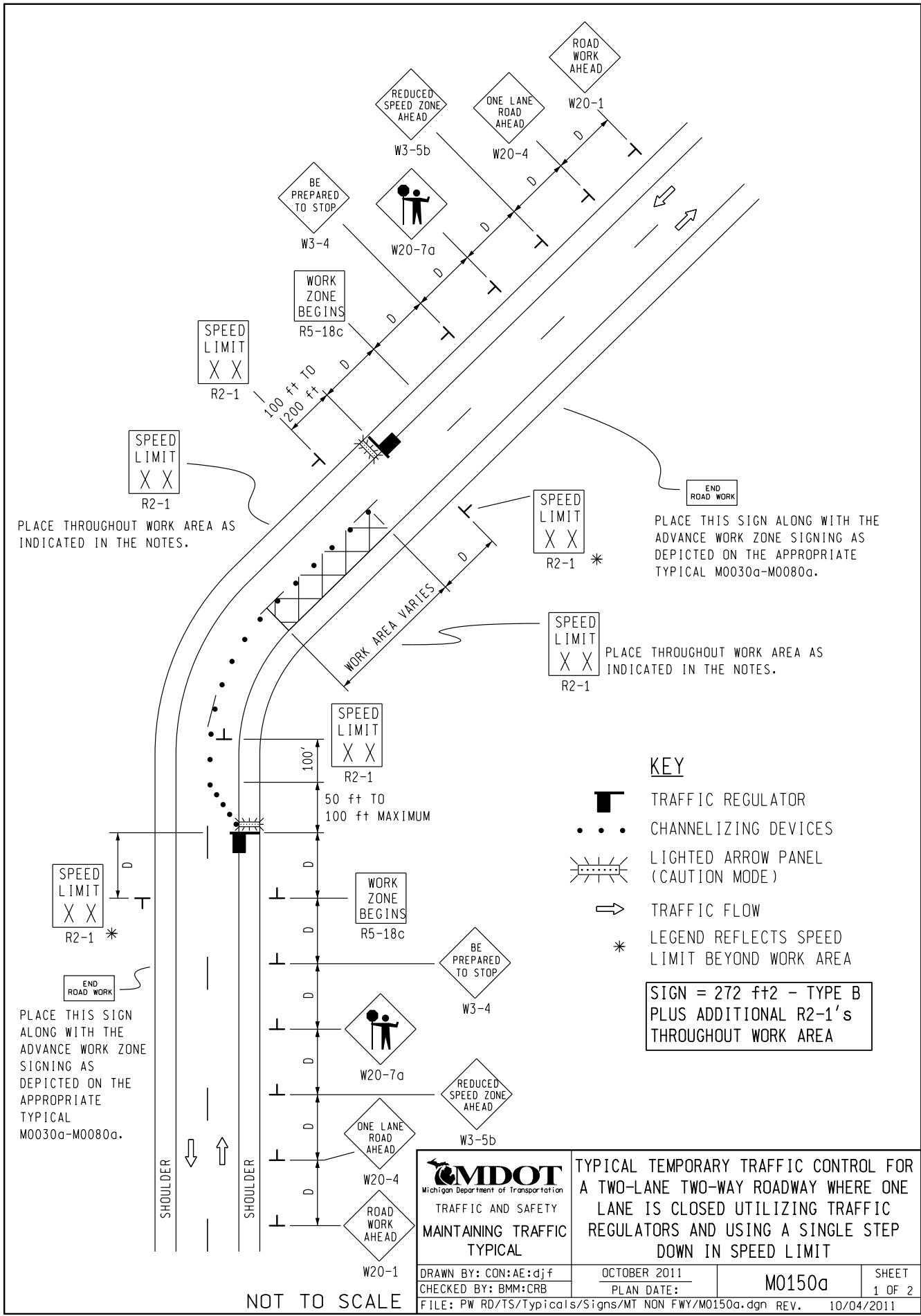
- 1H. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES AND LENGTH OF LONGITUDINAL BUFFERS
SEE **M0020a** FOR "D" VALUES.
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4A. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES IN THE TAPER AREA(S) SHOULD BE 15 FEET AND SHOULD BE EQUAL IN FEET TO TWICE THE POSTED SPEED IN MILES PER HOUR IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
9. ALL TRAFFIC REGULATORS SHALL BE PROPERLY TRAINED AND SUPERVISED.
- 9A. IN ANY OPERATION INVOLVING MORE THAN ONE TRAFFIC REGULATOR, ONE PERSON SHOULD BE DESIGNATED AS HEAD TRAFFIC REGULATOR.
10. ALL TRAFFIC REGULATORS' CONDUCT, THEIR EQUIPMENT, AND TRAFFIC REGULATING PROCEDURES SHALL CONFORM TO THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CURRENT EDITION OF THE MDOT HANDBOOK ENTITLED "TRAFFIC REGULATORS INSTRUCTION MANUAL."
11. WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS, APPROPRIATE LIGHTING SHALL BE PROVIDED TO SUFFICIENTLY ILLUMINATE THE TRAFFIC REGULATOR'S STATIONS.
- 12E. THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS SHALL BE NO MORE THAN 2 MILES IN LENGTH UNLESS RESTRICTED FURTHER IN THE SPECIAL PROVISIONS FOR MAINTAINING TRAFFIC. ALL SEQUENCES OF MORE THAN 2 MILES IN LENGTH WILL REQUIRE WRITTEN PERMISSION FROM THE ENGINEER BEFORE PROCEEDING.
13. WHEN INTERSECTING ROADS OR SIGNIFICANT TRAFFIC GENERATORS (SHOPPING CENTERS, MOBILE HOME PARKS, ETC.) OCCUR WITHIN THE ONE-LANE TWO-WAY OPERATION, INTERMEDIATE TRAFFIC REGULATORS AND APPROPRIATE SIGNING SHALL BE PLACED AT THESE LOCATIONS.
14. ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W3-4 SIGNS.
15. THE HAND HELD (PADDLE) SIGNS REQUIRED BY THE MMUTCD TO CONTROL TRAFFIC WILL BE PAID FOR AS PART OF FLAG CONTROL.
- 28E. THE TRAFFIC REGULATORS SHOULD BE POSITIONED AT OR NEAR THE SIDE OF THE ROAD SO THAT THEY ARE SEEN CLEARLY AT A MINIMUM DISTANCE OF 500 FEET. THIS MAY REQUIRE EXTENDING THE BEGINNING OF THE LANE CLOSURE TO OVERCOME VIEWING PROBLEMS CAUSED BY HILLS AND CURVES.

SIGN SIZES

DIAMOND WARNING - 48" x 48"
 R2-1 REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"

 Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS, NO SPEED REDUCTION		
DRAWN BY: CON:AE:djf	OCTOBER 2011	M0140a	SHEET
CHECKED BY: BMM:CRB	PLAN DATE:		2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0140a.dgn REV. 10/04/2011			

NOT TO SCALE



PLACE THROUGHOUT WORK AREA AS INDICATED IN THE NOTES.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

PLACE THROUGHOUT WORK AREA AS INDICATED IN THE NOTES.

KEY

- TRAFFIC REGULATOR
- CHANNELIZING DEVICES
- LIGHTED ARROW PANEL (CAUTION MODE)
- TRAFFIC FLOW
- LEGEND REFLECTS SPEED LIMIT BEYOND WORK AREA

SIGN = 272 ft2 - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

<p>Michigan Department of Transportation</p> <p>TRAFFIC AND SAFETY</p> <p>MAINTAINING TRAFFIC TYPICAL</p>		<p>TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS AND USING A SINGLE STEP DOWN IN SPEED LIMIT</p>	
		<p>DRAWN BY: CON:AE:djf</p> <p>CHECKED BY: BMM:CRB</p> <p>FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0150a.dgn</p>	<p>OCTOBER 2011</p> <p>PLAN DATE:</p>

NOT TO SCALE

NOTES

- 1H. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES AND LENGTH OF LONGITUDINAL BUFFERS
SEE M0020a FOR "D" VALUES.
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4A. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES IN THE TAPER AREA(S) SHOULD BE 15 FEET AND SHOULD BE EQUAL IN FEET TO TWICE THE POSTED SPEED IN MILES PER HOUR IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
9. ALL TRAFFIC REGULATORS SHALL BE PROPERLY TRAINED AND SUPERVISED.
- 9A. IN ANY OPERATION INVOLVING MORE THAN ONE TRAFFIC REGULATOR, ONE PERSON SHOULD BE DESIGNATED AS HEAD TRAFFIC REGULATOR.
10. ALL TRAFFIC REGULATORS' CONDUCT, THEIR EQUIPMENT, AND TRAFFIC REGULATING PROCEDURES SHALL CONFORM TO THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CURRENT EDITION OF THE MDOT HANDBOOK ENTITLED "TRAFFIC REGULATORS INSTRUCTION MANUAL."
11. WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS, APPROPRIATE LIGHTING SHALL BE PROVIDED TO SUFFICIENTLY ILLUMINATE THE TRAFFIC REGULATOR'S STATIONS.
- 12E. THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS SHALL BE NO MORE THAN 2 MILES IN LENGTH UNLESS RESTRICTED FURTHER IN THE SPECIAL PROVISIONS FOR MAINTAINING TRAFFIC. ALL SEQUENCES OF MORE THAN 2 MILES IN LENGTH WILL REQUIRE WRITTEN PERMISSION FROM THE ENGINEER BEFORE PROCEEDING.
13. WHEN INTERSECTING ROADS OR SIGNIFICANT TRAFFIC GENERATORS (SHOPPING CENTERS, MOBILE HOME PARKS, ETC.) OCCUR WITHIN THE ONE-LANE TWO-WAY OPERATION, INTERMEDIATE TRAFFIC REGULATORS AND APPROPRIATE SIGNING SHALL BE PLACED AT THESE LOCATIONS.
14. ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W3-4 SIGNS.
15. THE HAND HELD (PADDLE) SIGNS REQUIRED BY THE MMUTCD TO CONTROL TRAFFIC WILL BE PAID FOR AS PART OF FLAG CONTROL.
- 16A. ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED SHALL BE PLACED AFTER EACH MAJOR CROSSROAD THAT INTERSECTS THE WORK AREA WHERE THE REDUCED SPEED IS IN EFFECT, AND AT INTERVALS ALONG THE ROADWAY SUCH THAT NO SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED ARE MORE THAN TWO MILES APART.
- 16B. WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED SHALL BE PLACED BEYOND THE LIMITS OF THE REDUCED SPEED AS INDICATED.
- 16E. WHEN EXISTING SPEED LIMITS ARE REDUCED MORE THAN 10 MPH, THE SPEED LIMIT SHALL BE STEPPED DOWN IN NO MORE THAN 10 MPH INCREMENTS.
- 28E. THE TRAFFIC REGULATORS SHOULD BE POSITIONED AT OR NEAR THE SIDE OF THE ROAD SO THAT THEY ARE SEEN CLEARLY AT A MINIMUM DISTANCE OF 500 FEET. THIS MAY REQUIRE EXTENDING THE BEGINNING OF THE LANE CLOSURE TO OVERCOME VIEWING PROBLEMS CAUSED BY HILLS AND CURVES.

SIGN SIZES

- DIAMOND WARNING - 48" x 48"
 RECTANGULAR REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"

NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS AND USING A SINGLE STEP DOWN IN SPEED LIMIT		
	DRAWN BY: CON:AE:djf CHECKED BY: BMM:CRB	OCTOBER 2011 PLAN DATE:	M0150a
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0150a.dgn REV. 10/04/2011			


NOTES

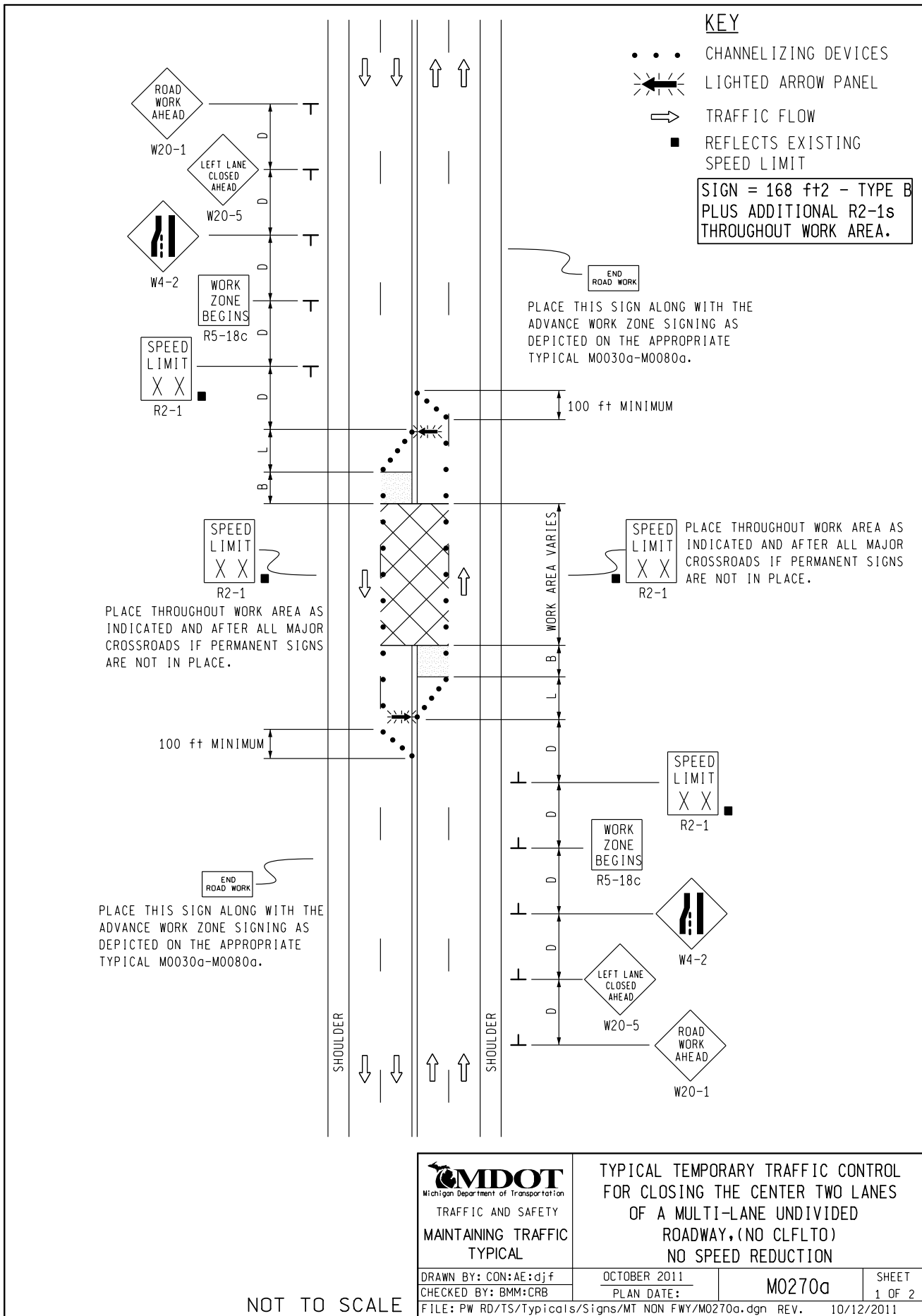
- 1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 L = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 SEE **M0020a** FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
 3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
 - 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
 - 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
 5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
 6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
 7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDTOT WILL BE ALLOWED.
 8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
 21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
 26. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE.

SIGN SIZES

DIAMOND WARNING - 48" x 48"
 R2-1 REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"

NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON AN UNDIVIDED MULTI-LANE ROADWAY, NO SPEED REDUCTION		
DRAWN BY: CON:AE:djf	OCTOBER 2011	M0240a	SHEET
CHECKED BY: BMM:CRB	PLAN DATE:		2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0240a.dgn REV. 10/11/2011			



KEY

- • • CHANNELIZING DEVICES
- ↔ LIGHTED ARROW PANEL
- TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT

SIGN = 168 ft x 2 - TYPE B PLUS ADDITIONAL R2-1s THROUGHOUT WORK AREA.

END ROAD WORK

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

100 ft MINIMUM

SPEED LIMIT X X R2-1

PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

100 ft MINIMUM

END ROAD WORK

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

SHOULDER

SHOULDER

MDOT
Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC
TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL
FOR CLOSING THE CENTER TWO LANES
OF A MULTI-LANE UNDIVIDED
ROADWAY, (NO CLFLTO)
NO SPEED REDUCTION

DRAWN BY: CON:AE:djf

OCTOBER 2011

SHEET

CHECKED BY: BMM:CRB

PLAN DATE:

M0270a

1 OF 2

NOT TO SCALE

FILE: PW RD/TS/Typicals/Signs/MT NON Fwy/M0270a.dgn REV. 10/12/2011


NOTES

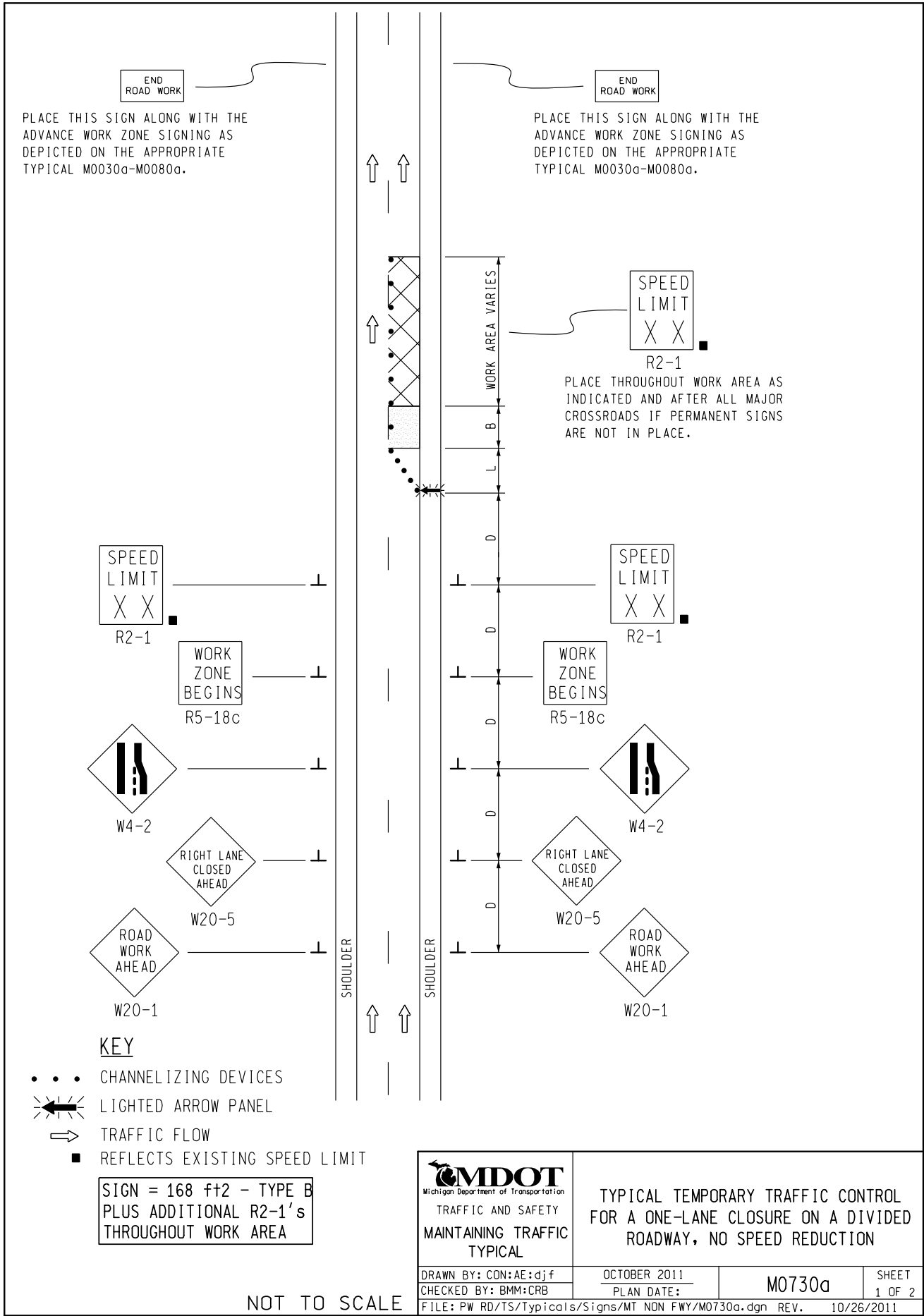
- 1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
L = MINIMUM LENGTH OF TAPER
B = LENGTH OF LONGITUDINAL BUFFER
SEE M0020a FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4B. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON MERGING TAPER(S), TWICE THE POSTED SPEED IN THE PARALLEL AREA(S), AND 25 FEET IN THE DOWNSTREAM TAPER AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
- 26C. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE MERGING TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE MERGING TAPER AS POSSIBLE.

SIGN SIZES

DIAMOND WARNING - 48 " x 48 "
R2-1 REGULATORY - 48 " x 60 "
R5-18c REGULATORY - 48 " x 48 "

NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING THE CENTER TWO LANES OF A MULTI-LANE UNDIVIDED ROADWAY, (NO CLFLTO) NO SPEED REDUCTION		
DRAWN BY: CON:AE:djf	OCTOBER 2011	M0270a	SHEET 2 OF 2
CHECKED BY: BMM:CRB	PLAN DATE:		
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0270a.dgn REV. 10/12/2011			




NOT TO SCALE

NOTES

- 1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 L = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 SEE **M0020a** FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
26. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE.

SIGN SIZES

DIAMOND WARNING - 48" x 48"
 R2-1 REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON A DIVIDED ROADWAY, NO SPEED REDUCTION		
DRAWN BY: CON:AE:djf	OCTOBER 2011	M0730a	SHEET
CHECKED BY: BMM:CRB	PLAN DATE:		2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0730a.dgn REV. 10/26/2011			

NOT TO SCALE

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

END ROAD WORK

SPEED LIMIT
X X
R2-1 *

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

END ROAD WORK

SPEED LIMIT
X X
R2-1 *

SPEED LIMIT
X X
R2-1

PLACE THROUGHOUT WORK AREA AS INDICATED IN THE NOTES.

SPEED LIMIT
X X
R2-1

WORK ZONE BEGINS
R5-18c

W4-2

REDUCED SPEED ZONE AHEAD
W3-5b

RIGHT LANE CLOSED AHEAD
W20-5

ROAD WORK AHEAD
W20-1

SPEED LIMIT
X X
R2-1

WORK ZONE BEGINS
R5-18c

W4-2

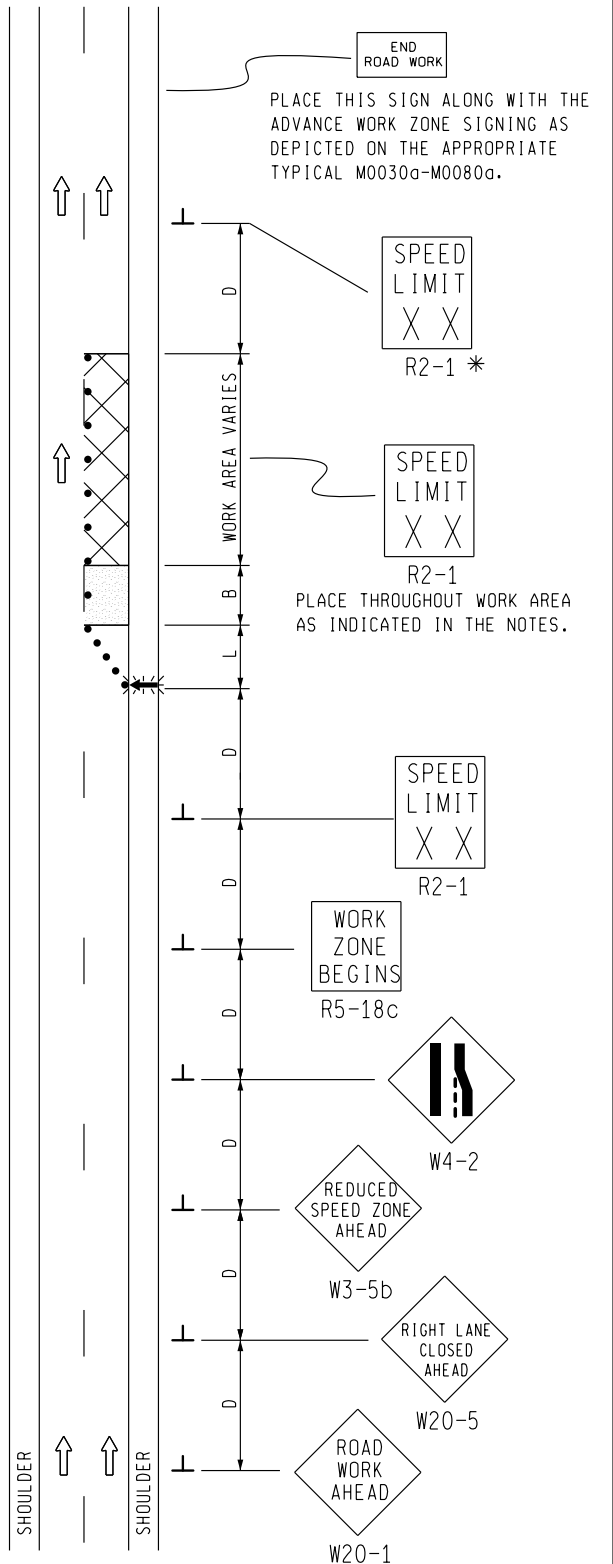
REDUCED SPEED ZONE AHEAD
W3-5b

RIGHT LANE CLOSED AHEAD
W20-5

ROAD WORK AHEAD
W20-1

- KEY**
- • • CHANNELIZING DEVICES
 - ← LIGHTED ARROW PANEL
 - TRAFFIC FLOW
 - * LEGEND REFLECTS SPEED LIMIT BEYOND WORK AREA

SIGN = 240 ft² - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA



<p>Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL</p>	<p>TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON A DIVIDED ROADWAY USING A SINGLE STEP DOWN IN SPEED LIMIT</p>		<p>SHEET 1 OF 2</p>
	<p>DRAWN BY: CON:AE:djf CHECKED BY: BMM:CRB</p>	<p>OCTOBER 2011 PLAN DATE:</p>	
<p>FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0740a.dgn REV. 10/26/2011</p>			

NOT TO SCALE

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

END ROAD WORK

SPEED LIMIT
X X

R2-1 *

END ROAD WORK

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

SPEED LIMIT
X X

R2-1 *

SPEED LIMIT
X X

R2-1

PLACE THROUGHOUT WORK AREA AS INDICATED IN THE NOTES.

SPEED LIMIT
X X

R2-1

WORK ZONE BEGINS

R5-18c



W4-2

REDUCED SPEED ZONE AHEAD

W3-5b

RIGHT LANE CLOSED AHEAD

W20-5

ROAD WORK AHEAD

W20-1

KEY



CHANNELIZING DEVICES



LIGHTED ARROW PANEL



TRAFFIC FLOW

*

LEGEND REFLECTS SPEED LIMIT BEYOND WORK AREA

SIGN = 240 ft x 2 - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA

SHOULDER

SHOULDER

MDOT
Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC
TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON A DIVIDED ROADWAY USING A SINGLE STEP DOWN IN SPEED LIMIT

DRAWN BY: CON:AE:djf
CHECKED BY: BMM:CRB

OCTOBER 2011
PLAN DATE:

M0740a

SHEET
1 OF 2

NOT TO SCALE

FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0740a.dgn REV. 10/26/2011

MINIMUM MERGING TAPER LENGTH "L" (FEET)

OFFSET FEET	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	
1	10	15	20	27	45	50	55	60	65	70	
2	21	30	41	53	90	100	110	120	130	140	
3	31	45	61	80	135	150	165	180	195	210	
4	42	60	82	107	180	200	220	240	260	280	
5	52	75	102	133	225	250	275	300	325	350	
6	63	90	123	160	270	300	330	360	390	420	
7	73	105	143	187	315	350	385	420	455	490	
8	83	120	163	213	360	400	440	480	520	560	
9	94	135	184	240	405	450	495	540	585	630	
10	104	150	204	267	450	500	550	600	650	700	
11	115	165	225	293	495	550	605	660	715	770	
12	125	180	245	320	540	600	660	720	780	840	
13	135	195	266	347	585	650	715	780	845	910	
14	146	210	286	374	630	700	770	840	910	980	
15	157	225	307	400	675	750	825	900	975	1050	

TAPER LENGTH "L" IN FEET

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

"L" = $\frac{W \times S^2}{60}$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

"L" = S x W WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

- L = MINIMUM LENGTH OF MERGING TAPER
- S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
- W = WIDTH OF OFFSET

TYPES OF TAPERS

UPSTREAM TAPERS


- MERGING TAPER
- SHIFTING TAPER
- SHOULDER TAPER
- TWO-WAY TRAFFIC TAPER

DOWNSTREAM TAPERS

(USE IS OPTIONAL)

TAPER LENGTH

- L - MINIMUM
- 1/2 L - MINIMUM
- 1/3 L - MINIMUM
- 100' - MAXIMUM
- 100' - MINIMUM (PER LANE)

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TABLES FOR "L", "D" AND "B" VALUES		
	DRAWN BY: CON:AE:djf CHECKED BY: BMM	JUNE 2006 PLAN DATE:	M0020a
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn REV. 08/21/2006			

DISTANCE BETWEEN TRAFFIC CONTROL DEVICES "D"
AND LENGTH OF LONGITUDINAL BUFFER SPACE ON
"WHERE WORKERS PRESENT" SEQUENCES


"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
D (FEET)	250	300	350	400	450	500	550	600	650	700

GUIDELINES FOR LENGTH OF
LONGITUDINAL BUFFER SPACE "B"

SPEED* MPH	LENGTH FEET
20	33
25	50
30	83
35	132
40	181
45	230
50	279
55	329
60	411
65	476
70	542

* POSTED SPEED, OFF PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

1 BASED UPON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS (A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS), AASHTO. THIS AASHTO DOCUMENT ALSO RECOMMENDS ADJUSTMENTS FOR THE EFFECT OF GRADE ON STOPPING AND VARIATION FOR TRUCKS.

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TABLES FOR "L", "D" AND "B" VALUES		
	DRAWN BY: CON:AE:djf CHECKED BY: BMM	JUNE 2006 PLAN DATE:	M0020a
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn REV. 08/21/2006			

- 3.2.3 Warning signs in construction areas shall have a black legend on a florescent orange background. Color for other signs shall follow the standards for all highway signs. On R.C.O.C. designated sub local roads, 36-inch warning signs may be used, rather than 48-inch warning signs. On all other roads, 48-inch warning signs shall be used.
- 3.2.4 Two yellow flashing lights shall be placed on all construction or maintenance signs, in order to draw the attention of motorists. Lights may be replaced if R.C.O.C. approved high intensity sheeting is used.
- 3.2.5 The bottom height of a rural sign shall be 5 feet from the roadway's elevation and a minimum of 6 feet and maximum of 12 feet off the edge of pavement. The bottom height of a sign in a business, commercial or residential area, or in an area where pedestrian or bicycle traffic may occur, the minimum sign height shall be 7 feet, while the lateral placement may be a 2-foot minimum from the edge of a curb; provided sign supports are not located on sidewalks, bicycle facilities, or areas designated for pedestrian or bicycle traffic.
- 3.2.6 For short-term permitted activities (up to an hour in length), where portable sign mountings are used, the minimum bottom sign height may be one (1) foot.
- 3.2.7 Markings for Type 3 barricades shall be alternating orange and white reflectorized stripes, sloping downward at a 45-degree angle in the direction traffic is to pass, and in the dimensions set forth in the M.M.U.T.C.D.
- 3.2.8 Two steady burn warning lights are to be installed on each Type 3 barricade used at night.
- 3.2.9 Cones may be used to delineate the permitted activity area and to channelize traffic. They shall be a minimum of 18 inches in height with a broadened base, be made out of a material that can be struck without causing damage to the impacting vehicle, and, be fluorescent orange in color. Cones shall only be used during daylight hours.
- 3.2.10 Plastic drums or trim line channelizers (commonly referred to as, "grabber cones") shall be used to channelize traffic. Plastic drums shall be constructed of lightweight, deformable materials, be a minimum of 36 inches in height and have at least an 18-inch minimum width regardless of orientation. Trim line channelizers shall be of similar construction to drums, but 42 inches in height and 7 inches in diameter at the base, with a 15-inch square foundation. Markings on the drums/trim line channelizers shall be horizontal, circumferential, alternating orange and white retroreflective stripes 4 to 6 inches wide. Each drum/trim line channelizers shall have a minimum of two orange and two white stripes with top stripe being orange. Any non-retroreflective spaces between the horizontal orange and white stripes shall not exceed 3 inches wide. Drums/trim line channelizers shall have closed tops that will not allow collection of debris. The specifications and use of plastic drums/trim line channelizers shall comply with the requirements of the M.M.U.T.C.D. and the following requirements:
- (A) Metal drums shall not be used.
 - (B) Plastic drums may be used to channelize traffic, to delineate road user flow, or to mark specific locations; however, they shall never be placed in the roadway without advance warning signs.
 - (C) At night plastic drums used at night in a series for channelization of traffic shall have a steady burn warning light on the drum. Plastic drums used at night singly, however, shall have a flashing warning light on the drum.
- 3.2.11 Permit Holder shall be responsible for ensuring that all plastic drums, cones, barriers, and other devices used to control or warn traffic are kept clean, visible and promptly reset in place if moved, whether by workmen, wind, traffic, or otherwise.

- 3.2.12 A Traffic Regulator is required at work sites to control traffic intermittently as required by work progress, or to maintain continuous traffic past a work site at reduced speeds; and the requirements of the M.M.U.T.C.D. and the following requirements, shall apply:
- (A) Except as provided in 3.2.12 (B) next below, a Traffic Regulator must be located on both ends of an intermittent Lane Closure to direct the traffic flow from both directions. The Traffic Regulators should stand on the shoulder adjacent to the traffic, 200 to 300 feet from the work area, and be in direct communication with each other.
 - (B) At intermittent Lane Closures of one-way traffic, which are less than 250 feet in length and where there are no visibility problems, one Traffic Regulator is required in the work area.
 - (C) At intermittent Lane Closures of one-way traffic, which are over 250 feet in length or where there is a visibility problem, one Traffic Regulator is required at each end of the Lane Closure.
 - (D) At all intermittent Lane Closures, additional Traffic Regulators may be required due to heavy traffic, nearby intersections, etc., as determined by the R.C.O.C.
 - (E) The Traffic Regulator shall be devoted full-time to the control of traffic and shall not be used to assist in any other work activity. As long as the intermittent Lane Closure is in effect, another individual must perform the Traffic Regulator duties, during the Traffic Regulator's work breaks, lunch period, etc.
 - (F) Traffic Regulators shall wear high visibility safety apparel that meets the ANSI 107-2004 standard performance for Class 2 or 3 risk exposure and shall be equipped with hand-held "STOP/SLOW" paddles, as shown in the current edition of the M.M.U.T.C.D.
 - (G) Wherever a Traffic Regulator is used, appropriate advance warning signs, including a W20-7a sign, shall be posted in advance of the Traffic Regulator's station in accordance with the current edition of the M.M.U.T.C.D.
- 3.2.13 All traffic control operations shall be conducted in a courteous and professional manner, and every reasonable effort shall be made to minimize delay and congestion in the work area, including cross-streets.
- 3.2.14 After working hours, inapplicable and inappropriate signs shall be covered or disassembled so that traffic will not be confused.
- (A) When a Lane Closure must remain in effect overnight, proper traffic control devices are required.
 - (B) All warning signs used during hours of darkness shall be high intensity and require two flashers.
- 3.2.15 Upon completion of the work of construction, improvement or repair, or other permitted activity, the Permit Holder shall remove, or see to the removal of, all temporary barriers, cones, traffic control devices, markings and signs placed for the permitted activity.
- 3.2.16 In the opinion of the R.C.O.C., when traffic conditions warrant, the R.C.O.C. may require the Permit Holder, during periods of peak traffic hours, to cease operations and/or restore the road to full use.

RULE 3.3 APPROVALS OF ROAD CLOSURES AND DETOUR ROUTES

- 3.3.1 Prior to closure of any county roads, state Law requires that the Board approve the Road Closure, establish appropriate detour routes and see to the placement of required signage. Prior to closing a road, it is necessary for the Board to approve by resolution the time and date and section of road to be closed.
- 3.3.2 The following items must be satisfied by the Applicant or Permit Holder prior to commencing activity which requires Road Closure of a road under the jurisdiction of the Board. Three weeks prior to the proposed Road Closure, the Permit Holder shall:

- (A) Submit to the Permits Division in writing a request to close the road in question and establish a detour, using the road closure request form supplied by the R.C.O.C. for that purpose.
- (B) Indicate the date and times of the beginning and ending of the Road Closure.
- (C) Submit a proposed detour route showing any and all signage, lane marking, barrier and other traffic control device requirements, in accordance with the M.M.U.T.C.D.
- (D) Submit written approval(s) of the local community or communities involved.
- (E) If the proposed detour route involves roads not under the jurisdiction of this Board, submit written indication of the approval or processing of approval to use roads not under the jurisdiction of this Board as detour routes.
- (F) Indicate in writing the party responsible for fabricating and installing Road Closure and detour route signing. The Permit Holder shall bear all costs associated with Road Closure and detour signing.
- (G) Submit the phone and/or fax numbers for the following:
 - (1) Office headquarters of the government agency or contractor closing the road.
 - (2) The job supervisor.
 - (3) The job site.
 - (4) A 24-hour emergency number.

3.3.3 Upon review and approval of the proposed detour route and signage, the Permits Division will propose to the Board a resolution authorizing Road Closure and establishment of the detour route. The Permits Division will notify the permit Applicant of approval (or denial) and authorize installation of signs for the Road Closure. Advance warning signs detailing the location and dates of Road Closure shall be erected a minimum of one (1) week prior to the scheduled Road Closure. Detour routing signs must be covered until the road is closed and covered or removed immediately after the road is re-opened. The appropriate local officials including; police, fire, schools, and ambulances will be notified by the Permits Division of the Road Closure one-week before the date of commencement.

RULE 3.4 DETOURS AND TEMPORARY ROUTES

- 3.4.1 No road or street shall be closed to Through Traffic without specific permission of the Board.
- 3.4.2 Requests for permission to close a road or street and the establishment of a detour and/or temporary route shall be made in writing by the Applicant or by the Permit Holder. If the Permit Holder makes the request, the Applicant must concur in writing prior to submission to the R.C.O.C.
- 3.4.3 No detour or temporary route shall be opened to traffic unless and until all signage, lane markings, barriers and other traffic control devices required by the M.M.U.T.C.D. and the R.C.O.C. are in place. Unless other arrangements are expressly approved in advance in writing by the R.C.O.C., the Permit Holder shall install and maintain all such signage, lane markings, barriers and other traffic control devices for all approved detours and temporary routes, and shall remove all such signage, lane markings, barriers and other traffic control devices as soon as practical when they are no longer needed. When work is suspended for short periods of time, the Permit Holder shall remove or cover all such signage, lane markings, barriers and other devices that are no longer appropriate.
- 3.4.4 The Permit Holder must give the R.C.O.C. at least three weeks advance notice, not including Saturdays, Sundays, and R.C.O.C. holidays, for all detours and temporary routes. Special information signs, including Road Closure dates, shall be posted at least one week prior to Road Closure.

3.4.5 The R.C.O.C. will initially notify the police, fire department, local schools, and community, etc. The Permit Holder shall notify all concerned parties, such as police and fire departments, school officials, etc., and provide them with a work activity schedule. Upon completion of use of the detour and/or temporary route, the Permit Holder shall notify the same concerned parties that the road has been re-opened and that the detour and/or temporary route is no longer in effect.

Paved roads shall be detoured to paved roads whenever it can be done within a reasonable distance, as determined by RCOC.

Approved trucking routes, as labeled on the RCOC's, "Truck Operators' Map" shall be detoured to other approved trucking routes.

3.4.6 If, in the opinion of the R.C.O.C., the road or roads over which the detour or temporary route will be routed cannot reasonably be expected to handle the resulting increased traffic, the R.C.O.C. shall notify the Permit Holder; and, prior to the posting of a detour or temporary route, the Permit Holder shall make all necessary improvements, as directed by the R.C.O.C., to handle the increased traffic, and shall maintain the route in the improved condition during the use of the detour or temporary route. If conditions warrant, the R.C.O.C. may require additional improvements during the use of the detour or temporary route.

3.4.7 The R.C.O.C. may require additional informational or advisory signs to ensure convenient access to schools, churches, businesses, local residents, or other facilities within the area affected by the Road Closure. The cost of such signs and their installation shall be the responsibility of the Permit Holder.

3.4.8 Upon cessation of use of each detour and/or temporary route and the re-opening of the closed road, The R.C.O.C. shall make a final inspection of the detour and/or temporary route. Prior to release of the permit, the Permit Holder must repair any damage as a result of the use of the detour and/or temporary route.

RULE 3.5 STEEL PLATING

3.5.1 Whenever possible, all excavations will be backfilled and repaired prior to opening for traffic. Whenever small openings (such as "window cuts") are made in a road pavement that must remain open to traffic during the time there is no work activity, they shall be covered with steel plates. The steel plates shall be of adequate size and thickness to support all legal axle loads and shall overlap existing pavement by at least one (1) foot on all sides of the hole for trenches less than 6 feet deep and 2 feet on all sides of the trench for trenches deeper than 6 feet. The following table shows the minimum size and thickness required for a range of hole sizes:

<u>Hole Area</u>	<u>Minimum Plate Size</u>	<u>Minimum Thickness</u>
Up to 3' x 4'	5' x 6'	3/4"
Up to 4' x 6'	6' x 8'	3/4"
Up to 4' x 10'	6' x 12'	1"

3.5.2 Side by side plating may be used to cover cuts longer than 10 feet, provided the abutting edges are supported by a steel beam of adequate strength and firmly supported on sound earth for at least one (1) foot on each end. Steel plates shall be bedded in cold patch and held in position by bolts or pins at least 3 inches long. Cold patch ramps shall be used along all edges of the plates. Steel plates shall also be used to cover concrete patches during the curing period. Upon removal of the steel plates, all cold patch shall be removed from the pavement and properly disposed of outside the road Right-of-Way. The necessary steel plates must be on the job site before the pavement is removed.

3.5.3 The use of steel plates shall only be allowed when no other option is available and must be approved in advance by the Permits Division.

- 3.5.4 If possible, steel plates shall not be used in winter. In order to avoid any conflict with snow removal operations, if steel plates must be used in winter, the Permit Holder shall notify the R.C.O.C. Maintenance Department in writing, one (1) week in advance of the proposed plating.

RULE 3.6 TRAFFIC CONTROL DEVICES AND EQUIPMENT

The Permit Holder shall be responsible for the protection from damage, and interference with, all traffic control devices and equipment, including but not limited to hand holes, conduit, wiring, detectors, cabling, supports, cameras, beacons, signals, control boxes, and any other equipment associated with the control of traffic signals, signs, warning devices, and Intelligent Vehicle Highway Systems. Unless expressly indicated on the permit and on the Approved Plans, the Permit Holder, without the express written permission of the R.C.O.C. Traffic-Safety Department, may not remove, adjust, relocate, tamper with, or interfere with, the operation of these traffic control devices. All necessary repairs, restorations, or adjustment to these systems, if required, shall be made, at the expense of the Permit Holder. Proposed signal alterations, or new signal installations shall be designed by a Professional Traffic Operations Engineer (PTOE), and performed by an MDOT pre-qualified traffic signal contractor.

RULE 3.7 GUARDRAILS

The Permit Holder shall be responsible for the removal or protection of guardrails, guardrail posts, guideposts, and end treatments that conflict with the permitted work activities of the Permit Holder. No Permit Holder or any other Person shall remove any guardrails, or any part thereof, without prior permission of the R.C.O.C. If any guardrail is removed, Permit Holder shall place sufficient temporary lighted barricades in place thereof, and shall restore the guardrail as soon as the conflict with the permitted work activities no longer exists. With the permission of the R.C.O.C., the Permit Holder may elect, at Permit Holder's own expense, to eliminate a guardrail by flattening slopes, removing obstacles, or other actions that result in the guardrail no longer being warranted by the current A.A.S.H.T.O. guideline. If guardrails and posts, or any part thereof, are removed or damaged, the Permit Holder shall restore them to the current A.A.S.H.T.O. standard for height, type, construction, and end treatment. If the height of the guardrail is changed, in relation to the roadway or shoulder, as a result of the work performed by the Permit Holder, the guardrail must be upgraded at the direction of the R.C.O.C. and at the expense of the Permit Holder. All guardrail construction shall be performed by an M.D.O.T. pre-qualified contractor.

RULE 3.8 PAVEMENT MARKINGS

- 3.8.1 Unless otherwise expressly indicated in writing on the Approved Plans or the permit, the Permit Holder shall be responsible for the protection, restoration, and replacement of all pavement markings, including lane lines, pedestrian crossings, legends, and reflectorized pavement markings, that may be disturbed or damaged by the permitted activity or by any activity in connection therewith.
- 3.8.2 Permanent pavement markings shall be installed on replacement pavement prior to opening up the replacement pavement to traffic. Temporary markings may be used on temporary pavements but must be replaced with permanent markings if the temporary pavement is to be used at any time after November 1st to the end the winter construction season. The Permit Holder is responsible for regular inspection of temporary pavement markings and repair or restoration of damaged or disturbed markings. Only MDOT Type (R) tape shall be used on final surfaces.
- 3.8.3 At the Permit Holder's expense, the R.C.O.C. shall repair any damaged or disturbed pavement markings, whether temporary or permanent.

If permitted road work necessitates, and the RCOC approves, a change in lane assignments or lane function that will last overnight, the Permit Holder shall be responsible for having the existing permanent pavement markings that conflict with the proposed temporary lane assignments ground off, and installing new pavement markings for the proposed temporary condition. Upon restoration of the original lane assignments, the Permit Holder shall promptly have the temporary markings ground off, and the original permanent pavement markings restored.

PART 4 – TREE REMOVAL, TRIMMING, OR TUNNELING

RULE 4.1 PERMIT REQUIREMENTS

- 4.1.1 Unless otherwise expressly authorized by the R.C.O.C. in a special situation, no Person shall cut down, remove, trim, or tunnel under, any tree in the Right-of-Way, unless and until the R.C.O.C. Permits Division issues the Person a permit to allow such activity. A separate permit is not required if the cutting down, removal, trimming, and/or tunneling under, the tree or trees is expressly included in a permit for other activities in the Right-of-Way, such as the construction of approaches, turning lanes, pathways, or utility connections; provided, however, that such cutting down, removal, trimming and/or tunneling under is expressly shown on the Approved Plans or expressly included in writing in the permit issued. A residential Property Owner, clearing any trees from his or her Road Frontage along the county road, must obtain a permit, if traffic on the roadway will be impacted by, or the Right-of-Way used for, any such clearing activities.
- 4.1.2 The Permit Holder is responsible for obtaining any and all permits required by the local municipality for forestry activities, such as cutting down, removing, trimming, and tunneling under trees.
- 4.1.3 The Applicant for a permit shall show on the construction plans, or on separate sheets similar to construction plans, and in such a way that they are readily identifiable in the field, the individual tree or trees that Applicant proposes to cut down, remove, tunnel under, and/or trim and their location, size, and species. If a tree is to be trimmed, Applicant must indicate the type and extent of trimming.
- 4.1.4 Before applying for a permit to cut down, remove, trim, and/or tunnel under any tree located in the Right-of-Way not directly fronting the Road Frontage of the Property Owner for whose benefit Applicant requests the permit, Applicant shall obtain a R.C.O.C. wood disposal license agreement form signed by the other Property Owner(s) of the Road Frontage directly fronting the Right-of-Way location of each tree greater than 6" in diameter which Applicant applies to cut down, remove, trim and/or tunnel under (the "Abutting Property Owner(s)"). Applicant may obtain R.C.O.C. wood disposal license agreement forms from the Permits Division. Applicant shall obtain a separate signed wood disposal license agreement form from each Property Owner, other than Applicant, on whose Road Frontage Right-of-Way trees are to be cut down, removed, trimmed, and/or tunneled. The signed wood disposal license agreement form shall be evidence of the Property Owner's desire, or not, to receive the wood of the trees cut down, removed or trimmed by the Permit Holder. It is the responsibility of Applicant to negotiate terms with each Property Owner to obtain a signed wood disposal license agreement. Applicant shall file with the Permits Division copies of all necessary wood disposal license agreements before the R.C.O.C. issues a permit. The Permit Holder shall notify the Abutting Property Owners before starting to cut down, remove, trim and/or tunnel under any trees opposite the Abutting Property Owner's Road Frontage.

RULE 4.2 DISPOSAL OF MATERIALS

The Permit Holder shall remove all stumps, limbs, litter, and logs from the Right-of-Way. The Abutting Property Owner has the first right to the wood. If the Abutting Property Owner elects in the wood disposal license agreement not to receive the wood of the trees cut down, removed or trimmed by the Permit Holder, the logs and major limbs may be cut into fireplace lengths and piled neatly in the Right-of-Way, at least 10 feet from the traveled portion of the road for removal by others. If, after one week, others have not removed the wood, the Permit Holder shall dispose of it and repair any damage to lawn/grass caused by the storage. In disposing of stumps, limbs, cuttings, slash, litter and logs, Permit Holder shall comply with the provisions of 2.5 of these Rules, including Rule 2.5.16.

RULE 4.3 TUNNELING OR BORING UNDER TREES

Tunneling or boring must be below the major root system and extend a distance of one (1) foot on either side of the tree for each 2 inches of trunk diameter measured 4 feet above grade (e.g., an 8-inch diameter tree requires 4 feet of distance on each side of the tree). All voids around the tunneled or bored facility shall be backfilled with Approved

Excavated Material and thoroughly compacted to avoid settlement. If the tree is severely damaged, the spacing requirements listed above are not adhered to, or the tree dies within one year as a result of the tunneling or boring, the Permit Holder, at Permit Holder's own expense, shall remove it and plant another tree in its place.

RULE 4.4 REPLACEMENT OF TREES

As a condition of the permit, the Permit Holder may be required to replace trees on a one-for-one basis unless otherwise approved in writing by the R.C.O.C. Plans submitted with the application for the permit shall show not only the trees to be removed, but also the species, size, and planting location for each replacement tree. Replacement trees shall be of well-formed and sturdy stock of a size and variety approved by the R.C.O.C.

PART 5 – UNDERGROUND CONSTRUCTION STANDARDS

RULE 5.1 ROAD CROSSINGS

- 5.1.1 All underground utility crossings of paved roads and gravel primary roads shall be done by an approved method of boring unless so indicated on the Approved Plans or approved in advance by the Permits Division.
- 5.1.2 If tunneling under the Roadbed is proposed, the tunnel shall be adequately sheeted or shored to prevent the sides and top from collapsing and the pavement from settling or cracking. Voids between shoring and/or sheeting and the side of the excavation shall be eliminated.
- 5.1.3 **Directional Boring.** If Directional Boring is approved, the following requirements shall be followed:
- (A) Equipment:
- (1) The equipment shall have a radio location boring head.
 - (2) Location equipment shall be used to track bore head location.
 - (3) Back reaming shall be done by R.C.O.C. approved methods only.
 - (4) Compactor back reaming is not allowed.
 - (5) Proper drilling lubricant shall be used.
 - (6) Only steerable type boring is allowed, and hammer moles are not allowed.
- (B) Operations:
- (1) The path of the proposed bore must be marked in advance of the boring to check for conflicts with utility and structures.
 - (2) The top bore hole shall be a minimum of 48" below the pavement subgrade or ditch line, whichever is deepest.
 - (3) Bore pits shall be a minimum of 10 feet off the edge of the pavement or behind the curb.
 - (4) When boring is done near electrical supply cables, proper care shall be taken to protect the operator, locator, and others from shock hazards.
 - (5) When back reaming pilot holes, and dragging product, the use of compaction type cutter heads is prohibited. The contractor shall use a cutting head suitable to cutting a hole large enough to accommodate the product and lubricating fluid. Plain water will not be used as a lubricating fluid on bores exceeding 2 inches in diameter.
 - (6) After boring operations and connections are completed, the contractor shall restore the bore pit areas to the same or better condition than the original condition.
 - (7) In the event of damage to the pavement or roadside due to drilling operations, the contractor shall repair the pavement or roadside in a manner specified by the R.C.O.C. before further boring operations can continue.
 - (8) The R.C.O.C. shall be provided with a log of the bores on all conduits over 2 inches in diameter showing the final depth and path of the conduit under the roadway.
- 5.1.4 **Boring and Jacking.** If boring and jacking is approved, the following requirements shall be followed:
- (A) If a pipe is to be installed under the Roadbed by boring and jacking, the leading edge of the pipe shall precede the auger by $\frac{1}{2}$ times the diameter of the pipe. If the auger cannot be operated inside the utility pipe, a casing pipe is required. A casing pipe may also be required at other times when deemed necessary by the Permits Division. The casing must be bulkheaded with cementitious material to prevent material infiltration after installation. All pipes greater than 4 inches in diameter shall be bored using an auger.

- (B) All shafts or pits shall be located at least 10 feet off the edge of pavement on Major Roads and 5 feet off the edge of pavement on subdivision roads. If the shaft or pit must be closer to the road than the above dimensions due to the location of the utility to be tapped, sheeting or shoring must be used on all sides of the excavation which are closer to the road than the above requirements. Backfill and compaction methods shall meet R.C.O.C. backfill requirements.
- (C) All voids shall be filled by pressure grouting or other R.C.O.C. approved methods.
- (D) If any settlement or other change in grade of the roadway, curbs, or ditches occurs, the road and/or drainage facilities shall be repaired or reconstructed to proper grade as directed by the Permits Division.

5.1.5 **Open Cutting.** If Open-Cutting is proposed the following requirements shall be followed:

- (A) If a crossing cannot be bored due to extenuating circumstances, an Open-Cut crossing may be approved by the Permits Division. Provisions for handling traffic shall be as directed by the Permits Division, and the Permit Holder shall bear all the expenses thereof, including but not limited to signing, pavement marking, and traffic control.
- (B) Open-cut crossings shall be made during off-peak traffic hours (9:00 A.M. to 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 R.C.O.C. Lane Closures and work operations and related activities will not be authorized on the day preceding major holiday weekends and during major holiday weekends, including Memorial Day, Fourth of July, Labor Day, and Thanksgiving Day weekends and the day before Christmas through the New Year holidays. Open-cut crossings shall not be started until all equipment and material necessary for restoration is on-site or immediately available. Open-cuts shall not begin if inclement weather is threatening, which may impede the contractor's ability to restore the traveled way in a timely manner.
- (C) No road shall be closed without prior approval of the Board. Approval of Road Closures requires that detours be installed in accordance with Part 3 of these Rules (Maintaining Traffic and Traffic Controls). Permit Holder shall request Road Closures from the Permits Division in writing, at least three weeks in advance, and include in the written request, the location, length of time the road will be closed, approximate starting and completion dates, reasons for the request, and a diagram showing the detours and all detour signage.
- (D) If a Road Closure is not approved, through-traffic must be maintained at all times.
- (E) If field conditions warrant sheeting, the Permit Holder shall provide sheeting of the excavation to protect the road.
- (F) In the case of multiple open cut crossings (such as might occur during installation of sanitary sewer, water main, etc. in an existing subdivision) the R.C.O.C. may require permanent repair of the crossing followed by a hot mixed asphalt (H.M.A.) cap over the entire width and length of effected roadway and shall be performed as defined in Rule 5.4 (Pavement Replacement).

RULE 5.2 PAVEMENT REMOVAL

- 5.2.1 All crossing of Major Roads by the open-cut method shall include removal of the pavement to a minimum width of at least 6 feet and at least 3 feet beyond the limits of the trench and one (1) foot beyond the limits of any damaged pavement.
- 5.2.2 If the pavement removed is concrete or asphalt over concrete, the remaining slabs shall have a minimum width of at least 5 feet from the patch to an existing joint. The cutting of the pavement shall be made by sawing to a minimum depth of 5 inches. Cuts in concrete Residential Driveways and Commercial

Driveways shall be as above described in this Rule 5.2.2, except that the patch width shall be a minimum of 3 feet and the remaining slab width from the patch to the existing joint shall be a minimum of 3 feet.

5.2.3 If the pavement is asphalt, the pavement shall be cut by sawing prior to excavation, unless otherwise indicated on Approved Plans. Cuts in driveways or street approaches may require an overlay of the entire approach as determined by the Permits Division.

5.2.4 All saw-cuts shall be made in a straight line and shall be parallel to existing transverse and longitudinal joints, unless otherwise approved by the Permits Division.

Longitudinal saw cuts shall be along the centerline, lane lines, or the center of the lane, not along wheel paths.

5.2.5 All equipment and material necessary for restoration, including but not limited to compaction equipment and sand, shall be on site prior to beginning any excavation or pavement removal. Material, which cannot be stored, such as HMA, shall be immediately available.

5.2.6 If Permit Holder's work operations or related activities remove or damage 20% or more of the road surface, or the surface is three (3) years or less old, or the Permits Division determines that any open cut will result in substantial surface deterioration, the entire roadway shall be overlaid or reconstructed as required by the Permits Division.

RULE 5.3 BACKFILLING AND COMPACTION OF BACKFILL

5.3.1 General requirements:

(A) Compaction shall be accomplished by suitable mechanical compaction equipment and methods as shown on Approved Plans or by methods approved by the R.C.O.C.

(B) Where granular material is specified on Approved Plans or when required by this Rule 5.3, it shall be M.D.O.T. Class II granular backfill.

(C) Where granular material is not specified on Approved Plans or required by this Rule 3.1, Approved Excavated Material capable of meeting identified compaction requirements may be used. Peat, marl, muck, silt, blue clay, frozen material, topsoil and other organic or hydric soils are not approved materials and shall not be used. Prior to commencing any backfilling operations, the Permit Holder shall (1) identify in writing to the R.C.O.C. the excavated materials to be used, compaction methods, testing requirements, including moisture and density, and handling and material management methods; and (2) receive the R.C.O.C.'s approval.

(D) Backfill materials shall be free of broken concrete, asphalt, woody material, sod, debris, clumps, frozen material, or clods.

(E) Excavated material, which is proposed to be used as backfill, shall be tested and approved by the R.C.O.C. prior to commencing any backfilling operations. Soil borings and tests should be submitted with the application. The material must meet the following criteria:

- (1) Minimum 50% sand.
- (2) Maximum 10% wash (passing a #200 sieve).
- (3) Must be at or below optimum moisture content.
- (4) Must be able to be compacted to meet density requirements.
- (5) No plasticity due to excess moisture or overworking.
- (6) No appreciable deflection under-load from heavy construction equipment.
- (7) If moisture content changes due to precipitation or humidity, re-testing or special handling will be required.

5.3.2 Requirements based on excavation locations:

- (A) Within Roadbed limits or under concrete or asphalt sidewalks, driveways, or parking areas.

Backfill Requirements:

Class II Granular material shall be used, unless otherwise shown on the Approved Plans or otherwise approved in writing by the Permits Division. If the Permit Holder proposes to use excavated material, not shown on Approved Plans, the R.C.O.C. will require that, prior to use, the Permit Holder agree to material sampling and testing, material storage and handling, and other requirements to determine that the proposed material is Approved Excavated Material. The Approved Excavated Material shall be placed in layers of not more than 9 inches in thickness. Each layer shall be compacted to not less than 95% of maximum unit weight as determined by an appropriate test method. The R.C.O.C. prefers the Modified Proctor Method.

- (B) Outside the Roadbed but within the Zone of Influence or under sidewalks, driveways, or surfaced areas.

Backfill Requirements:

Class II Granular material shall be used unless otherwise shown on the Approved Plans or otherwise approved in writing by the Permits Division. If the Permit Holder proposes to use excavated material, not shown on Approved Plans, the R.C.O.C. will require that, prior to use, the Permit Holder agree to material sampling and testing, material storage and handling, and other requirements to determine that the proposed material is Approved Excavated Material. The Approved Excavated Material shall be placed in layers of not more than 9 inches in thickness. Each layer shall be compacted to not less than 95% of maximum unit weight as determined by appropriate test method.

- (C) Outside the Roadbed and Zone of Influence and not under sidewalks, driveways, or surfaced areas.

Backfill Requirements:

Approved Excavated Material may be used provided that requirements of Rule 5.3.1 can be met. The backfill shall be placed in layers of not more than 12 inches in thickness. Each layer shall be thoroughly compacted to 90% of maximum unit weight.

- 5.3.3 The Permit Holder shall supply the R.C.O.C. with sufficient density tests conducted by an approved independent testing laboratory to assure compliance with R.C.O.C. compaction requirements. The Permit Holder shall notify the R.C.O.C. of the name, address, and phone number of the testing laboratory 72 hours prior to beginning backfill operations. All test results shall be provided to the R.C.O.C. as soon as the results are available.
- 5.3.4 If the required in-place compaction or stability cannot be obtained, the Permit Holder shall remove the material and class II granular material will be required.
- 5.3.5 Field compaction test methods shall be employed which give immediate test results.
- 5.3.6 All under-drain systems that are disturbed shall be rebuilt in a manner that completely restores their function.
- 5.3.7 Any geotextile fabric or geogrid encountered in the excavation shall be restored in a manner that ensures the integrity of the material as it was originally intended. The R.C.O.C. must approve the material and methods of repair prior to installation.

RULE 5.4 PAVEMENT REPLACEMENT

5.4.1 Temporary Replacement (Patching)

In accordance with the following provisions, the Permit Holder shall temporarily replace any and all pavement removed in crossing and/or paralleling paved county roads, or as a result of damage caused by the Permit Holder:

- (A) From May 1 through November 14, a minimum of 4 inches compacted thickness of M.D.O.T. 5E, or better, H.M.A., placed in two lifts over 12 inches of compacted 21AA modified aggregate base, is required. Crushed concrete is not allowed. An appropriate R.C.O.C approved bond coat shall be applied between placements of asphalt lifts.
- (B) From November 15 through April 30, if HMA is reasonably available, it shall be used, as required in 5.4.1(A) above, provided suitable weather allows. Open-cutting of pavement will generally not be allowed if, in the opinion of the R.C.O.C., the unavailability of H.M.A. or the weather conditions preclude use of that material. If, in the opinion of the R.C.O.C., H.M.A. is not reasonably available or the weather conditions preclude its use, a minimum of 3 inches compacted cold patch asphalt over 12 inches of compacted M.D.O.T. 21AA aggregate base shall be used. Based on the R.C.O.C.'s anticipated maintenance and traffic considerations, the R.C.O.C. may require a temporary concrete patch.
- (C) Temporary pavements must be placed immediately after utility installation in the crossing of main roads and within five days after crossing on subdivision streets. Failure to do so shall be just cause for either the temporary suspension or permanent revocation of the Permit Holder's permit.
- (D) All temporary pavements must be maintained and kept in good condition by the Permit Holder until the final pavement replacement is made. Costs for emergency repairs by the R.C.O.C. shall be billed to, and paid by, the Permit Holder.

5.4.2 Final Pavement Replacement

- (A) Provided suitable settlement has taken place over a period of at least four months, final pavement replacement shall be made within the first paving season (May 1 through November 14) following completion of the excavation, unless otherwise directed in writing by the R.C.O.C.
- (B) If more than 20% of the width of a lane of asphalt surfaced road (or section thereof) is removed or damaged by the Permit Holder's operations, the R.C.O.C. will require a full cap replacement of the roadway width (or section thereof). The full cap shall consist of an asphalt overlay, of a minimum thickness of 2 inches of M.D.O.T. 5E, or better, H.M.A. pavement, placed over the entire road (or section thereof), after replacing the damaged pavement or removed asphalt in accordance with these Rules. An appropriate R.C.O.C approved bond coat shall be applied prior to the placement of the H.M.A. cap. The R.C.O.C. may require a thicker H.M.A. cap in high traffic areas.
- (C) The R.C.O.C. shall determine the final area of the pavement to be replaced and/or capped. The final repaving shall be done by an approved paving contractor in accordance with the current R.C.O.C. standards. Before pavement replacement is started, the Permit Holder must submit in writing to the R.C.O.C. the name of the proposed paving contractor and a list of equipment and source of materials that will be used during pavement replacement; and the R.C.O.C. must approve in writing the paving contractor and the equipment and materials. The paving contractor must notify the R.C.O.C. two working days before pavement replacement is started. The R.C.O.C. reserves the right, at the Permit Holder's cost, to test and inspect at the point of origin and/or at the time of placement, all materials to be used. Permit Holder shall restore to the satisfaction of the R.C.O.C. all pavements in the Right-of-Way damaged due to the Permit Holder's operations, including without limitation all traveled lanes including turn lanes, passing lanes, tapers, paved shoulders, driveways, street approaches and any

other part of the Right-of-Way that may be damaged directly or indirectly by the work operations or related activities of Permit Holder and those working directly or indirectly for him, including damage due to material handling, trucking, equipment, or temporary roads. Materials that do not meet design specs, shall not be placed and shall be removed from the worksite. Materials placed and found by the R.C.O.C. to be out of specification shall be removed and replaced at the RCOC's direction and at the Permit Holder's cost.

- (D) The final pavement replacement shall be structurally equivalent to, and of the same type as, the pavement being replaced, and in accordance with the following conditions.
- (1) Asphalt on a sand, gravel, unknown or undetermined base:
Match existing pavement thickness within the following limits:
 - (a) Minimum of 4 inches of M.D.O.T. 5E H.M.A., with appropriate R.C.O.C approved bond coat between lifts. Aggregate pavement placed in two, 2-inch lifts on 8 inches of M.D.O.T. 21AA modified aggregate base.
 - (b) Maximum 9 inches "deep strength" asphalt placed in three (3) lifts, on suitable, granular, compacted subbase. "Deep strength" asphalt shall consist of one, 2-inch lift of M.D.O.T. 5E H.M.A., over one, 3-inch lift of M.D.O.T. 4E H.M.A., over one 4-inch lift of M.D.O.T. 3E H.M.A., with appropriate R.C.O.C approved bond coats between the lifts.
 - (2) Asphalt on concrete:
The subbase for new pavement shall match the existing subbase. The pavement may be placed with full-depth MDOT Grade A 35-P concrete equal in thickness to the concrete base and H.M.A. cap, with a minimum pavement thickness of 9 inches constructed as outlined in these Rules. Prior to placement of an asphalt lift, the concrete or asphalt on which each lift is to be placed shall be tacked with an appropriate R.C.O.C approved bond coat.
 - (3) Concrete pavement:
Replace with concrete pavement of the same thickness and type as the existing pavement on sand or gravel subbase equal to the existing subbase in thickness and compacted to 98% density. All concrete shall be M.D.O.T. Grade A 35-P unless otherwise required by the R.C.O.C. High early or "extra" high early 35HE should not be used unless required by the R.C.O.C., usually for reasons of traffic volumes and the Permit Holder operations. The concrete shall meet the R.C.O.C.'s alkali silica reaction specifications.
- (E) Final Pavement restoration shall include wedging as necessary with suitable asphalt to establish or reasonably restore pavement cross-slope, super-elevation, or transitions, including adjustments to driveways, side streets, and paved shoulders. The Permit Holder is responsible for adjustment to shoulders, including the adding of material to achieve a smooth cross-slope. Special care shall be taken to maintain positive drainage at all locations including driveway aprons. The R.C.O.C. may require paved shoulders on primary roads.
- (F) Deviations in pavement design must be approved by the Permits Division prior to construction, and deviations in pavement materials prior to installation.
- (G) The Permit Holder and Applicant are responsible for survey or measurement of existing roadway conditions sufficient to allow road restoration prior to removing or disturbing the roadway. This includes determining lane widths, shoulder width, cross-slope, superelevation, vertical or horizontal curve, ditch cross-section and grades, pavement thickness, and subgrade type. Where vertical curves or horizontal curves with super elevations exist, cross-sections shall be provided at maximum 25 feet intervals. Should the Permit Holder and Applicant fail to provide this information on Approved Plans or prior to removal or disruption, then current design guides shall prevail for restoration.

(H) Curb lines shall be milled or otherwise adjusted to accept the new roadway surface. Butt Joints shall be provided at intersections, driveways, at the end of an overlay, and other locations. Said joints shall be clean, straight, and perpendicular or parallel to the roadway.

5.4.3 The Permit Holder shall repair any damaged pavement, including subgrade repair, prior to placement of the wearing course of asphalt surfacing.

RULE 5.5 GRAVEL ROADS

5.5.1 All excavations within the limits of the Roadbed shall be backfilled with material as shown on Approved Plans. Alternate backfill materials must be approved in writing by the R.C.O.C. and are subject to Rule 5.3.

5.5.2 Immediately after the trench is backfilled and compacted, the affected portion of the road and ditches shall be rough graded to the appropriate gravel road cross-section indicated in these specifications, and the affected portion of the road surface shall be stabilized with a minimum of 12 inches of compacted processed road gravel (M.D.O.T. 22A aggregate base or approved equivalent). Cementitious materials such as crushed concrete are not considered equivalent and will not be permitted unless shown on Approved Plans. If road surface areas outside of the excavation are used for storage of construction materials or excavated materials, or are otherwise damaged or contaminated due to construction operations, a minimum of 2 inches of compacted M.D.O.T. 23A road gravel shall be placed over such contaminated areas immediately following construction.

5.5.3 All excess construction materials, excavated materials, and any contaminated materials shall be removed prior to the placement of gravel, unless otherwise approved by the R.C.O.C. The road surface shall be maintained in good, smooth, dust free condition at all times, and gravel of the type noted above shall be added if settlements occur. Before requesting final inspection, the Permit Holder shall place over the entire road surface within the affected portion of the roadway 2 inches of compacted M.D.O.T. 23A road gravel, suitably stabilized with liquid calcium chloride.

RULE 5.6 UTILITY STRUCTURES

5.6.1 The height of the top of any utility structure constructed, or reconstructed within the Right-of-Way shall be determined as follows.

(A) If the structure falls within a paved road or other paved surface including driveways, sidestreets, sidewalks, and non-motorized paths, the cover shall be flush with the finished pavement elevation on all sides.

(B) If the structure falls within the Roadbed of a gravel road or the unpaved shoulder of a paved road, the cover shall be 6 inches below the finished gravel surface.

(C) If the structure falls within a ditch, the cover elevation shall be set at top of ditch slope elevation and the ditch shall be relocated around the structure and away from the road with a stable earth berm around the structure. Where called for on the Approved Plans or as directed by the R.C.O.C., a culvert of adequate length and size shall be installed in order to carry storm water around the structure.

(D) Any structure on the back slope of a ditch shall not protrude more than 6 inches above the slope.

(E) If a utility cover falls within a traveled lane, turn lane, or taper, and final pavement restoration will take place more than 30 days after temporary pavement repair, then such structure covers shall be set flush with the temporary surface or the first course of asphalt. The structure cover shall be re-adjusted at the time of final surface restoration.

- 5.6.2 Structures within the Right-of-Way shall be able to withstand expected traffic volume and load. Structures shall be of masonry construction or pre-cast concrete construction with all joints and holes sealed with anti-hydro cement. The castings shall meet the requirements of the current standard specifications for gray-iron castings A.A.S.H.T.O. M 105, and shall have a minimum strength as provided for class no. 30 gray-iron castings. All castings shall be cleaned by current approved blasting methods. The seating face of the lid and the seat for the same on the frame shall be ground or machined so that the lid will have an even bearing on its seat to prevent rocking or tilting. The castings shall be free of poring faults, blow holes, cracks, and other imperfection; and shall be sound, true to form and thickness, clean, neatly finished, and coated with coal tar pitch varnish.
- 5.6.3 Structures that must be located within the roadway shall be located at the road centerline or lane centerline, and not within the wheel track.

RULE 5.7 DEPTH OF UTILITY COVER

All new or replacement utilities, regardless of location within the Right-of-Way, shall be installed a minimum of 4 feet below the gutter, the edge of pavement, the bottom of a ditch, or the shoulder elevation of the road surface, whichever is lower. Where Approved Plans require a depth greater than 4 feet; the approved plan depth shall govern.

RULE 5.8 GEOPHYSICAL AND HYDROGEOLOGICAL INVESTIGATIONS

5.8.1 Application Requirements for Non-Intrusive Testing

Since the character, time limits, area, and particulars of each Non-Intrusive Testing project varies greatly from one to another, such permits are generally addressed on a case by case basis; therefore fees, insurance, general requirements, and performance Bonds will also be handled accordingly. The permit does not sanction drilling or the taking of physical samples, and since there is a potential for surface damages when moving heavy equipment within the Right-of-Way, permits are also required for such purposes.

5.8.2 Application Requirements for Intrusive Testing

The Applicant is advised that the approval of locations for borings within the Right-of-Way is influenced by the testing method, generally a short term operation followed by an immediate restoration of the disturbed area. If borings are later to be converted into Monitoring Wells, the Applicant is requested to initially indicate this intent on the application. The proposed plans can then be reviewed accordingly, and delay usually lessened.

- (A) Prior to issuing permits for borings and/or Monitoring Wells to be situated in the Right-of-Way, the Applicant must obtain written permission from the Property Owners of adjoining lands not owned by the Property Owner for whose benefit Applicant requests the permits. The documented evidence of this permission shall be submitted with the permit application.
- (B) Borings and/or monitoring well locations will not be permitted in the paved or traveled portions of the roadway nor the shoulder. They must be situated outside the shoulders and traveled portions of the road.
- (C) Applicants are encouraged, when applying for a permit, to initially identify all borings and/or Monitoring Wells which they reasonably expect to drill and/or install on a site. This will greatly expedite the issuance of permits and reduce the processing time required for permit amendments.
- (D) It is presumed that typical bore holes drilled for subsurface information will be 20 feet deep or less and 6 inches or less in diameter; and, if converted to a monitoring well, will contain a 2-inch diameter casing or less. Should the Applicant's planned tests exceed these dimensions, the Applicant should

specify the proposed dimensions in its drilling and/or well completion program. The boring and/or completion designs shall be drilled and installed in accordance with MDEQ standards.

- (E) Any soil borings located within the Zone of Influence shall be filled with an approved cementitious material at the completion of boring. The Permit Holder, at its own cost and expense, shall remove all excavated materials from the site.

5.8.3 Operational procedures for borings and Monitoring Wells.

- (A) All soil and water (drilling muds included) produced during any and all boring, drilling, testing, and/or sampling operations shall be disposed of outside of the Right-of-Way in a manner acceptable to the M.D.E.Q.
- (B) In order to minimize interference with landscaping, mowing, pedestrian, and/or automotive traffic using the Right-of-Way, all Monitoring Wells shall have a cap that is mounted flush with the ground or paved surface.
- (C) As soon as possible following completion of intrusive test borings and/or abandonment of Monitoring Wells, the Right-of-Way shall be restored to its previous condition; and all borings and Monitoring Wells (whether successful or not) shall be sealed (plugged) and abandoned as prescribed by M.D.E.Q. regulations.

5.8.4 Permit & Restoration Bond release procedures.

The following work must be completed in a permit release request before the Permits Division will release the permit and the restoration Bond; therefore, it is essential for the Permit Holder to report in the permit release request the status of the following work items. Upon submittal of a permit release request by the Permit Holder, the Permits Division shall initiate its release process. (The form for requesting the permit release is included in the permit packet.)

- (A) Immediately following the termination of monitoring and/or testing operations, all borings and/or Monitoring Wells (whether successful or not) shall be sealed (plugged) and abandoned as prescribed by the M.D.E.Q. regulations. The metal and/or plastic well casings associated with these test boring and monitors shall be removed from the ground, and the bore holes filled with a R.C.O.C. approved cementitious material.
- (B) The surface area of the Right-of-Way shall be restored to its previous condition, and all other tasks designated on the permit shall be completed previous to submittal of the permit release request.
- (C) An as-built diagram which identifies the final location of all borings and Monitoring Wells in the Right-of-Way shall be included as an index attachment to the permit release request. If either soil or groundwater contamination was encountered in the Right-of-Way, Permit Holder must submit the official laboratory analyses of all analyzed samples taken from the test wells in the Right-of-Way. It is preferable that this analytical data be submitted to the Permits Division when first received from the laboratory; however, if that did not happen, then this information must accompany the permit release request.
- (D) If any boring holes or wells associated with the permit encountered soil and/or groundwater contamination, or if any evidence of contamination was observed in the Right-of-Way, a copy of the Certified Closure Report, as it applies to the Right-of-Way, (or the final remediation report) shall accompany the permit release request submitted to the Permits Division. It is preferable that this report be submitted to the Permits Division at the same time it is filed with the M.D.E.Q., since the R.C.O.C. will be asked to comment or review the Certified Closure Report, prior to its approval of the permit and bond releases.

(E) The above described data is should be sent to:

The Road Commission for Oakland County
Department of Customer Services,
Permits Division
2420 Pontiac Lake Road
Waterford, MI 48328

5.8.5 A Permit Holder and its surety remain responsible and liable under the permit and the Bond until the permit and Bond are released. If the responsibilities of the permit are to be transferred from the original Permit Holder and surety to another Person and that other Person's surety, action should be initiated to release the original permit and surety, by having the new Person apply for a new permit. After the new permit is issued, if no open issues remain, the previous permit and Bond will be released. The new Permit Holder shall then be liable for all issues including, but not limited to, any identified in the new site investigations.

RULE 5.9 DISCHARGE OF STORM WATER FROM PRIVATE PROPERTY TO ROAD DRAINAGE SYSTEM

- 5.9.1 Any water diverted or discharged by the Permit Holder into the R.C.O.C. road drainage system shall not exceed normal agricultural run-off rates of 0.2 cubic feet per second per acre, unless specifically approved by the R.C.O.C.
- 5.9.2 The minimum pipe diameter used in restricting storm water discharge into the road drainage system shall be 4 inches, installed within a 12-inch diameter pipe. All restrictors shall be installed outside of the R.O.W.
- 5.9.3 Any water diverted or discharged by the Permit Holder shall be done in such a manner as not to cause a hazardous condition to either pedestrian or vehicular traffic or to cause erosion, siltation, or ponding which adversely affects the stability of the roadway or damages adjacent property.
- 5.9.4 If the existing road drainage system lacks the capacity to handle a new discharge or diversion the R.C.O.C. reserves the right to deny access to the drainage system.
- 5.9.5 If agricultural rates of discharge cannot be accomplished naturally, the Permit Holder, prior to being granted access to the existing road drainage system, must propose a detention system with an outlet control approved by the Permits Division.

PART 6 - DRIVEWAY DESIGN STANDARDS

RULE 6.1 DRIVEWAY LOCATIONS AND GRADE

- 6.1.1 Driveways shall be so located to preclude undue interference with the free movement of road traffic, and to provide the required Sight Distance.
- 6.1.2 Driveways, including the radii (described in Rule 6.3 below) but not including right turn lanes, passing lanes, and tapers (also described in Rule 6.3 below), shall be located entirely within the Road Frontage of the Property Owner for whose benefit the driveway permit is issued. This Road Frontage is determined by projecting the property lines to the centerline of the road. Radii on adjacent Road Frontage shall be permitted only upon obtaining a letter of encroachment from the adjacent Property Owner and/or when the Permits Division has determined that such extension is necessary.
- 6.1.3 If the driveway is to be located adjacent to an intersection, the point of curvature of the driveway radius shall be at least 77 feet from the center line of the intersecting road and at least 17 feet from the future proposed Right-of-Way Line of the cross street, whichever distance is greater. The driveway radius shall not encroach on an intersection radius unless such encroachment is physically unavoidable.
- 6.1.4 Driveways shall not be constructed along the acceleration or deceleration lanes and tapers connecting to a freeway interchange entrance or exit ramp, unless no other reasonable access point is available.
- 6.1.5 The permit application shall specify the type of driveway requested, including the number lanes and the proposed traffic flow (e.g., two-way, one-way, divided, etc.) of driveways. The Permits Division may approve the requested driveway plans or may request that the Applicant make changes to insure safe operations and necessary spacing between driveways, based on anticipated traffic volumes on the driveways and on the road, type of traffic to use the driveway, type of roadside development, and other safety and operational considerations. Generally, only one driveway will be permitted per parcel or lot.
- 6.1.6 The number of Residential Driveways that may be permitted shall be determined as follows:
- (A) One (1) Residential Driveway shall be permitted for each platted lot or for each unplatted residential parcel.
 - (B) Two (2) Residential Driveways may be permitted for residential property with more than 300 feet of Road Frontage if, in the opinion of the Permits Division, the additional driveway does not create a safety problem.
 - (C) Two (2) Residential Driveways may be permitted on the same residential property, in lieu of the above, to serve a Circle Driveway if the Road Frontage of the residential property is 80 feet or more at the Right-of-Way Line.
 - (D) Residential Driveways on the same residential property shall be at least 45 feet apart, center-to-center.
 - (E) Where a Residential Driveway serves two or more residential parcels or lots, and divides outside the Right-of-Way to serve each parcel or lot, so that the other lot or lots have access to the existing public road, Applicant must obtain from the other Property Owners and file with the R.C.O.C. permanent access letters.
- 6.1.7 The number of Commercial Driveways that may be permitted shall be determined as follows:
- (A) One (1) Commercial Driveway may be permitted for each separately owned parcel with less than 100 feet of Road Frontage; provided that the parcel is wide enough for the minimum driveway width, plus the required radii.

- (B) Additional Commercial Driveways may be permitted for commercial property with more than 100 feet of Road Frontage; provided that the sum of the driveway widths of these additional driveways does not exceed 15 percent of the Road Frontage in excess of the first 100 feet; and further provided that any and all R.C.O.C. safety, traffic volume, traffic flow, and operational concerns are met.
- (C) Two (2) Commercial Driveways may be permitted, in lieu of the above, to serve as two one-way directional drives if the Road Frontage is 300 feet or more. Commercial Driveways on the same property must be at least 70 feet apart, center to center.
- (D) Adjacent Property Owners may, and are encouraged to, consolidate their Commercial Driveways by using either a joint driveway system or a Road Frontage road. All Road Frontage roads are to be placed on private property outside of the future Right-of-Way as shown on the Board's current "Master Right of Way Plan". If the Permits Division approves such a system, a driveway permit shall be issued to all Property Owners concerned and shall state that there is an agreement that all properties shall have access to the road via the joint driveway and/or Road Frontage road. A copy of this agreement executed by all parties concerned shall accompany the application.

6.1.8 If the road carries one-way traffic, the dimensions given in these Rules may be altered so that the prohibited movements are discouraged. If the driveway system is on the left-hand side of a one-way road, the dimensions used shall be based on the same principles as used on right-hand side driveways.

6.1.9 The driveway grade shall be determined using the following criteria:

- (A) If the road is uncurbed, the grade of the driveway shall meet at the existing outside edge of the shoulder.
- (B) If the road is curbed, the grade of the driveway shall meet the existing edge of pavement.
- (C) The grade of two-way, one-way, and divided commercial driveways shall be determined in the engineering judgment of the R.C.O.C., using guidance from the current MDOT GEO-680 Series – Geometric Design Guide for Commercial Driveways.
- (D) The grade of Residential Driveway and Utility Driveway entrances shall be a maximum of ten (10%) percent.
- (E) Vertical curves (50 feet minimum) shall be provided at all changes of grade of four percent or more.
- (F) If the sidewalk elevation must be adjusted to meet the driveway, the slope shall not exceed 1/4 inch per foot.

RULE 6.2 CLEAR VISION AREAS, BUFFER AREAS, AND SIGHT DISTANCES

6.2.1 At intersections or railroad crossings where the Board controls Limited Access Right-of-Way to provide a Clear Vision Area, no driveway shall enter or cross any part of that Clear Vision Area. Where the Board has an easement for a Clear Vision Area at an intersection or railroad crossing, driveways shall not be permitted through the Clear Vision Area if another reasonable access point is available.

6.2.2 Adjacent to driveways, a Buffer Area between the Right-of-Way Line and the edge of the county road pavement, as determined by the Permits Division, shall be used to provide both a permanent physical barrier between moving traffic and private property and unobstructed visions on either side of the driveway. This Buffer Area may consist of a lawn area, a low shrub area, a ditch, or equivalent method, and may require the removal of trees, brush, earthen embankments, and other obstructions. In parts of the Buffer Area where vehicles are allowed to be parked, the Permits Division may require the Buffer Area to be established by curb or equivalent method.

6.2.3 Minimum Sight Distances for Commercial Driveways and Private Road approaches shall be in accordance with Figure 6-1 on the next page below, entitled “Guide for Corner Sight Distance” dated February 26, 2015:

Minimum Sight Distances for Residential Driveways shall be measured 10 feet from the edge of the traveled portion on gravel roads or 10 feet from the edge of pavement on paved roads in accordance with the following Table 6-1:

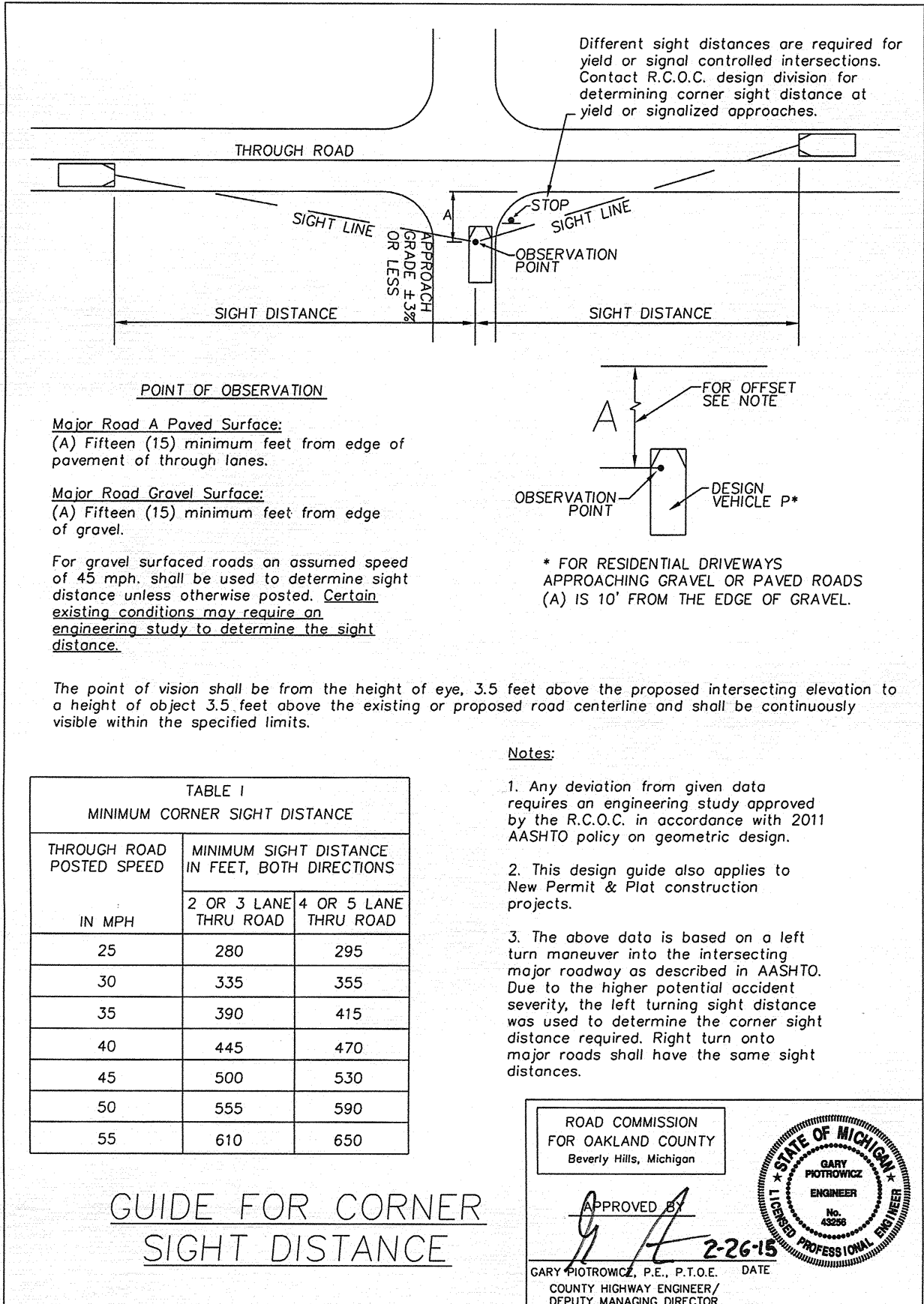
Speed Limit, M.P.H.	25-30	35	40	45	50	55
Minimum Sight Distance, Feet	280-335	390	445	500	555	610

Sight Distance will be measured from an eye height of 3.5 feet to an object height of 3.5 feet.

6.2.4 The R.C.O.C. recommends, and may require, that the driveway be located in a location that provides Sight Distances in excess of the minimums provided herein, or that improvements be made to provide for Sight Distances in excess of such minimums.

6.2.5 Applications for driveways, which do not provide the minimum Sight Distance, may be denied.

FIGURE 6-1



RULE 6.3 DEFINITIONS OF STANDARD DRIVEWAY DIMENSIONS

The design features described herein with their appropriate illustrations of various driveway features as shown in Tables 6-2 through 6-9 shall be used by Applicants in dimensioning proposed driveways or driveway systems on plans accompanying driveway permit applications. These standard dimensions will be used unless conditions require a deviation and the Applicant can show cause for deviation. The Permits Division reserves the right to determine whether a deviation shall be granted, and may specify particular dimensions, in order that a particular driveway system will accommodate the vehicles normally expected without creating undue congestion or hazard on the road. The letters in parentheses accompanying the following design feature titles are used to illustrate these design features in Tables 6-2 through 6-9.

- 6.3.1 "Intersecting Angle" (A), the clockwise angle from the road edge of pavement, or road centerline if unpaved, to the driveway reference line (the centerline or edge of the driveway).
- 6.3.2 "Driveway Width" (B), the distance between driveway edges of pavement (or edges of the gravel surface, if applicable) measured at the point where the edges of the driveway become parallel (point b in the sketches). If the Right-of-Way Line is so close to the pavement that point b falls on the Driveway Property, then the width of the driveway at the Right-of-Way Line shall be based on the projected Driveway width.
- 6.3.3 "Entering Radius" (C), the radius of the driveway edge curve on the right side of a vehicle entering the Driveway Property.
- 6.3.4 "Exiting Radius" (D), the radius of the driveway edge curve on the right side of a vehicle exiting the Driveway Property.
- 6.3.5 "Curb Ending" (E), the length of a driveway curb taper from full curb height to ground level shall be a minimum length of ten feet.
- 6.3.6 "Right-Turn Lane Length" (F), the length of auxiliary lane constructed preceding the driveway to accommodate traffic entering the Driveway Property.
- 6.3.7 "Right-Turn Lane Width" (G), the width of pavement from the outside edge of the through lane to the outside edge of the Right-Turn Lane, or the width of road from outside edge of the through lane to the outside edge at the full width of the Entering and Exiting tapers.
- 6.3.8 "Entering Taper" (H), the length of the diagonal pavement widening, preceding the driveway.
- 6.3.9 "Exiting Taper" (J), the length of the diagonal pavement widening, following the driveway.
- 6.3.10 "Entrance Drive Width" (K), the width of the entrance half of a Divided or a Directional Driveway which has been designated for the use of a vehicle entering the Driveway Property.
- 6.3.11 "Exit Drive Width" (L), the width of the exit half of a Divided or a Directional Driveway which has been designated for the use of a vehicle exiting the Driveway Property.
- 6.3.12 "Island Width" (M), the edge-to-edge distance between the Entrance Drive and Exit Drive of a Divided Driveway.

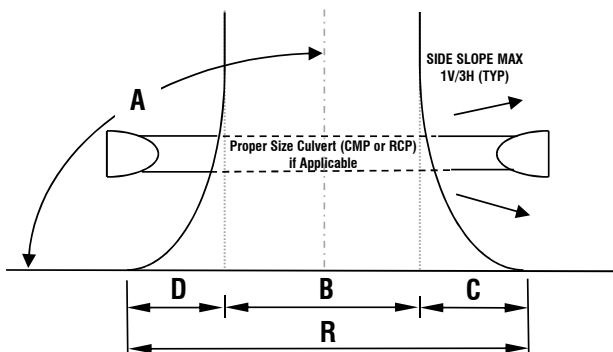
- 6.3.13 "Island Length" (N), the distance between ends of the island, measured parallel to the Entrance and Exit Driveways.
- 6.3.14 "Nose Offset" (P), the distance between the edge of the turn lane or through lane and the traffic island of a Divided or a Directional Driveway.
- 6.3.15 "Curb Opening/Cut" (R), the length of the opening along the road curb for an approach and its radii.
- 6.3.16 "Passing Lane Approach Length" (S), the length of auxiliary lane constructed on the opposite side of the road preceding the driveway to accommodate Through Traffic passing the left turn traffic entering the Driveway Property.
- 6.3.17 "Passing Lane Departing Length" (T), the length of auxiliary lane constructed on the opposite side of the road following the driveway to accommodate Through Traffic passing the left turn traffic entering the Driveway Property.
- 6.3.18 "Passing Lane Width" (U), the width of pavement from the outside edge of the through lane to the outside edge of the Passing Lane.
- 6.3.19 "Passing Lane Approaching Taper" (V), the length of the diagonal pavement widening preceding the Passing Lane.
- 6.3.20 "Passing Lane Departing Taper" (W), the length of the diagonal pavement widening following the Passing lane.
- 6.3.21 "Exiting Lane Length" (X), The length of auxiliary lane constructed following the driveway to accommodate traffic exiting Driveway Property.

RULE 6.4 STANDARD DIMENSIONS FOR RESIDENTIAL DRIVEWAYS

The dimensions of a Residential Driveway shall conform to those given in Tables 6-2 and 6-3.

**Table 6-2:
Residential Driveway**

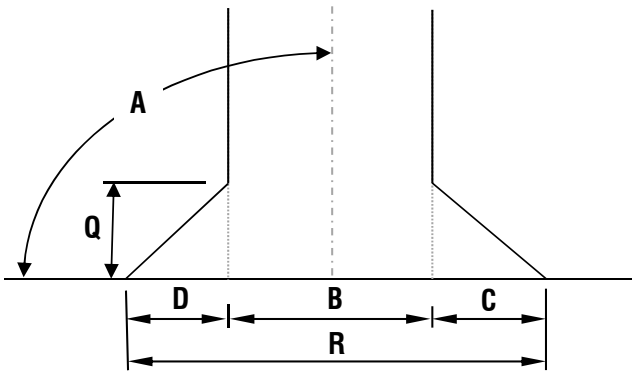
<u>Design Features</u>		<u>Typical</u>	<u>Range</u>
Intersecting Angle	A	90°	60° to 90°
Driveway Width	B	16'	12' to 35'
Entering Radius	C	10'	5' to 35'
Exiting Radius	D	10'	5' to 35'
Total Opening B+C+D=	R	36'	14' to 55'



NOTE:
The TYPICAL dimension shall be used unless the Permits Division specifies or the Applicant shows cause for, and the Permits Division approves, a different value. The RANGE in dimensions indicates the working value for each design feature.

Table 6-3:
Residential Driveway - Subdivision
Design Features

Design Features		<u>Typical</u>	<u>Range</u>
Intersecting Angle	A	90°	60° to 90°
Driveway Width	B	16'	10' to 25'
Entering Taper Width	C	6'	2' to 15'
Exiting Taper Width	D	6'	2' to 15'
Taper Depth	Q	10'	10' to 20'
Total Opening	R	24'	14' to 55'
B+C+D=			



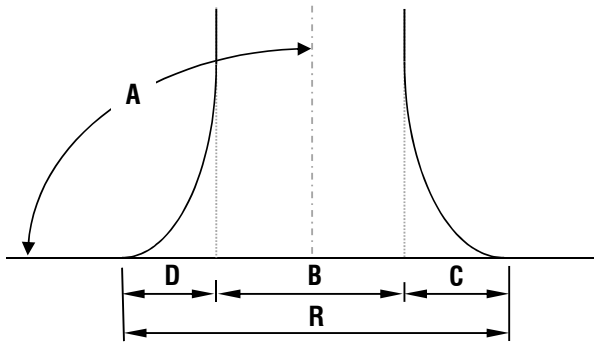
NOTE:
 The TYPICAL dimension shall be used unless the Permits Division specifies or the Applicant shows cause for, and the Permits Division approves, a different value. The RANGE in dimensions indicates the working value for each design feature.

RULE 6.5 STANDARD DIMENSIONS FOR COMMERCIAL DRIVEWAYS AND PRIVATE ROADS

6.5.1 Two-way Commercial Driveways shall be designed to accommodate one lane of traffic in each direction. The dimensions of a Two-way Commercial Driveway shall conform to those given in Table 6-4.

Table 6-4:
Two-Way Commercial Driveway Dimensions
Design Features

Design Features		<u>Typical</u>	<u>Range</u>
Intersecting Angle	A	90°	60° to 90°
Driveway Width	B	24'	22' to 40'
Entering Radius	C	35'	10' to 35'
Exiting Radius	D	35'	10' to 35'
Total Opening	R		42' to 105'
B+C+D=			



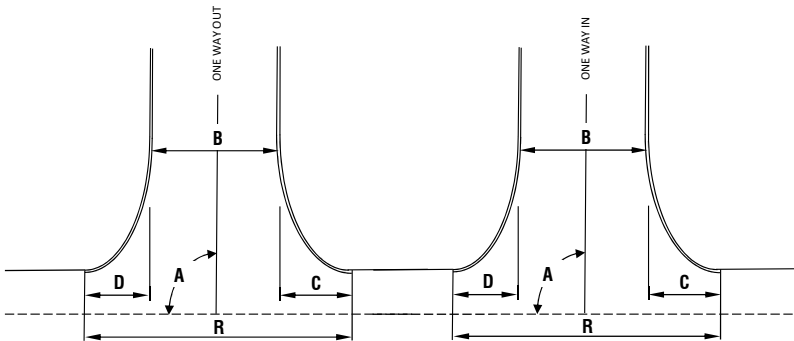
NOTE: The TYPICAL dimension shall be used unless the Permits Division specifies or the Applicant shows cause for, and the Permits Division approves, a different value. The RANGE in dimensions indicates the working value for each design feature.

6.5.2 The dimensions of a Directional One-way Commercial Driveway system shall conform to those given in Table 6-5.

NOTE:
The TYPICAL dimension shall be used unless the Permits Division specifies or the Applicant shows cause for, and the Permits Division approves, a different value. The RANGE in dimensions indicates the working value for each design feature.

Table 6-5:
Directional (One-Way) Commercial Driveway Dimensions

	<u>Design Features</u>		<u>Typical</u>	<u>Range</u>
One Way IN	Intersecting Angle	A	90°	60° to 90°
	Driveway Width	B	16'	16' to 20'
	Entering Radius	C	35'	20' to 35'
	Exiting Radius	D	5'	5' to 10'
One Way Out	Entering Radius	C	5'	5' to 10'
	Exiting Radius	D	35'	10' to 35'
	Total B+C+D=	R	25'	42' to 105'

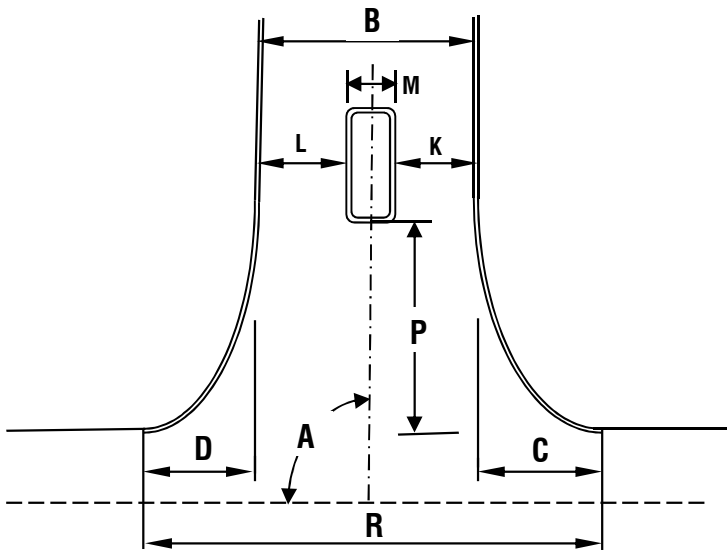


NOTE:
The TYPICAL dimension shall be used unless the Permits Division specifies or the Applicant shows cause for, and the Permits Division approves, a different value. The RANGE in dimension indicates the working value for each design feature.

6.5.3. A Divided Commercial Driveway shall have a curbed island separating the entrance drive and the exit drive. The radii forming the edges on this island shall be designed to accommodate the largest vehicle that will normally use the driveway. The minimum area of the island shall be 50 square feet. The dimensions of a Divided Commercial Driveway shall conform to those given in Table 6-6.

Table 6-6:

<u>Design Features</u>		<u>Typical</u>	<u>Range</u>
Intersecting Angle	A	90°	60° to 90°
Driveway Width	B	60'	46' to 78'
Entering Radius	C	35'	15' to 35'
Exiting Radius	D	35'	10' to 35'
Entrance Drive Width	K	22'	20' to 27'
Exit Drive Width	L	22'	20' to 27'
Nose Offset	P	12'	6' to 18'
Island width	M	16'	6' to 24'
Total			
B+C+D=	R		71' to 148'



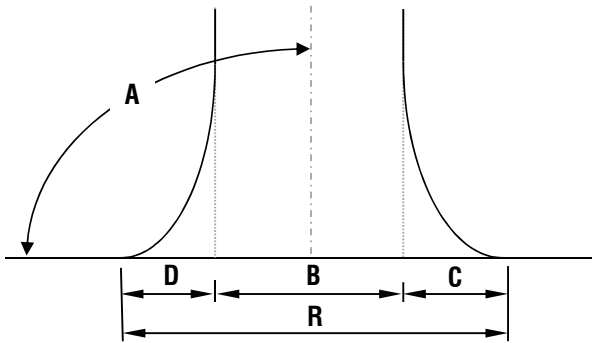
NOTE:
 The TYPICAL dimension shall be used unless the Permits Division specifies or the Applicant shows cause for, and the Permits Division approves, a different value. The RANGE in dimension indicates the working value for each design feature.

RULE 6.6 STANDARD DIMENSIONS FOR UTILITY DRIVEWAY ENTRANCES

The dimensions of an Utility Driveway entrance shall conform to those given in Table 6-7.

Table 6-7:

Utility Driveway Design Features			Typical	Range
Intersecting Angle	A		90°	60° to 90°
Driveway Width	B		16'	12' to 35'
Entering Radius	C		10'	5' to 35'
Exiting Radius	D		10'	5' to 35'
Total Opening	R	B+C+D=	36'	22' to 105'



NOTE:
The TYPICAL dimension shall be used unless the Permits Division specifies or the Applicant shows cause for, and the Permits Division approves, a different value. The RANGE in dimensions indicates the working value for each design feature.

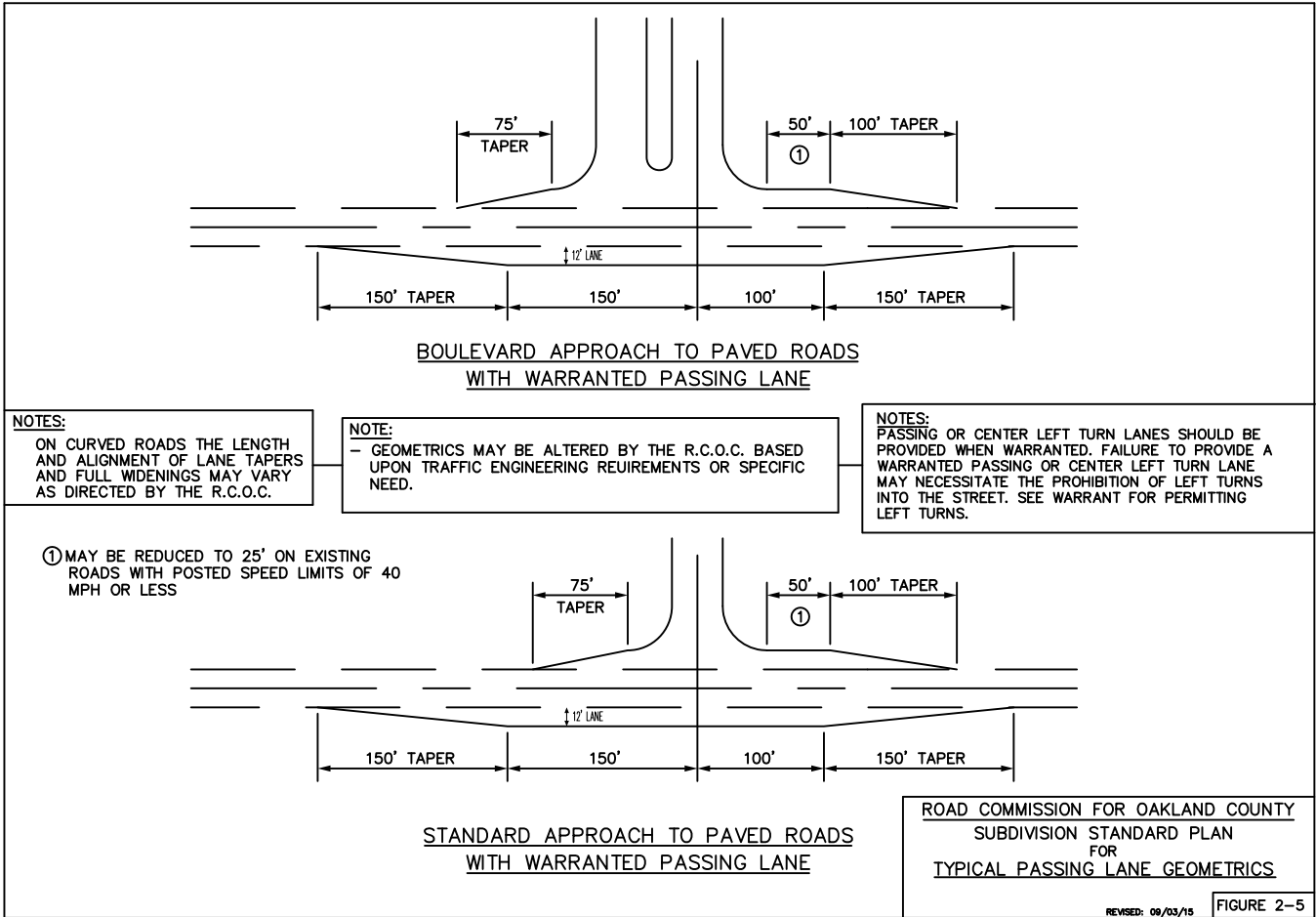
RULE 6.7 AUXILIARY LANE AND TAPER REQUIREMENTS

6.7.1 Applicant is strongly encouraged to consider the benefits of auxiliary right-turn deceleration lanes and left-turn passing lanes. These additional lanes, located at the driveway, will enhance the accessibility, safety and image of the proposed development. Traffic volumes or safety issues may warrant the prohibition of left turns at driveways on two-way, two-lane roads without passing lanes.

6.7.2 Figure 6-2 shows when left turn prohibition is warranted. Table 6-8 shows the dimensions of passing lanes.

Table 6-8:

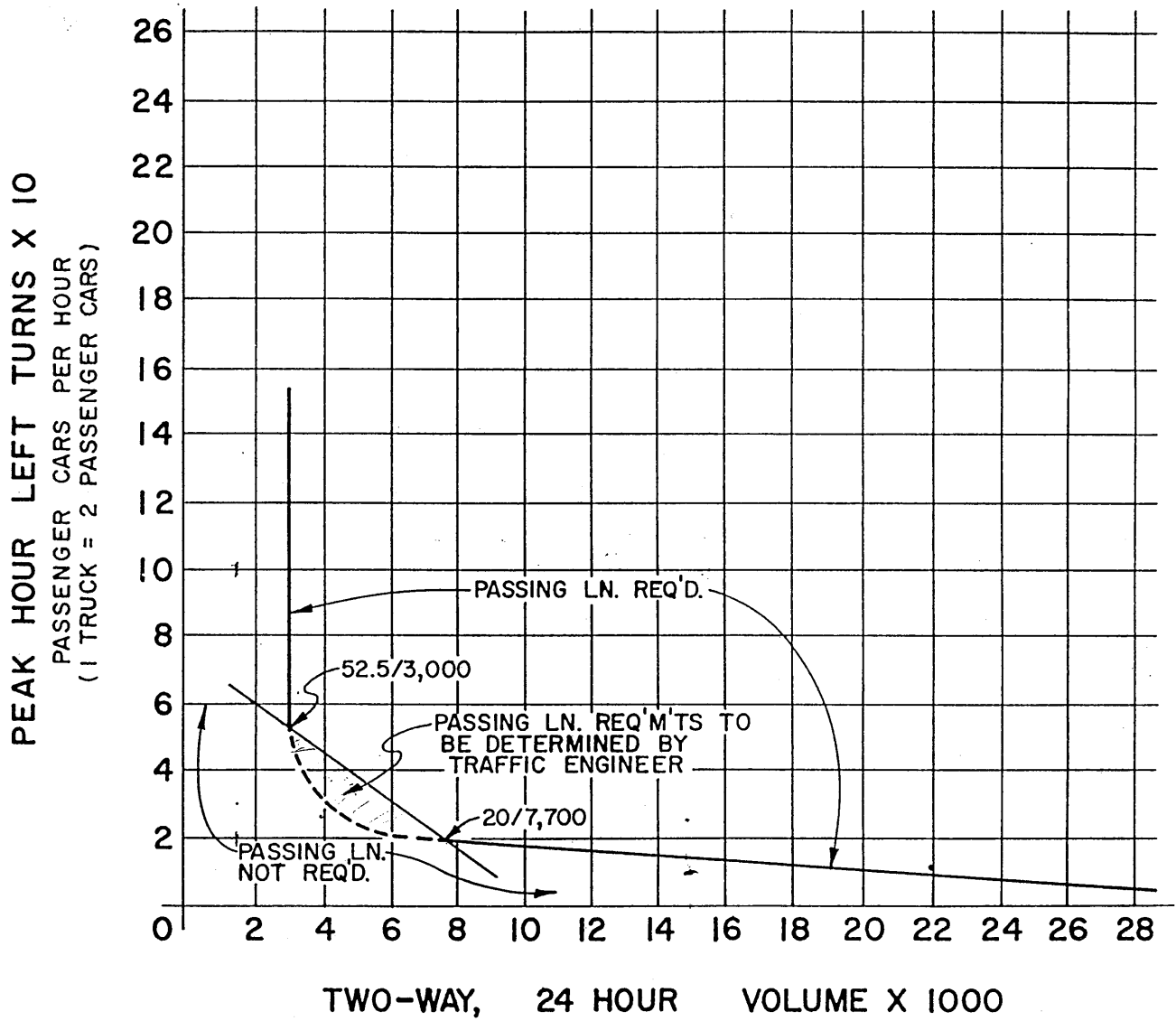
Passing Lane Design Features			Typical	Range
Approaching Taper	V		150'	100' to 150'
Departing Taper	W		150'	100' to 150'
Approaching Lane Length	S		150'	100' to 200'
Departing Lane Length	T		100'	50' to 100'
Pavement in Width passing lane	U		12'	11' to 12'



The TYPICAL dimension shall be used unless the Permits Division specifies or the Applicant shows cause for, and the Permits Division approves, a different value. The RANGE in dimensions indicates the working value for each design feature.

WARRANT FOR LEFT TURN PASSING LANE

(BASED ON TOTAL DEVELOPMENT)



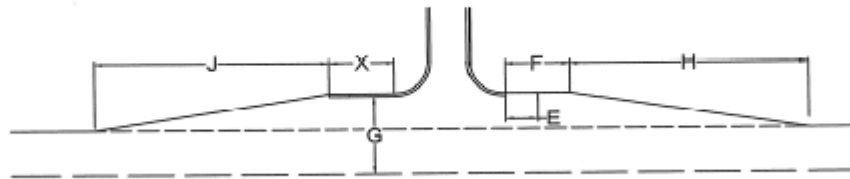
6.7.3 Figure 6-3 shows when a right-turn deceleration lane or taper is warranted. Table 6-9 shows the dimensions of right-turn deceleration lanes and tapers for Commercial Driveway or Private Road approaches.

**Table 6-9:
RIGHT-TURN LANE AND TAPERS FOR COMMERCIAL DRIVEWAYS AND PRIVATE ROAD APPROACHES**

<u>Design Features</u>		<u>Curbed Road</u>		<u>Uncurbed Road</u>	
		<u>Typical</u>	<u>Range</u>	<u>Typical</u>	<u>Range</u>
Curb Ending	E	Not Applicable		10'	(No Range)
Right-Turn Lane Length	F	25'	0' to 150'	25'	0' to 150'
Pavement/Width from CL of Road	G	24'	22' to 24'	24'	22' to 24'
Entering Taper	H	100'	75' to 150'	100'	75' to 150'
Exiting Lane Length	X	25'	0' to 100'	25'	0' to 100'
Exiting Taper	J	75'	50' to 100'	75'	50' to 100'

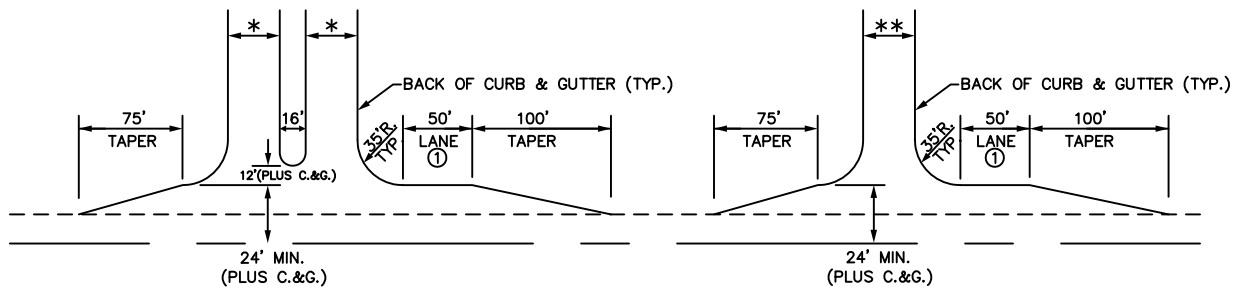
NOTE:

The TYPICAL dimension shall be used unless the Permits Division otherwise specifies or the Applicant shows cause for, and the Permits Division approves, a different value. The RANGE in dimensions indicates the working value for each design feature.



6.7.4 Where center left turn operation exists or is warranted due to the proposed approach, see Figures 6-4 and 6-5. Figure 6-4 shall be used for lane shifts of not more than 6 feet. Where an eccentric lane shift is proposed, the taper length shall be in accordance with the M.M.U.T.C.D.

6.7.5 If proposed entrance or exit tapers overlap with current existing tapers, the Applicant shall indicate the overall lane length that will result and the A.A.S.H.T.O. required exit taper lengths and signing requirements.



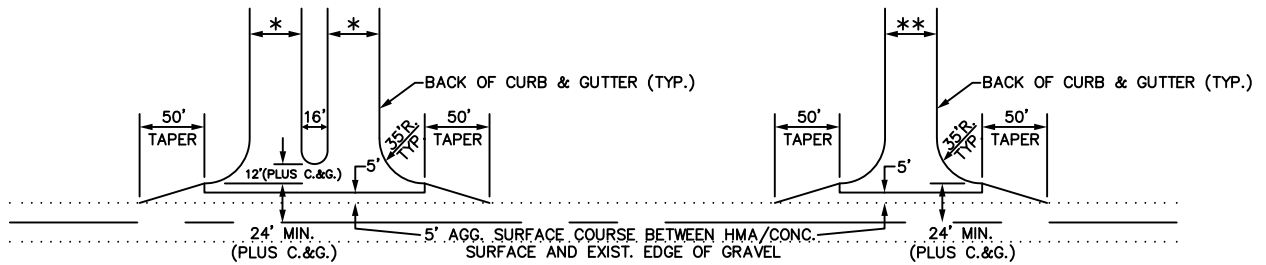
① MAY BE REDUCED TO 25' ON EXISTING ROADS WITH POSTED SPEED LIMITS OF 40 MPH OR LESS

STANDARD & BOULEVARD APPROACH TO PAVED ROADS

* BOULEVARD WIDTH B.C. TO B.C.:
21' - IN SINGLE FAMILY RESIDENTIAL DEVELOPMENTS.
27' - IN INDUSTRIAL DEVELOPMENTS.

- GEOMETRICS MAY BE ALTERED BY THE R.C.O.C. BASED UPON TRAFFIC ENGINEERING REQUIREMENTS OR SPECIFIC NEED.
- ACCEL./DECEL. LANES AND TAPERS MAY OR MAY NOT BE REQUIRED ALONG 5 LANE, BLVD., OR CURBED ROADS BASED ON TRAFFIC ENGINEERING REQUIREMENTS AND THE CORRIDOR.

** PER ROAD CROSS SECTION



STANDARD & BOULEVARD APPROACH TO GRAVEL ROADS

ROAD COMMISSION FOR OAKLAND COUNTY
SUBDIVISION STANDARD PLAN
FOR
TYPICAL APPROACH GEOMETRICS

REVISED: 06/03/15

FIGURE 2-4

FIGURE 6-3

WARRANT FOR RIGHT TURN DECELERATION LANE OR TAPER

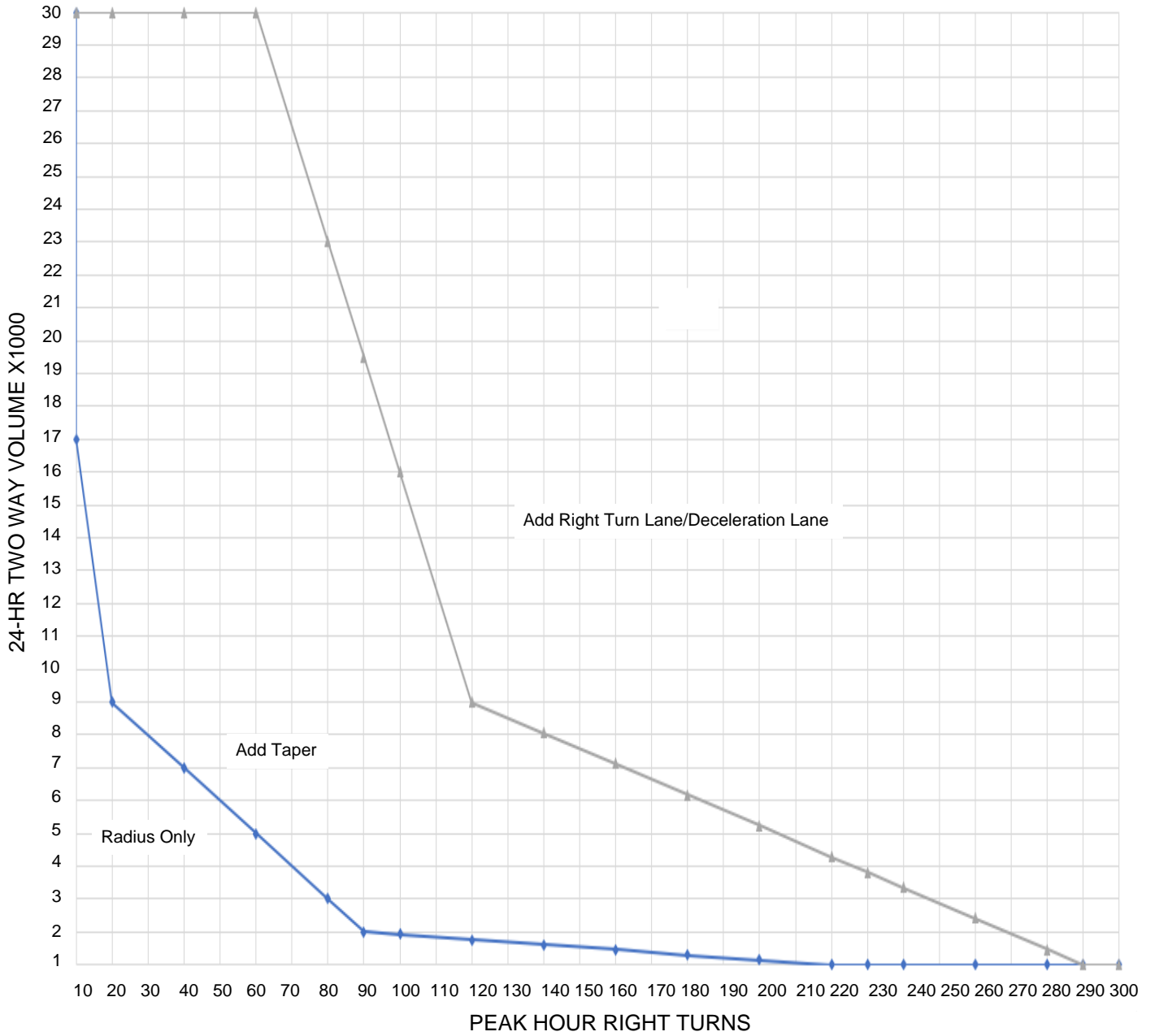


FIGURE 6-4

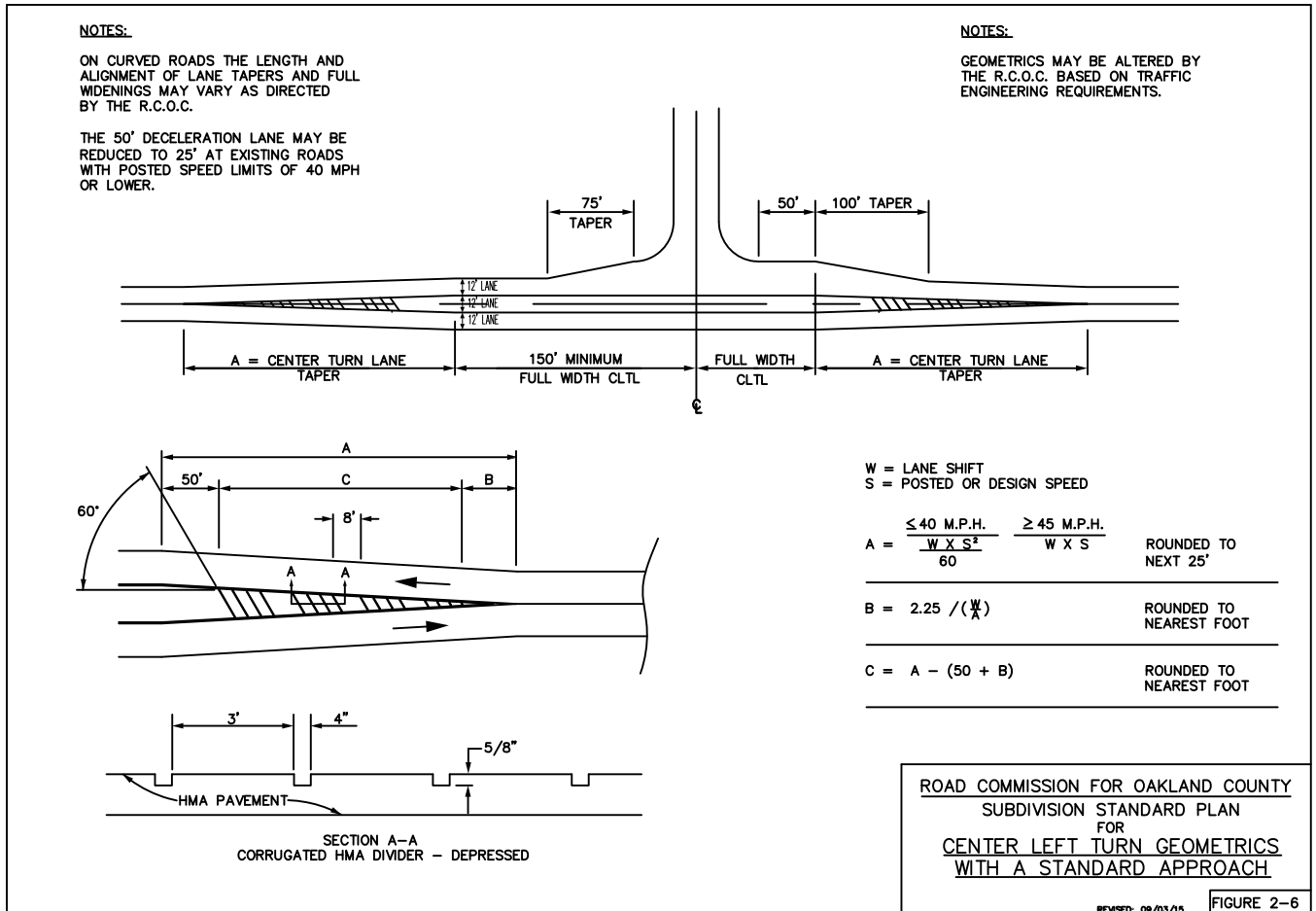
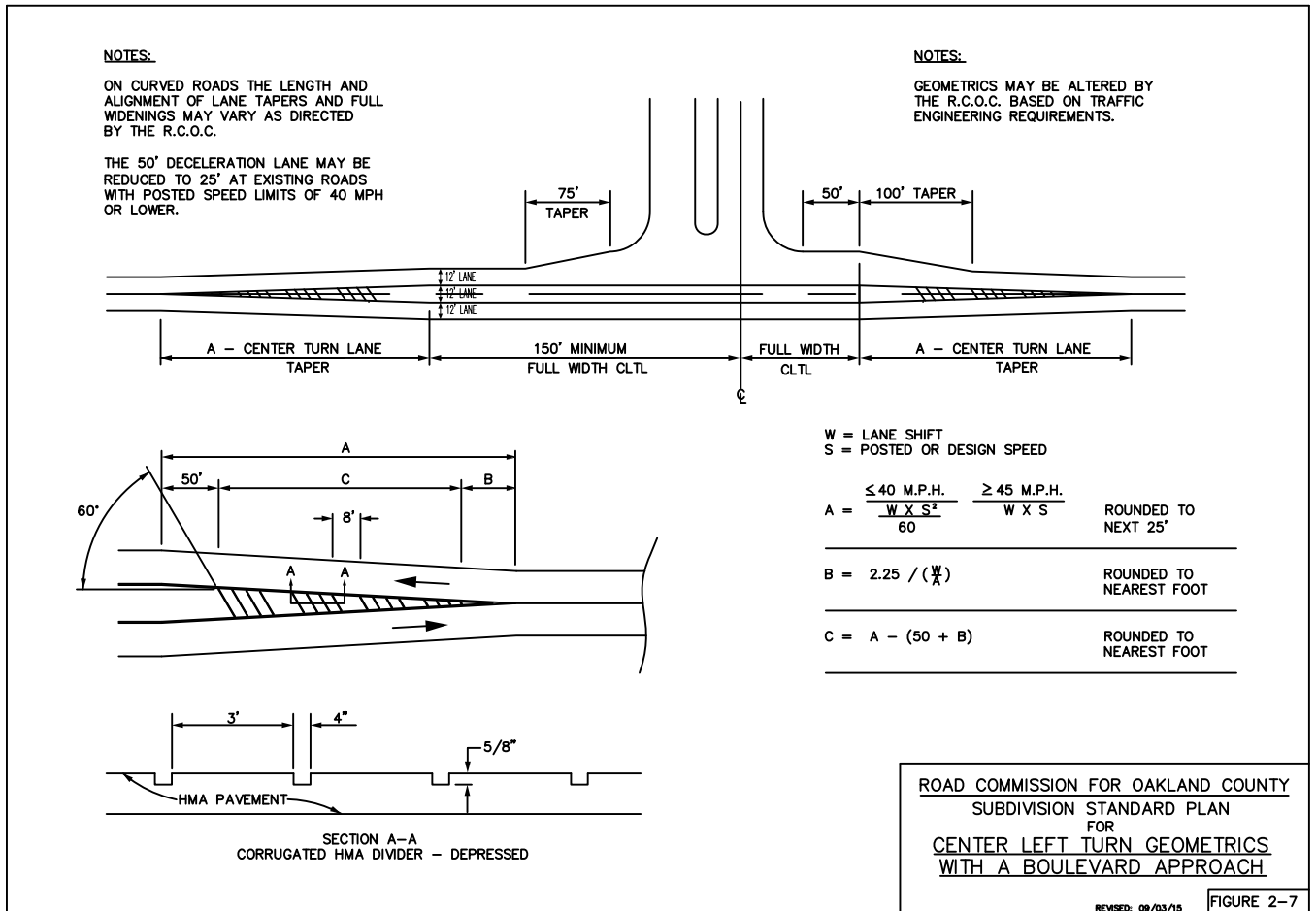


FIGURE 6-5



RULE 6.8 PAVING AND CURBING

6.8.1 Residential Driveways:

(A) If the road has existing curb and gutter, the driveway shall also have curb and gutter matching at the point of curvature. If the road lacks curb and gutter, the curb and gutter ending adjacent to the road shall be located at least 24 feet from the centerline of the pavement and shall be parallel to the road.

(B) Connections to a Paved road:

- (1) Driveways should be paved between the edge of pavement and the existing sidewalk. If there is no existing sidewalk, the surfacing should extend at least 10 feet from the edge of pavement. Curb cuts and/or curb returns shall be constructed based on the current R.C.O.C. standards for curb and gutter. The driveway, where it intersects with existing sidewalk, shall comply with A.D.A. design criteria.
- (2) Pavement cross-sections should be as follows:
 - 6 inches of concrete over a suitable base.
 - 3 inches of M.D.O.T. 36A H.M.A. placed in two equal lifts over 6 inches of 21AA aggregate base.

(C) Connections to an unpaved road:

- (1) If the driveway is to be unpaved, it may be surfaced with stabilized gravel.
- (2) If the driveway is to be paved, the paving shall extend no closer to the road than one (1) foot behind the driveway culvert location or 5 feet from the edge of the road.
- (3) Pavement cross-section should be as follows:
 - 6 inches of concrete over a suitable base.
 - 3 inches of M.D.O.T. 36A H.M.A. placed in two equal lifts over 6 inches of 21AA aggregate base.

6.8.2 Commercial Driveways and Private Roads:

(A) If the road has existing curb and gutter, the driveway shall also have curb and gutter matching at the point of curvature. If the road lacks curb and gutter, the curb and gutter ending adjacent to the road shall be located a minimum of 18 feet from the centerline of the pavement and shall be parallel to the road.

(B) Connections to a Paved road:

- (1) Driveway should be paved between the clean edge of road pavement and the existing sidewalk. If there is no existing sidewalk, the surfacing should extend to the Right-of-Way line or 10 feet from the edge of pavement which ever is greater. Curb cuts and/or curb returns shall be constructed based on the current R.C.O.C. standards for curb and gutter.
- (2) Pavement cross-section should be as follows:
 - 9 inches of M.D.O.T. 35-P concrete over a suitable base
 - 9 inches of "deep strength" asphalt pavement consisting of 2 inches of M.D.O.T. 5E H.M.A., over 3 inches of M.D.O.T. 4E H.M.A., over 4 inches of M.D.O.T. 3E H.M.A., over a minimum 6 inches of M.D.O.T. 21AA aggregate, placed in four lifts of 2", 2", 3", and 2."

(C) Connections to an unpaved road:

- (1) If the driveway is to be unpaved, it may be surfaced with stabilized M.D.O.T. 22A gravel.
- (2) If the driveway is to be paved, the paving shall extend no closer to the road than one (1) foot behind the driveway culvert location or 5 feet from the edge of the road.
- (3) Pavement cross-section should be as follows:
 - 6 inches of concrete over a suitable base.
 - 4 inches of M.D.O.T. 5E H.M.A. placed in two equal lifts over 6 inches of 21AA aggregate base.

6.8.3 Utility Driveway entrances may be surfaced with stabilized gravel and may be uncurbed. In certain locations, paving and curbing may be required on Utility Driveways.

6.8.4 Additional lanes and accompanying tapers shall be surfaced with the same material as the pavement of the road, unless the Permits Division allows the use of an alternate equivalent pavement.

(A) Where the existing road surface is asphalt, tapers, right turn lanes and passing lanes shall be 9 inches "deep strength" asphalt, consisting of 2 inches of M.D.O.T. 5E H.M.A. over 3 inches of M.D.O.T. 4E H.M.A. over 4 inches of M.D.O.T. 3E H.M.A., on suitable, well-drained subsoil.

(B) Where the existing road surface is concrete, tapers and additional lanes shall be 9 inches non-reinforced concrete with anchor bolts to the existing concrete at 40 inches on center.

(C) The Permits Division may request a special pavement design under special conditions, including but not limited to poor soil, industrial or heavy truck use, all weather route, etc.

(D) If an overlay of the entire road is warranted the following cross-section shall be used; 2 inches of M.D.O.T. 5E H.M.A.

(E) The cross-slope of all additional lanes and all tapers shall be a continuation of the cross-slope of the existing road pavement unless otherwise specified by the Permits Division.

6.8.5 The road shoulder adjacent to all additional lanes and tapers shall conform to the current M.D.O.T. Standard Specifications for Construction.

In areas with existing paved shoulders, the paved shoulder shall be removed and replaced with specified pavement. At a minimum a 3-foot wide paved shoulder, consisting of 2 inches of M.D.O.T. 5E H.M.A. over 3 inches of M.D.O.T. 4E H.M.A. over 4 inches of 3E H.M.A. over a suitable base, and a 5-foot wide, 8-inch thick, M.D.O.T. 23A processed road gravel shoulder, shall then be constructed next to the new widening.

6.8.6 At the discretion of the Permits Division, curb and gutter shall either be the same detail as the existing curb and gutter, or shall conform to the current R.C.O.C. standards for curb and gutter.

(A) The curb height shall be constant if there is no existing or proposed sidewalk.

(B) Where a driveway grade meets the grade of an existing sidewalk, the curb shall be lowered to provide a sidewalk curb opening.

(C) All walks and curbs shall conform with the requirements of Act 8 of 1973 (MCL 125.1361) and the Americans with Disabilities Act of 1990, which require appropriate curb cuts to walks for handicapped access.

RULE 6.9 RIGHT-OF-WAY DRAINAGE

- 6.9.1 The driveway shall be constructed so that the drainage of the road is not adversely affected by the driveway. The drainage and the stability of the road subgrade shall not be altered by driveway construction or roadside development.
- 6.9.2 Drainage from adjacent private property in excess of assumed agricultural run-off should not be discharged directly into the road drainage system. Drainage from areas, which did not previously contribute to the road drainage system, will not be accepted unless specifically authorized by the Permits Division. (See Rule 5.9)
- 6.9.3 All culvert pipes used shall be of a size adequate to carry the anticipated flow of the ditch based on a "ten year storm" event. Culverts alongside a roadway shall be no smaller than 12 inches inside diameter, and culverts draining under roadways shall have an inside diameter no smaller than 15 inches. All culverts, catch basins, drainage channels, and other drainage structures required within the Right-of-Way shall be manufactured or constructed and installed in accordance with the current M.D.O.T. Standard Specifications for Construction. The minimum length of the culvert may be determined as the sum of the width of the driveway plus the adjacent fore slope and back slope, maximum slope of 1 on 2. The use of headwalls on culvert ends will not be permitted. The use of sloped end sections is encouraged.
- 6.9.4 Existing ditches may not be eliminated, reduced in cross-section, or enclosed beyond the end of normal culvert length, unless specifically approved by the Permits Division. An approved ditch enclosure must satisfy the following conditions:
- (A) Submittal of three (3) sets of plans or drawings clearly indicating the proposed work, including pipe inverts and finished surface grades.
 - (B) Installation of catch basins to collect surface and road drainage (provide rim elevations). Construction of swales to direct surface and road drainage to catch basins.
 - (C) Installation of a culvert designed to carry the existing ditch flow consistent with the next culvert upstream, but in no case with a diameter less than 12-inches. Provide calculations of the existing ditch flow and proposed culvert capable of handling a "ten year storm" event.
 - (D) Approval from the R.C.O.C. Maintenance Department.

RULE 6.10 PARKING AND STORAGE

Permit Holder shall provide adequate storage for vehicles parking or waiting to be serviced, so as not to interfere with pedestrian and vehicular safety, vision requirements, or traffic operations on the road. No parking areas will be allowed in the Right-of-Way other than on street parking as authorized by the Michigan Vehicle Code. No permits will address on-street parking.

RULE 6.11 TRAFFIC CONTROL DEVICES AT DRIVE APPROACHES

At all times during the construction, clean-up and other permitted and related activities, the Permit Holder shall provide and properly maintain temporary traffic control devices, including signs and pavement markings, that are necessary for the safe and proper use of the county road in the vicinity of the driveway approach. All traffic control devices, including signs and pavement markings, shall conform to the M.M.U.T.C.D.

The R.C.O.C. shall determine what permanent signs, markings, and traffic control devices are necessary and install them at the expense of the Permit Holder. Permanent signs, markings, and other traffic control devices shall be in conformity with M.M.U.T.C.D. Sign and pavement marking fees are non-refundable and are payable at the time the permit is issued. Street name signs on Private Roads will be installed following completion of the

approach, notification of completion of the permitted work by the Permit Holder, and inspection of the work and worksite by the Permits Division.

RULE 6.12 PRIVATE ROAD APPROACHES

Applications for a permit to connect a Private Road to a county road shall include plans as identified in Rule 2.3. Additionally, the Applicant shall provide three (3) names for the proposed Private Road. A non-refundable sign fee will be collected at the time of permit issuance, which will cover the cost of fabrication and installation of a stop sign and street name sign at the connection of the Private Road and the county road. The signs will be installed at the completion of the approach work. The installed street sign will be consistent with the M.M.U.T.C.D. No special street name signs.

RULE 6.13 TEMPORARY ROAD APPROACHES

The Permits Division may issue a temporary approach permit for a place of access to a county road that will be used for a particular purpose for a specified short period of time not to exceed one year. After said period of time, either a permit for a permanent approach must be obtained and the permanent approach built, or the temporary approach must be removed and the Right-of-Way restored to its original condition.

PART 7 – RESTORATION

RULE 7.1 SHOULDERS

Road shoulders shall be restored to the same type (paved, gravel or grassed), width, slope and thickness as existed prior to the start of work.

- 7.1.1 Gravel shoulders that are removed during construction shall be replaced and shall match the existing width or be 3 feet wide, whichever is greater, and shall consist of 8 inches of M.D.O.T. 23A compacted gravel. If the shoulder had a sand subbase, it shall also be replaced.
- 7.1.2 Gravel shoulders which are not removed but are contaminated, rutted, or otherwise damaged shall be restored. Contaminated material shall be removed and replaced it with M.D.O.T. 23A gravel to the original thickness, width, and slope of the shoulder, and flush with the road surface. If the road is resurfaced, sufficient M.D.O.T. 23A gravel shall be added to bring the shoulder up to the new surface elevation.
- 7.1.3 If the shoulders were grass covered, they shall be restored to a stable condition. Where gravel existed under the grass, the finished shoulder shall have gravel under the grass. The grass shall be replaced by methods shown on the Approved Plans or as directed by the R.C.O.C.
- 7.1.4 If all or a portion of the shoulder is paved, the Permit Holder shall replace the paved shoulder to a cross-section consistent with the existing roadway, at a minimum of 2 inches of M.D.O.T. 5E H.M.A. over 2 inches of M.D.O.T. 4E H.M.A. over 8 inches of M.D.O.T. 21AA modified crushed stone aggregate. If necessary, the edge of the roadway shall be trimmed to present a smooth edge for attachment of the paved shoulder and treated with a bond coat. The width of the paved shoulder shall match the existing width or be 3 feet wide, whichever is greater.

RULE 7.2 BEYOND THE SHOULDERS

- 7.2.1 All areas within the Right-of-Way beyond the shoulders, curbs, or edge of gravel of the road which are disturbed, as the result of the Permit Holder's work operations and related activities, shall be restored as soon as possible during the first growing season. This restoration shall not be delayed until project completion. Failure to comply with this Rule shall be just cause for the R.C.O.C. to stop the remaining construction work until the required restoration is completed. The Permit Holder shall maintain ground cover specified on Approved Plans until final settlement of excavated or disturbed areas has occurred and growth is established.
 - (A) Sod shall be placed at all locations shown on the Approved Plans. Sod may be required by the R.C.O.C. in areas where topsoil, seeding, and mulching cannot (or has not) provided the effective ground cover required because of steep slopes or grades, velocity or volume of water, or other conditions. The R.C.O.C. may also require that sod be placed in areas of established, maintained lawns. All sod shall be placed on 2 inches of topsoil following preparation of the surface. The Permit Holder is responsible for the establishment and growth of vegetation. The permit, Bond, and deposit will not be released until the R.C.O.C. is satisfied that vegetation has been re-established.
 - (B) Areas that are not to be sodded shall be topsoiled and either seeded and mulched or hydroseeded. The seed shall be M.D.O.T. roadside seed mixture, unless otherwise shown on Approved Plans, and shall be applied at a rate of 100 pounds per acre. Fertilizer shall be applied at a rate of 240 pounds per acre. Topsoil shall be placed 2 inches deep. Mulch shall be spread over the ground and held in place by approved tacking methods.

RULE 7.3 DRAINAGE SYSTEMS

- 7.3.1 All road drainage shall be restored as soon as possible following construction. Ditches, ditch slopes, and other areas within the Right-of-Way shall be restored to meet the current M.D.O.T. standards, unless otherwise noted or shown on Approved Plans. Roadside ditches will not be required on roads that were never previously ditched.
- 7.3.2 All culverts and ditch enclosures removed in good condition by the Permit Holder shall be re-laid in proper position and elevation. All culverts and ditch enclosures or sections thereof, which are not in good condition after removal, shall be replaced with pipe meeting current M.D.O.T. standards unless otherwise shown on Approved Plans. Culverts and other drainage structures that are damaged but not removed during the Permit Holder's work operations and related activities must be fully repaired to the satisfaction of the R.C.O.C., or be replaced in accordance with current M.D.O.T. standards. Grading or ditching may be required near the inlet or outlet in order to re-establish drainage beyond that shown on Approved Plans.
- 7.3.3 The Permit Holder is responsible for restoration or re-establishment of drainage patterns or systems disturbed by the permitted work and any related activities of Permit Holder and its employees, agents and contractors. Unless so indicated on the Approved Plans, the Permit Holder shall be responsible for any survey required in order to establish elevations of culverts, ditches, inlets, outlets, or any other structure elevation required in order to restore function to the drainage system. If necessary, the R.C.O.C. may establish these elevations and grades at the expense of the Permit Holder. The Permit Holder shall be required to re-ditch or establish new ditch elevations based on changes to culverts or other structures so that a stable, maintainable ditch results. If the ditches are deep enough or the volume of water is sufficient that erosion of the ditch bottom may occur, then the R.C.O.C. may require Permit Holder to place rip-rap and/or other structural elements in order to stabilize the roadside ditches or their outlets.
- 7.3.4 Road drainage shall not be diverted onto private property without the written consent of the Property Owner.
- 7.3.5 If culverts or other drainage structures are discovered during the course of the work, that are not shown on Approved Plans, the Permit Holder shall replace and/or restore such structures as if they were properly shown on Approved Plans, unless the R.C.O.C. approves elimination of the culvert or structure.

RULE 7.4 BORINGS

Unless the R.C.O.C otherwise specifies in writing, the Permit Holder shall plug, to the satisfaction of the R.C.O.C., all borings immediately after sampling. The Permit Holder shall not abandon any borings without plugging them.

PART 8 – LANDSCAPING

RULE 8.1 LANDSCAPING REQUIREMENTS

The following Requirements apply to landscaping proposed within Right-of-Way under the jurisdiction of the R.C.O.C., or in areas that will be transferred to the jurisdiction of the R.C.O.C.

- 8.1.1 Plantings or installation of walls, barriers, berms, signs, paths, lighting elements, entrance markers, Non-standard Mailbox Structures or structural elements associated with landscaping may not be installed unless the Permits Division issues a permit.
- 8.1.2 Three (3) sets of scaled drawings or plans showing all proposed landscaping work, existing conditions, size, location and dimensions of proposed landscaping elements, Sight Distance triangles at approaches, and a location map must be included with an application for permit.
- 8.1.3 Application for permit shall include an agreement to maintain the landscaping and landscaping elements located within the Right-of-Way.
- 8.1.4 If the R.C.O.C. needs to make any improvement in the road or Right-of-Way, it may require the Property Owner to remove and/or relocate the landscaping, or it may remove the landscaping itself. The Property Owner shall pay for all such removal and/or relocation of landscaping.

RULE 8.2 LANDSCAPING GUIDELINES

The following general guidelines shall be used in development and approval of a landscaping plan.

- 8.2.1 No plantings, walls, barriers, berms, signs, or other structural elements will be permitted within 6 feet from the edge of pavement on a 25 m.p.h. street, or 12 feet from the edge of pavement on all other county roads, or within 3 feet from the back slope of a ditch on primary county roads or "mile type" local county roads. Plantings less than 36 inches high do not require a permit.
- 8.2.2 Mailbox structures shall be of a break-away design. Any mailbox structure proposed to be of a brick, stone or other non-post like material shall be constructed as a façade style structure mounted to a 4-inch by 4-inch post or 2-inch by 2-inch framing. The post should not be more than 24 inches into the ground and shall not be set in concrete. No mailbox shall pose a fixed object hazard. By following these guidelines, the mailbox post will either break or be moved, rather than be a safety hazard for motorists and residents.
- 8.2.3 No plantings, walls, signs, entrance markers, or structural elements higher than 36 inches will be permitted within Sight Distance triangles at driveways and street approaches.
- 8.2.4 No landscaping or landscaping element shall interfere with drainage structures, drainage ditches, any easements, or access to these facilities for maintenance.
- 8.2.5 Structural elements such as boulders or retaining walls may be no steeper than one (1) foot horizontally to 3 feet vertically, shall not present blunt ends to traffic, and shall be set back from the road as required in Rule 8.2.9. Such wall ends shall be blended into the grade or slope.
- 8.2.6 Signs, decorative lighting, or other structural elements will not be permitted within a boulevard median in the Right-of-Way of the primary road or mile type local road.
- 8.2.7 Irrigation systems must be installed and located so that the roadway, non-motorized paths, and sidewalks are not impacted by over-spray, drift, or run-off. Control panels, electrical systems, or water supplies to sprinkler systems shall be located outside of the Right-of-Way.

- 8.2.8 Landscaping may be permitted within the island of a subdivision or residential street in accordance with the following provisions.
- (A) The curb should be non-mountable 6-inch curb (type “B”, “C”, or “F”). All fixed objects higher than 18 inches must be a minimum of 6 feet behind the curb. Fixed objects of less than 18 inches in height must be a minimum of 3 feet behind the curb.
 - (B) All trees planted within the island will be ornamental type trees with a maximum expected diameter at breast height (DBH) of 4 inches.
- 8.2.9 Aesthetic landscaping adjacent to the subdivision/residential street must be a minimum of 5 feet behind the curb or 12 feet from the edge of pavement if the road is not curbed. Functional landscaping such as earth retaining walls will be reviewed on a case by case basis by the Permits Division.
- 8.2.10 Pillars or subdivision signs may be permitted within the Right-of-Way of the existing Major Road, provided they are at the right of way line and do not reduce existing Sight Distance. Signs in a boulevard island shall be in accordance with Rule 8.2.8.
- 8.2.11 Ornamental shrubs may be planted in the existing Major Road Right-of-Way, provided they are not expected to attain a height greater than 3 feet and do not interfere with the Sight Distance at the intersection. No trees may be planted in the Major Road Right-of-Way. Plants which grow large enough to reduce Sight Distance or become a roadside hazard may be removed from the Right-of-Way by the R.C.O.C.
- 8.2.12 If the R.C.O.C. needs the Right-of-Way for road maintenance or improvement, the Property Owner, on whose behalf the Permit Holder has installed landscaping and improvements, shall remove the landscaping and improvements the Permit Holder has placed in the Right-of-Way, or the R.C.O.C. may remove the landscaping and/or improvements at the Property Owner’s expense.

RULE 8.3 NON-MOTORIZED PATHS AND PEDESTRIAN FACILITIES

- 8.3.1 Non-motorized paths constructed within the Right-of-Way shall follow the R.C.O.C. “Non-Motorized Transportation Facilities Agreement.”
- 8.3.2 The contractor shall notify the City, Township, or Village responsible for maintaining sidewalks and/or non-motorized paths, if a sidewalk and/or non-motorized path is removed or damaged during an activity described in Rule 1.1.
- 8.3.3 All pedestrian facilities shall meet current A.D.A. guidelines. (See Figures 8.1 and 8.2.)
- 8.3.4 All pedestrian crossings of signalized intersections of roads or driveways require pedestrian signals. If such an existing intersection is modified, it must be upgraded to current practice and standards, including current A.D.A guidelines. If a road is overlaid, all approaching pedestrian facilities shall be upgraded to current practice and standards, including current A.D.A guidelines.

A.D.A. SIDEWALK/PUSHBUTTON REQUIREMENTS

FIGURE 8.1

Revised: April 22, 2010

All Sidewalk Ramp requirements are in accordance with M.D.O.T. R-28-F (Sidewalk Ramp Detail)

All material for this document was procured from the following sources:

1. M.D.O.T. R-28-F (Sidewalk Ramp Detail)
2. Federal Highway Administration (FHWA)
3. Americans with Disabilities Act (ADA)
4. Americans with Disabilities Act Accessibility Guidelines (ADAAG)
5. Department of Justice (DOJ)
6. Department of Transportation (DOT) Section 504
7. Manual on Uniform Traffic Control Devices (MUTCD)
8. Michigan Manual on Uniform Traffic Control Devices (MMUTCD)

SIDEWALK RAMP

- Max. length of 15'
- Min. Length = Curb Height / (Ramp Slope – Sidewalk Corridor Cross Slope)
- Max. slope of 8.3% (1:12)
- Cross slope \leq 2%
- Max. flare slope of 10%
- Min. Width 4' (recommended to be 5' to match landing area)

DETECTABLE SURFACE

- Min. depth of 24"
- One corner must be within 8" and no other point of the leading edge may be more than 5' from the grade break
- Domes must be aligned with the path of wheelchair travel
- Contrasting color from walk surface by at least 70% (per ADAAG Appendix, Section A29.2)
- Contrast= $[(B1-B2)/B1] \times 100$ where B1=Light Reflective Value (LRV) of lighter area and B2=Light Reflective Value (LRV) of darker area
- Truncated domes per M.D.O.T. R-28-F

PUSHBUTTON LOCATION

- Min. 30" across x min. 48" deep (running toward crosswalk) level surface (less than 2%) adjacent to pushbutton (min. 5' x 5' landing area required next to push button if pedestrians are required to turn or maneuver to use pushbutton)
- Installed on side of crosswalk furthest from the center of the intersection
- No more than 5' max. from extended crosswalk line (MMUTCD fig. 4E-2)
- 1.5' to 6' from back of curb, however where physical constraints exist, up to 10' is allowed
- 10" to 24" side reach the from 30" x 48" level surface
- Button at 42" from grade of level surface
- Pushbuttons located on the same corner must be a minimum of 10' apart

LANDING AREA

- Min. 5' x 5' landing area required for every ramp
- Landing area can be shared by 2 ramps
- Must be at top of ramp if ramp is perpendicular to curb
- Must be at bottom of ramp if ramp is parallel to curb

PEDESTRIAN SIGNALS

- Visible from waiting area and crossing road until within 10' of curb

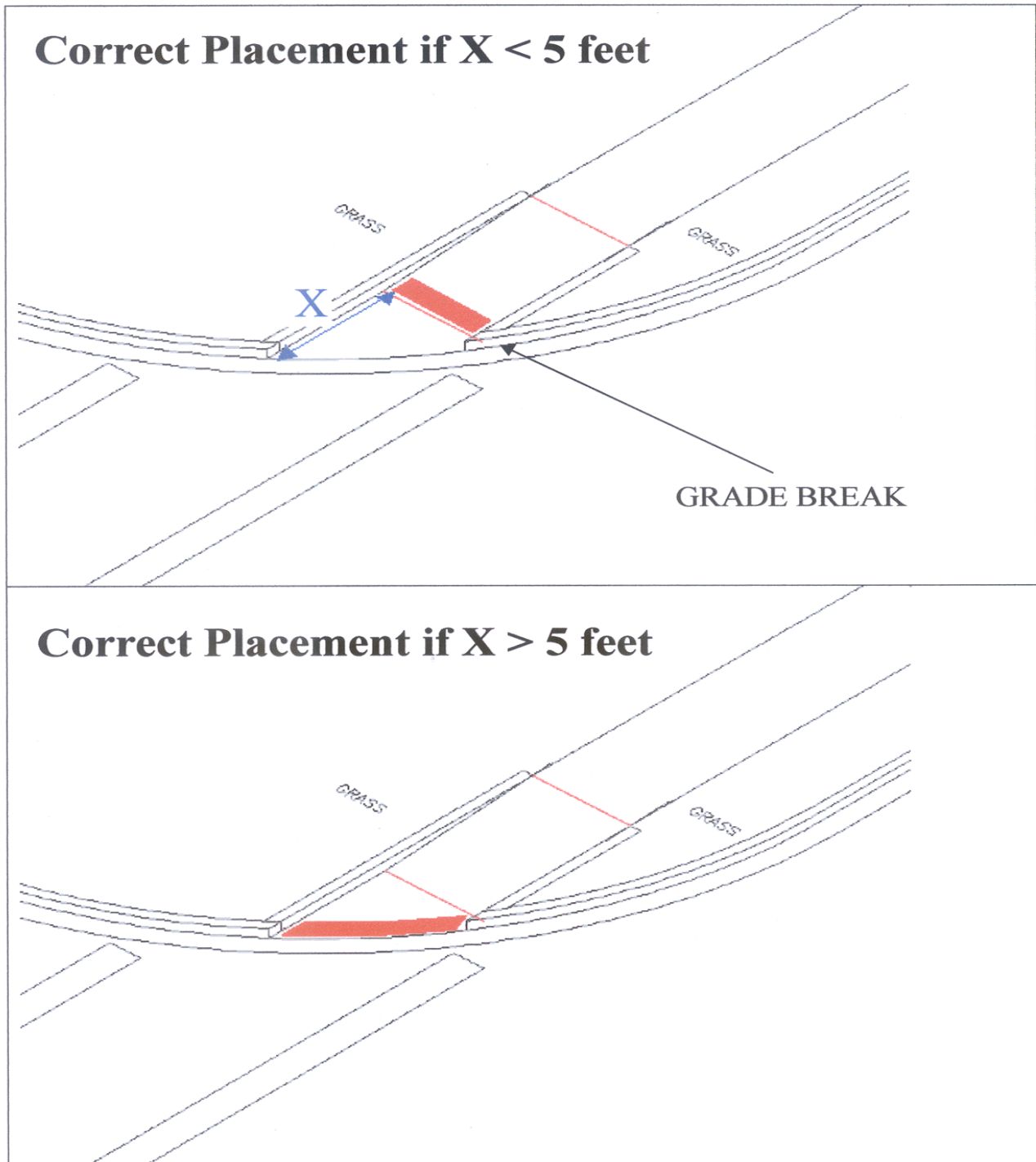
2 CROSSWALKS SHARING SINGLE RAMP

- This method may be used if no other method is feasible. This design is not encouraged or recommended.
- If this method is required, attempt to separate the 2 ramps with the use of flares in between the 2 ramps. Reduced curb height can be used.
- If separating the ramps is not possible, the intersecting crosswalk lines nearest the center of the intersection must intersect at a point 4' from edge of metal allowing full turning radius for wheel chairs inside of crosswalk.
- A combined ramp will require the Landing Area to be at the bottom of the ramps
- Landing Area required at top and bottom of ramp

CROSSWALKS

- Continental pavement markings for crosswalks is preferred but not required
- The slope between the crosswalk lines crossing the road shall be 2% or less

Figure 8.2



PART 9 – BANNER PERMITS

RULE 9.1 AUTHORIZED APPLICANTS

A permit for the installation of Banners to be placed within or over the Right-of-Way may be issued by the Permits Division only to the governing body of a city, incorporated village, or township.

RULE 9.2 APPLICATION FORMS

Applications for permits for the erection of Banners shall be in the manner prescribed by, or on the appropriate forms supplied by, the Permits Division. Only the authorized governing body may make application. The community shall obtain permission from the pole's owner for use of any and all poles. R.C.O.C. traffic signals or poles cannot be used for Banners.

RULE 9.3 MINIMUM REQUIREMENTS

- 9.3.1 Permit applications shall be accompanied by a copy of a Municipal Resolution from the local governing body designating an authorized official of the city, village, or township with the authority to make the application for the city, village, or township. The application should be submitted approximately one month in advance of proposed installation.
- 9.3.2 Each application shall include the following information:
- (A) Activity in connection with which the Banners are to be placed.
 - (B) Location of the proposed installation including distance to traffic control devices.
 - (C) A description of the Banners, including any legend or symbol thereon.
 - (D) The height of an overhead Banner at its lowest point above the surface of the road.
 - (E) The dates on which the Banner will be erected and removed shall not exceed a time period specified by the Permits Division. An acceptable period of time for Banners, other than Christmas decorations, to be in place is 3 weeks and acceptable duration for Christmas decorations to be in place is 6 weeks.
 - (F) Such other information as the Permits Division may require.

RULE 9.4 DESIGN AND PLACEMENT REQUIREMENTS

- 9.4.1 The design, method of installation and location of all Banners shall be such that they shall conform to all applicable laws, statutes and regulations, including Act 200 of 1969, these Rules and the M.M.U.T.C.D.; shall not be dangerous to those using the road; and shall not unduly interfere with Sight Distance or the free movement of the traffic.
- 9.4.2 Overhead Banners shall be securely fastened and have a minimum bottom height of 18 feet above the surface of the traveled way, shall be placed not closer than 100 feet on either side of traffic lights or signals, and shall be so placed as to not obstruct a clear view of such traffic lights or signals or other traffic control devices. Banners shall not be attached to trees.
- 9.4.3 Banners shall not have displayed thereon any legend or symbol which, in the judgment of the R.C.O.C., may, in any way, be construed to advertise or otherwise promote the sale of, or publicize, any merchandise or commodity, or which may be construed to be political in nature.

- 9.4.4 Banners shall not have displayed thereon any device which is, purports to be, imitates, resembles, or may be mistaken for, a traffic control device, or which attempts to direct the movement of traffic.
- 9.4.5 Decorations shall not include flashing lights.

RULE 9.5 CONDITIONS OF ISSUANCE OF BANNER PERMITS

- 9.5.1 Permits for the erection or installation of Banners may be cancelled by the Permits Division if it determines in its sole judgment that such installation shall become dangerous to those using the road or unduly interfere with the free movement of traffic. If it becomes necessary to remove the Banner due to safety reasons, the cost of removal shall be borne by the Permit Holder, and the Permit Holder shall reimburse the R.C.O.C for any and all costs or expenses the R.C.O.C. may have incurred in connection with such removal.
- 9.5.2 The city, village, or township making application shall faithfully fulfill all permit requirements and shall indemnify and save harmless the Board from claims of every kind arising out of , or on account of, permitted activities.
- 9.5.3 The Permits Division may issue permits to cities, villages, or townships for the installation of Banners at approved locations for a period of not more than three (3) years, subject to the conditions above.

PART 10 – PARADES, CELEBRATIONS AND FESTIVALS

RULE 10.1 AUTHORIZED APPLICANTS

A permit granting permission for the temporary Road Closure of a county road for a reasonable length of time for a parade, celebration or festival or for the use of a county road as a detour for traffic around a parade, etc., on a non-county road may be issued by the Permits Division only to the governing body of a city, incorporated village, or township.

RULE 10.2 APPLICATION FORMS

Application for permits to close or partially close or to use as a detour a county road for a parade, celebration or festival shall be in the manner prescribed by, or on the appropriate forms supplied by, the Permits Division. Only the authorized governing body may make application.

RULE 10.3 MINIMUM REQUIREMENTS

A copy of a Municipal Resolution shall accompany permit applications from the city, village, or township requesting permission for the Road Closure or partial Road Closure or use as a detour. The application shall state the nature of the activity for which the Road Closure or partial Road Closure or use as a detour is being requested, the dates and times it is proposed to close and reopen the road to traffic, or to use it as a detour, and such other information as the Permits Division may require.

RULE 10.4 ROAD CLOSURE PERMIT CONDITIONS

All permits allowing a Road Closure or a partial Road Closure or the use of a county road for a detour shall be subject to the following conditions:

- 10.4.1 The Road Closure or partial Road Closure or the use of a county road as a detour route shall not unduly interfere with the safe and free movement of traffic.
- 10.4.2 A suitable alternate location that is more acceptable for traffic safety and offers less interruption of traffic is not available for the parade, celebration, or festival.
- 10.4.3 Normally, Road Closures or partial Road Closures shall be allowed only during daylight hours. In the special case where a temporary nighttime Road Closure is permitted for a parade, celebration or festival, all points of potential hazard and all barricades and warning traffic signs must be lighted at the Applicant's expense; and such lighting must be in accordance with requirements and specifications of the R.C.O.C..
- 10.4.4 All traffic control devices installed in conjunction with the Road Closure or partial Road Closure and the detour route shall conform to the provisions of the M.M.U.T.C.D.
- 10.4.5 Required traffic control devices may be furnished and installed either by the local governing body or by the Board; but, in either event, all costs arising from the installation, maintenance and removal of such devices shall be borne by the Applicant.
- 10.4.6 The local governing body shall be responsible for necessary police supervision and the establishment and posting of any and all necessary detours, and also shall assume liability for any and all damage claims which may arise as a result of the Road Closure or partial Road Closure or detour.
- 10.4.7 Road Closures or partial Road Closures shall not be permitted for the purpose of allowing private commercial activities, such as advertising or sale of goods wares or produce.

10.4.8 The Applicant, at its own expense and within a reasonable time after the permitted event or use, shall clean up any litter, debris, etc., occurring in the Right-of-Way as a result of the permitted event and/or use. If the Board must do any cleanup work, the Applicant shall reimburse the Board for the cost thereof.

RULE 10.5 ANNUAL PARADE PERMITS

The Permits Division may issue an annual permit to cities, villages, or townships that conduct multiple parades or events using the same or similar routes or locations. Such permits shall be subject to the conditions above, and such other conditions as the R.C.O.C. may require. The Permit Holder shall notify the Permits Division at least three week prior to each event and/or each detour use.

PART 11 SMALL WIRELESS FACILITIES

INTRODUCTION

The following guideline applies to the grant of authorization and issuance of permits for the placement of Small Wireless Facilities (“Small Cells”) within the Right-of-Way under the jurisdiction of Road Commission for Oakland County “RCOC” and this guideline is made part of any permit issued governing these activities.

Questions regarding Construction Specifications or Standards may be directed to the Department of Customer Services - Permits Division at (248) 858-4835.

Applications may be made at: Department of Customer Services

I. SITING RULES

1 POLICY OF USING EXISTING POLES FIRST

- 1.1 PURPOSE:** Through the enactment of this guideline, the intent is to ensure that applicants seeking to place Small Cells in the public right-of way. (“Applicants”) utilize the vast inventory of existing, wood utility distribution poles, street lights and traffic signal poles (“Eligible Support Structures”) as the primary infrastructure types to host their Facilities to minimize the proliferation of new poles.
- 1.2 PLACEMENT OF GROUND FURNITURE:** Applicants are allowed to place Ground Furniture needed to avoid excessive Make Ready costs (pole replacements, foundation upgrades) as reasonably necessary to host their equipment at or near the base of a Third Party Owned Pole provided the (i) Ground Furniture is included on the Application and Permit Drawings (ii) the Applicant’s Facilities comply with this guideline, (iii) the Applicant conforms to the established Process and (iv) the Applicant adheres to all applicable ordinances, codes, engineering and construction standards and are subject to the then current, annual Maintenance charge as reflected in Exhibit A.
- 1.3 250’ BUFFER ZONE:** Applicant owned poles will be allowed only on an Individual Case Basis if the new, Applicant Owned Pole is within 250’ of an existing RCOC owned, Utility owned or Third Party owned pole or other Eligible Support Structure. Applications for the placement of Applicant Owned Poles shall only be accepted if accompanied by a detailed explanation of the non-viability of each of the other existing Poles located within the Buffer Zone. Approval of Applicant

Owned Poles within the Buffer Zone will be at the sole discretion of the RCOC and supported by the Applicant’s evidence that the existing Poles are non-viable for safety, security or qualifiable technological purposes.

- 1.4 **NON-RCOC OWNED POLES:** Under the current legislative and regulatory environment, all Poles are defined and treated as “Utility Poles” and eligible for collocation, therefore, the Applicant’s degree of difficulty, investment in time or cost to secure access to Non-RCOC owned poles are not qualifiable as grounds for approval of new, Applicant owned poles within the Buffer Zone.

2 DEFINITIVE AGREEMENTS - MASTER LEASE

- 2.1 **Prerequisite:** Prior to the RCOC accepting Applications for attachments to existing RCOC owned Poles, the Applicant is required to enter into and execute a Master Lease with the RCOC. The Approved Master Lease template is available to any prospective Applicant upon request of the RCOC or the Property Manager.
- 2.2 **Minimum Requirements:** Each Application Submittal shall minimally include those items listed in the Application Submittal Requirements Table below:

Prerequisites	Application Submittal Requirements Table
Master Lease	A definitive agreement is required prior to the processing of applications to attach to any existing RCOC owned Pole. This includes the negotiation and execution of the RCOC approved Master Lease and Lease Exhibits
Master Lease rider	An application to attach to an existing RCOC owned Pole must be accompanied by a completed Master Lease Rider that is specific to each site.
Plan Review and Permit Application	The Plan Review and Permit Application includes all the general information related to the sites on a given application. Applicants may elect to submit just those items required for the Bifurcated Process as described in the Siting Guideline Section 16.6 or to submit both Plan Review and Permit Application under the Unified Process described in the Siting Guideline Section 16.7. Ultimately, all requirements must be satisfied prior to the RCOC issuing Permits.
Approved Applicant Qualification	As a prerequisite to submitting applications, the Applicants must submit their Qualification package and receive approval from the RCOC pursuant to Section 16 of the Siting guideline. Approved Applicants are provided a Grant of Privilege to place Facilities and to a limited extent, Poles in RCOC Rights of Way.

	This Grant of Privilege may be suspended or revoked for breach of guidelines at the sole and absolute discretion of RCOC.
Requirements Check List Completed by Applicant	Each site on a given application must be accompanied by a Requirements Checklist that is completed by the Applicant in advance of or concurrently with their Application submission. The Checklist is specific to each site and includes all items that must be included in the Application Submittal. It is the Applicants responsibility to ensure all items on the Checklist have been included. Missing, incomplete or inaccuracies will result in an application being rejected.
Preliminary Plan Approval	Provided an Applicant has elected the option of a Pre-Application meeting, an Applicant may receive a Preliminary Plan Approval. Preliminary Plan Approval, if included with the Application Submittal will accelerate and prioritize the review of the Application.
Siting Guidelines and Conditions of Approval Acknowledgement	Each Applicant is required to review and Acknowledge that they have read and accepted the Siting Guidelines and General Conditions of Approval and include this signed Acknowledgement with its Application Submittal.

2.3 **Hierarchy:** In the event of a conflict between this Guideline and the Master Lease, the Terms contained within the Master Lease and the related riders and exhibits shall control.

2.4 **Application Submittals:** Applicant shall complete the Application, populate the Master Lease rider for each individual site, and submit the executed Lease Rider, and the required engineering and permit drawings specific to each Site (“Application Submittal”).

3 STANDARDIZED RATES, FEES AND CHARGES

3.1. Standardized rates, fees and charges have been developed adopted and published by the RCOC in order to enable predictability, scale and repeatability for those Applicants requesting access to RCOC owned or placed Poles. This enables Competitively Neutral and Non-discriminatory method of applying equivalent rates, fees and charges for all Applicants seeking to deploy wireless Facilities in RCOC Rights of Way.

3.2. Non-recurring (one-time) Permit Fees: Adopted as a means of compliance with current State Law and Federal Orders and may be changed from time to time as the regulatory and legislative process evolves. Permit Fees are listed in the corresponding Fee Schedule shown in Exhibit A.

- 3.3. Standardized Annual Rates: Adopted as a means of maximizing the utilization and collocations on existing and newly placed Poles and to comply with State Law and Federal Orders that establish a threshold for immunity from Federal (FCC) pre-emption. Annual recurring charges, are listed in the Standard Rate Table Exhibit B.
- 3.4. Annual Charges for Applicant Owned Poles and Ground Furniture: and new Applicant Owned Poles were implemented to recover the RCOC's reasonable approximation of the ongoing cost of hosting this infrastructure in the Public and Utility Rights of Way.
- 3.5. Set Up Charge: A Non-recurring charge of \$3500.00 charged per Applicant to recover the RCOC's legal cost incurred in the development, negotiation and ongoing administration of the Master Lease Agreement, partial recovery of cost associated with the development and implementation of this Guideline and the administration, review and management of the Applicant Qualifier.
- 3.6. Bond - Letter of Credit: Establishes a financial vehicle to recover the cost of equipment removal and right of way restoration costs in the event of (i) Applicant's failure to restore the rights of way or, (ii) repair damage to private property or, (iii) relocate their Wireless Facilities in support of Legal Mandates, and (iv) removal of Poles and Facilities in the event of Applicant default or insolvency. Associated Bond or LOC values are based upon the actual, estimated cost of removal of the Applicant installed Poles and Facilities and applied on a per Site basis. The RCOC may elect to enforce or waive the Bond or LOC based upon the Applicant's financial condition or credit rating at their sole discretion.
- 3.8. No Fees for Existing Poles: Fees are not applied to existing wood utility distribution poles, street lights or traffic signal poles owned by public, municipal or co-op electric utilities or infrastructure owned by neighboring jurisdictional Authorities ("Non-RCOC Owned Pole" or "Third Party Pole Owner").

II. NEW POLES, GROUND FURNITURE, GROUND DISTURBING WORK AND MAKE READY

4 APPLICANT QUALIFICATION & ELIGIBILITY CRITERIA

Prior to the RCOC accepting Applications for Applicant Owned Poles, placement of Ground Furniture or performing any Ground Disturbing Work, Applicants are required to apply for Qualification in accordance with the Eligibility Criteria outlined below.

4.1. **Applicant Qualification Process:** Ensures that all Applicants are broadband companies authorized to construct facilities in the public right-of-way pursuant to Section 13 of Michigan Public Act 368 of 1925, MCL 247.183, and will (i) responsibly maintain, operate, repair, relocate and remove their Facilities and Infrastructure in compliance with this Guideline, (ii) will comply with the Law and Legal Mandates, (iii) possess and apply the appropriate regulatory entitlements depending on Facility type, (iv) are financially responsible and solvent, (v) are properly qualified, organized and in good standing, (vi) are able to demonstrate a history, willingness and an ability to operate safely and responsibly within the public way, and (vii) certify that the Applicant's Officers and Executive team members have not previously been cited, fined or sanctioned, or denied regulatory operating RCOC, and (viii) have not previously had their regulatory RCOC or entitlements suspended or revoked by any State Public Service / Public Utility / Commerce Commission or Federal (FCC) Agency.

4.2. **Qualification Submittal Requirements:**

- Copy of Regulatory Entitlements (CMRS, ILEC, CLEC, CATV, WISP, Wireless Infrastructure Provider, Other)
- Corporate Organization Structure (Articles of Incorporation, Certificate(s) of Good Standing)
- Corporate Financials (Prior Year Annual Report, 3 Years Audited Financials, D&B Number & Rating)
- Executive and Officer Background Affidavit
- Statement of Qualifications
- Certificate of Insurance
- Articles of Indemnification
- Siting Guideline Acknowledgement

- 4.3. Non-Facilities Based Work:** Applicants seeking access to place Facilities on existing (or replaced) Poles and infrastructure exclusively, are not required to complete the Qualification Process.
- 4.4. Facilities Based Work:** Applicants seeking the right to place and own new Poles, perform Ground Disturbing Work are required to apply for and Qualify prior to the RCOC accepting Applications.
- 4.5. Unregulated Applicants:** Excepting only those Applicants in possession of Full, Facilities Based RCOC, whose Applications are specific to Wireless Support Poles and are able to demonstrate to the reasonable satisfaction of the RCOC that the use of their Regulated Telecommunications Utility status may qualify as exempt from the Qualification process. All other Applicants shall be categorized as Unregulated, Wireless Service Providers or Wireless Infrastructure Providers.
- 4.6. Wireless Service Providers include:**
- FCC licensed and regulated wireless carriers with Commercial Mobile Radio Services (“CMRS”) or Personal Communications Services (“PCS”) licenses issued by the FCC.
 - Wireless Broadband and Wireless Internet Services Providers (“ISP”), Interexchange Carriers (“IXC”) or other advanced or emerging technology lacking formal RTU status in possession of FCC Title II entitlements shall be evaluated for eligibility on an individual case basis.
- 4.7. Wireless Infrastructure Providers Include:**
- Unregulated entities seeking permits and approvals to place Facilities, Poles and Infrastructure on behalf of one or more Wireless Service Providers or Regulated Telecommunications Utilities are classified as Wireless Infrastructure Providers.
 - Wireless Infrastructure Providers must provide verifiable proof, to the reasonable satisfaction of the RCOC that valid contracts and / or work orders, specific to the Facilities, Sites or Poles included on an Application are valid and executed prior to the RCOC accepting Applications from the Wireless Infrastructure Provider

4.8. Eligibility Notice: Applicants seeking a specific form of Qualification shall be Notified in writing within 30 days of the Authorities receipt of a completed Submittal which shall include an approval or the grounds by which their classification was assigned or the form of eligibility sought, was denied.

5 POLE TYPES AND GROUND FURNITURE OPTIONS

5.1. Permittable Pole Types and Materials: Applicant Facilities are permittable with or without the use of Ground Furniture and are subject to Make Ready Procedures prescribed by the Pole Owner and the permitting RCOC pursuant to Table 5a shown below.

Table 5a

Pole Type	Owner	Ground Furniture	Make Ready Procedures
Wood Utility Distribution Pole	Utility (Note 1)	Permittable	Utility Pole Owner Procedures
Existing Traffic Signal Poles	Authority Owned		Authority Policy
Existing Street Light Poles			
New Wood Poles			
New Metal or Composite Poles	Applicant Owned	Permittable on Individual Case Basis (Note 2)	
New Wood Poles			
New Metal or Composite Poles			
Note 1 - Includes Public, Investor, Municipal, Coop Owned Utilities and ILEC Owned Poles			
Note 2 - New Poles Placed Are Capable of Supporting All Facilities - Ground Furniture Not Required			
Note 3 - Subject to Buffer Zone, Protected Zone & Ground Disturbing Work Restrictions			

GROUND FURNITURE

Applicants whose wireless Facilities require Ground Furniture or equipment placed on the ground within RCOC rights of way, are permissible subject to an annual Maintenance Charge reflected in Exhibit A.

- 5.2. Annual Maintenance Charge:** Applicable to all Ground Furniture based Facilities supporting any wireless service, applied consistently on a competitively neutral, and non-discriminatory manner which includes the RCOC's reasonable approximation of internal and outsource cost of hosting Ground Furniture within RCOC Rights of Way.
- 5.3. Maximum Allowable Dimensions:** Excluding wires, conduits, cables, brackets, electrical service components but including Applicant power supplies, batteries, Antennas and Equipment attached to the Pole and the use of Ground Furniture allow Applicants to place up to a maximum of 36 cubic feet of wireless facilities on each Site. The standard configurations are reflected in Table 5b below.

Table 5b

Pole Type	Owner	Maximum Antenna Dimensions	Maximum Equipment Dimensions	Ground Furniture Dimensions	Maximum Combined Dimensions
Wood Utility Distribution Pole	Utility	Per Utility Pole Owner Allowance	Per Utility Pole Owner Allowance	18 Cubic Feet	36 Cubic Feet
Existing Traffic Signal Poles	Authority Owned	6 Cubic Feet	12 Cubic Feet		
Existing Street Light Poles					
New Wood Poles					
New Metal or Composite Poles					
New Wood Poles	Applicant Owned	6 Cubic Feet	12 to 30 Cubic Feet (Note 1)		
New Metal or Composite Poles		6 Cubic Feet			

Note 1 - Applicant Owned Poles are limited to 30 Cubic Feet of equipment and 36 cubic feet of total volume. Ground Furniture is permissible provided less than 12 cubic feet of equipment is placed on the pole.

- 5.4. **Permittable Configurations:** Applications that conform to these dimensions are deemed Permittable. Applications that exceed these parameters may be Permittable subject to review on an individual case basis (“ICB”).
- 5.4. **Code Compliance:** Approval shall be conditioned on compliance with all Federal and State law including but not limited to Americans with Disabilities Act (“ADA”) compliance, National Environmental Protection Agency (“NEPA”), Occupational Safety and Health Administration (“OSHA”), National Electric Code (“NEC”) and National Electric Safety Code (“NESC”).
- 5.5. **Maintenance Charge Exclusions:** Lateral facilities including overhead and underground electric service, copper and fiber optic lines (collectively “Landline Facilities”) and landline-based Telecommunications ground furniture used exclusively for non-wireless purposes including but not limited to CATV converters and power supplies, ILEC, CLEC and IXC splice boxes and enclosures are immune from the maintenance fee requirements contained within this Guideline and shall continue to be administered under their original franchise, charter or operating agreement.

NEW POLE PLACEMENT

- 6.1. **Applicant Placed and Owned:** Applicant placed and owned Poles are reviewed and approved on an exception basis and allowed only to the extent the following pre-requisites are met:
- a. Applicant has (i) been Qualified and Approved by the RCOC, (ii) possesses the regulatory RCOC as a Full, Facilities Based CLEC and is providing lateral facilities to each pole contemplated for use, (iii) meets the eligibility criteria as a Regulated Telecommunications Utility.
 - b. Location of the new pole is outside the Buffer Zone (more than 250’ away from an existing pole that is eligible for use) and outside the Protected Zone (more than 250’ away from an existing Traffic Signal Pole or Intersection).
 - c. Applicant completes their submittal in accordance with the Application Submittal Requirements reflected in Exhibit C relating to Applicant Owned Poles.

- 6.2. **Conditions of Approval for Applicant Owned Poles:** Completed Applications that include Applicant Owned Poles and the minimum required information on the Application Submittal drawings, will be reviewed, conditioned and approved or denied on an individual case basis. Conditions of approval may include but not be limited to (i) placement and use of a particular pole type, material, foundation specification and depth, (ii) aesthetics, (iii) mandatory collocation and shared use by other Applicants, (iv) remittance of faithful performance and removal bonds, and(v) other conditions as the RCOC deems reasonably necessary under the circumstances and as local conditions may dictate.

7 EXCAVATION AND GROUND DISTURBING ACTIVITY

- 7.1. **Excavation Work:** related to an Applicant's placement of Facilities, Poles, Equipment, Ground Furniture, electric service and lateral facilities (fiber, copper or coaxial cables) are to be performed in accordance with the approved Application and conditions detailed on the Applicant's Permit.
- 7.2. **Designated Work Hours:** Ground disturbing Work performed within RCOC Rights of Way may only be performed during designated hours as indicated on the Excavation Permit.
- 7.3. **Permit Validity:** Excavation permits will not be valid unless and until the Applicant provides all required contractor information, documentation, certificates of insurance, indemnification, liability waivers, traffic control plans and construction schedule a minimum of 5 days prior to the scheduled start of construction.
- 7.4. **Mandatory Make Ready:** The RCOC may require, as a condition of approval, that Excavation Work within a Protected Zone be performed by the RCOC.
- 7.5. **Optional Make Ready:** Applicants may also request Excavation Work within a Protected Zone or within RCOC Rights of Way be performed by the RCOC.
- 7.6. **Make Ready Procedures:** Excavation Work administered under mandatory or optional Make Ready procedures are further defined and reflected in Section 8.
- 7.7. **Protected Zones:** All Excavation Work within a Protected Zone that is performed or caused to be performed by the Applicant shall minimally include on-site supervision by RCOC personnel or their designee at the sole cost and expense of the Applicant.

- 7.8. **Inspections:** All Excavation Work within RCOC Rights of Way and outside of a Protected Zone shall minimally include random and regularly scheduled inspections and post construction inspections to ensure the Work is being performed in a safe and workmanlike manner and the Site has been safely and properly restored.
- 7.9. **Reimbursements:** The RCOC's' actual cost of on-site supervision and inspections shall be reimbursed at the sole cost and expense of the Applicant within 30 days of receipt of invoice.

8 MAKE READY

Applications that include any or all of the following shall be subject to the mandatory Make Ready Estimating, Engineering and Construction process and standards.

8.1. Mandatory Make Ready:

- 1- Attachments of Facilities to existing or newly placed, Applicant or RCOC owned Poles.
- 2- Applications to place Ground Furniture in RCOC Rights of Way.
- 3- Ground disturbing activity including placement of underground lateral facilities of fiber optic and electrical conduits, cables and wires directly associated with the Site.
- 4- Facilities placed on or near any RCOC Owned Traffic Signal Poles.

8.2. **Make Ready Estimate:** Each application submitted that meets the criteria above shall require a Make Ready Estimate to be performed by RCOC personnel or their designee. The Make Ready Estimate shall include a flat fee for production of the Make Ready Estimate and the charge for the performance of Make Ready Engineering.

8.3. **Make Ready Engineering:** Based on the engineering information provided by the Applicant included on the application at the time of Submittal, the Make Ready Estimate deliverable shall include a detailed estimate of the Make Ready Engineering and preliminary estimate of the Make Ready Construction Work required Upon receipt of the Make Ready Estimate, the applicant may submit some or all of the Engineering to the reasonable satisfaction of the RCOC or pay for the Engineering work to be performed as specified on the Make Ready Estimate. Upon completion of the Make Ready Engineering, the Estimate shall be updated and provided to

Applicant.

- 8.4. **Make Ready Construction:** Applicants may elect to authorize the start of Make Ready Construction by executing the updated Make Ready Estimate and remitting payment. Upon receipt of payment, the Make Ready Construction Work will be scheduled with the Applicant and performed in accordance with the agreed upon schedule.
- 8.5. **Make Ready Payments:** All payments for Make Ready Work inclusive of the Estimate, Engineering and Construction are payable in advance of the scheduling or start of Make Ready Work. The associated values are direct Cost Recovery.
- 8.6. **Overpayment:** In the event of an overpayment, the amount of the overpayment will be credited back to the Applicant.
- 8.7. **Underpayment:** In the event of underpayment of up to 20%, the additional cost shall be billed to applicant under net 30-day terms accompanied by a detailed description of the increase in cost. In the event of an underpayment of more than 20%, the RCOC shall notify applicant of an anticipated underpayment as soon as reasonably practicable under the circumstances, update the original Make Ready Construction estimate and suspend the work associated with the amount of the increase until such time as the applicant approves the applicable increase.
- 8.8. **Performance of Work:** All Make Ready work shall be performed on a commercially reasonable efforts basis in relation to both the targeted timetables for completion and management of cost.
- 8.9. **Optional Make Ready:** Due to the current State and Federal Laws and FCC Orders, permit fees have been capped to a value below the RCOC's ability to provide field or operational support to Applicants excepting only administrative and desktop reviews. Applicants may request optional Make Ready Work at any point throughout the Application process as a means of expediting the Applicant's engineering and design process. Applicant requests for Optional Make Ready Work may be requested from the RCOC or the RCOC's Property Manager in writing. Within 15 days of receipt of the request for Optional Make Ready, an estimated cost of performance of the work shall be delivered to the Applicant and the Optional Make Ready Work will be scheduled to commence upon receipt of payment.
- 8.10. **Optional Make Ready:** includes but is not limited to:

- Site Walks and Escort Services
- ROW and Pole Ownership Verification
- Preliminary Design Review - Compliance Verification
- Project Coordination, Scheduling and Management
- Program Management
- Facilities, Equipment and Antenna Installation on RCOC Owned Poles
- Other Services as Specified by Applicant
- Use of RCOC Electric Service (See Section 25.12)

8.11. Use of RCOC Electric Service on RCOC Poles: Use of RCOC installed, owned and operated electric service and electric service connections are expressly excluded under State and Federal Law and q FCC orders.

To the extent an Applicant requests the use of RCOC Electric Service and the RCOC elects to allow such use, Applicants will submit a request for Optional Make Ready Services to be performed.

Any such use is at the sole and absolute discretion of the RCOC and may be conditioned on (i) the payment of electric service coordination and connection services charges, (ii) payment or reimbursement of the cost of electric service upgrades, (iii) monthly or annual charges and (iv) metered, non-metered or calculated rate agreement in place by and between the Applicant and the electric utility providing electric service.

II. GENERAL REQUIREMENTS

9 NON-CIRCUMVENTION

Non-circumvention shall extend to include, without limitation, any and all attempts by an Applicant to intentionally or unintentionally, through negligence or lack of oversight or supervision of the Applicants' personnel, employees, contractors, sub-contractors, agents and assigns to bypass or circumvent this Guideline. Examples include but are not limited to, installation, construction or commencement of work without all required consents, approvals and permits, failure to provide notice of intention to commence work, failure to provide Notice of intent to commence ground disturbing construction in advance, failure to ensure all required qualification actions have been satisfied, failure to provide the required surety bonds, insurance certificates, indemnification documents, failure to secure all required third party approvals, consents

or permits from neighboring jurisdictions, or any other breach or attempted breach as determined at the sole and absolute discretion of the RCOC.

Non-circumvention shall also include the withholding and / or misrepresentation of information provided as fact, by an Applicant relating to the Applicant's request for consents, approvals or permits, regulatory entitlements, equipment or antenna title and ownership or failure to secure the requisite regulatory consents and approvals from third party agencies including but not limited to the Federal Communications Commission, Federal Aviation Administration and the Michigan Public Service Commission.

Applicants that leverage a prescriptive, legal right to place poles as a Regulated Telecommunications Utility, specifically for the distribution of commercial electric service or to support lateral or landline facilities, in particular, Public, Municipal, Co-op or Investor Owned Electric Utilities, Dominant or Non-Dominant ILEC's or CATV shall not be restricted under this Guideline, except that any new pole placed for the purpose of structurally improving, stabilizing or strengthening landline facilities use shall be excluded for use as Wireless Support Poles for a period of not less than three (3) years from the date of installation.

For the absence of doubt, any violation of this Non-Circumvention Policy may be deemed grounds for suspension or revocation of Applicant's eligibility under this Guideline and suspension or revocation of rights and eligibility of the Applicant's landline affiliate or any entity that places any pole under similar circumstances.

The RCOC shall reserve all rights and remedy including the exercise of all police powers, injunctive relief and selective prosecution.

10 ANTI-OBSTRUCTIONISM

The RCOC has implemented an Anti-Obstructionism Policy as a means of ensuring parity in use of existing Poles and Vertical Infrastructure throughout Oakland County in order to ensure the available infrastructure is used to the full extent practicable for both Lateral and Wireless Facilities.

For the absence of doubt and by way of example, incumbent pole owners may not place new poles specifically for use as Wireless Support Structures unless a completed Wireless Facilities application has been filed for and approved for Type 6 Vertical Infrastructure concurrently with or prior to the placement of new poles.

In addition, no individual or joint pole owner may place poles exclusively for use by the pole owners own wireless affiliate or place poles with the intent of leasing space to a prospective Applicant under a prescriptive right to place poles to support Lateral Facilities without first securing approval in accordance with this guideline.

In the event an incumbent pole owner determines through process or policy that they will replace existing or place new poles for use as both structural support for Landline Facilities and Wireless Support Structures, any eligible Applicant shall be

entitled to essentially the same treatment on competitively neutral and non-discriminatory basis.

Any violation of the Anti-Obstructionism Policy may be deemed grounds for suspension or revocation of eligibility under this guideline. The RCOC shall reserve all rights and remedy including the assessments of fines, penalties, sanctions, injunctive relief and the retention of rights of selective prosecution.

In the event a formal complaint is filed either with the RCOC or the Michigan Public Service County, that essentially claims or brings cause of action for anti-competitive behaviors or discriminatory treatment for either Landline or Wireless Facilities access to existing Utility Poles by the pole owner(s), the County may impose sanctions, suspend or revoke eligibility to place poles, Lateral or Wireless Facilities until such time as the complaint has been satisfied.

11 NO PIECEMEALING OR CONSOLIDATED FILINGS

Applicants may not Piecemeal Applications or Consolidate the filing of their Applications for the purpose of leveraging a more expeditious or favorable regulatory treatment, environmental approval or permitting process.

Piecemealing includes but is not limited to the bifurcation into one or more parts, individual network elements into multiple Applications or use of disparate regulatory entitlements to intentionally or unintentionally circumvent established process or policy of any type, kind or nature.

Consolidated Filings includes but is not limited to the inclusion of wireless support structures into Applications related to lateral facilities (fiber, copper or hybrid fiber / coax), project or facility plans, construction, excavation or permit applications.

For the absence of doubt, no regulated or unregulated entity may use their grant of RCOC and no Applicant shall leverage their entitlements or grant of RCOC of any other entity without full disclosure and approval of the RCOC prior to the Applicant's filing.

Any violation of this provision shall constitute grounds for immediate revocation of authorization, approvals, consents and permits and the Applicant will be deemed in breach of this guideline.

12 NO WINDFALL PROFIT TAKING

Speculative pole placement and profiteering from the artificially low, below market, regulated rates and rate caps is contrary to the spirit, intent and literal interpretations of state and federal law and FCC orders.

Consistent with current state law and FCC orders, Wireless Service Providers, Wireless Infrastructure Providers may not place, own lease, license, sub-lease, sub-license or otherwise rent Poles under this guideline beyond a pure cost recovery-based rate.

Wireless Service Providers and Wireless Infrastructure Providers, to the extent permitted to place and own poles, are hereby restricted from generating profits from eligible wireless support structures placed within RCOC Rights of Way and are required to make space available on any Poles at rates consistent with those incorporated into current state and federal law, FCC orders, and those contained within the current guideline.

For the absence of doubt, any annual Rate charged by a Pole Owner shall be inclusive of all annual fees, charges and rates including but not limited to pre-paid rents (including non-recurring charges attributable to or identified as capital contributions, connection charges, prepaid rents) rent, license fees, lease, license, sub-lease, sub-license, maintenance fees, hosting charges or other characterizations of monetary compensation that are charged to an Applicant or tenant on a Pole at regular intervals.

Any new Pole Owner that fails or refuses to make space available within the time frames or limits of the applicable shot clocks at the then current Rates, shall be deemed in Breach of this provision, the Anti-obstructionism provisions and in greach of RCOC guidelines.

New Pole Owners deemed to be in Breach shall, as a component of the cure, be required to refund any over payment to the affected tenant(s) and to adjust the Rates in accordance with this guideline or their eligibility will be revoked.

Revocation of eligibility shall be in addition to any other remedial actions the RCOC deems, in their sole and absolute discretion for breach of this guideline.

13 BREACH AND CURE PERIOD

Applicants in receipt of Notice of Breach shall be given a 30-day Cure Period in which to remedy the Breach.

Provided the Applicant proceeds promptly to cure such breach and diligently and continuously prosecutes such cure, the time of curing such breach may be extended for such period of time as may be necessary to cure, not to exceed an additional 30 days unless otherwise extended by the RCOC.

Upon the failure by the defaulting Party to timely cure any such breach after receipt of Notice, the RCOC shall retain the right, to take such action as determined in the RCOC's sole and absolute discretion to cure the breach at the sole cost and expense of the Applicant.

14 LEGAL MANDATES- RELOCATION OF POLES AND FACILITIES

Right of Way Access and Use of existing and newly placed Poles is a prescriptive, legal right and privilege only for properly certificated carriers and RTU's.

The RCOC reserves all legal rights and remedy to revoke right of way access privileges for an Applicant's failure, unwillingness or inability to comply with the minimum requirements listed below or to suspend any un-regulated Applicant's grant of privilege issued by the RCOC including but not limited to issuance of a temporary or permanent Stop Work Order.

Applicants whose Poles and Facilities are permitted and installed shall comply with all Legal Mandates related to temporary or permanent relocations of their Poles and Facilities at their sole cost and expense to accommodate other Right of Way Work performed by the RCOC or within RCOC Rights of Way.

Facility and Pole Owners shall be provided 180 Days (6 months) advance Notice of the planned Right of Way Work to afford appropriate time to plan, engineer and facilitate the required Relocation of Poles and Facilities and the RCOC shall coordinate and expedite Applicant requests for alternate or temporary Pole and Facilities Placement for the affected Applicant.

In the event an Applicant in receipt of proper Notice, fails or refuses to relocate their Poles or Facilities, the RCOC shall remove the Applicant's Poles and Facilities. The RCOC will then invoice the Applicant for their cost of affecting the Pole and Facility removal and any storage, shipping and handling cost until such time as the Applicant recovers their removed Poles and Facilities.

15 RULES OF ENGAGEMENT - MINIMUM REQUIREMENTS

- 1- Applicant secure Temporary Authorizations and Permits prior to the commencement of work.
- 2- Authorized work within the RCOC's rights of way is to be performed only by properly trained, insured and certificated personnel.
- 3- Authorized work performed under this guideline on RCOC owned Traffic Signal Poles shall be performed only by Michigan Department of Transportation ("MDOT) certified electrical installation and repair contractors.
 - a. Information on becoming an MDOT certified electrical contractor can be found here: <http://www.michigan.gov/statelicensesearch/0,4671,7-180-24786-81065--,00.html>

- b. The current list of MDOT certified electrical contractors can be found here: <https://mdotjboss.state.mi.us/PSVR/PrequalifiedContractors.htm>
- 4- Applicants shall maintain the appropriate levels of insurance as specified herein and provide Certificates of Insurance (See Insurance) and Indemnify all RCOC, officers, employees (See Indemnification).
 - a. Applicants shall be solely liable for any legal liability, claims and cause of action stemming from their occupation and use of the Public and Utility Rights of Way.
- 5- Temporary or permanent relocation of Applicant owned equipment, antennas, ground furniture, electric service, fiber and copper wiring (collectively “Facilities”) at the sole cost and expense of the Applicant.
 - a. Applicant Facilities not relocated within the Notice period may be removed and relocated by the RCOC at the sole cost and expense of the Applicant.
 - b. Mandatory relocations or Legal Mandates not performed by the Applicant shall be immune from any claims and cause of action initiated by the Applicant including indemnification and safe harbor protection from the Patriot Act of 2001 and protections otherwise afforded under the Telecommunications Act of 1996 (C.F.R 47).
 - c. The Applicant reserves the right to review applicant financial statements and if deemed appropriate, to invoke the requirement for Applicants to post a faithful performance and removal bond or standby letter of credit in a form and format reasonably acceptable to the RCOC.
 - d. The RCOC shall invoke the Bonds as necessary to recover any and all invoiced costs incurred by the RCOC that are directly attributable to the Applicant’s failure to comply with Mandatory Relocations or other Legal Mandates that have not been paid by the Applicant within 60 days of receipt of RCOC invoice.

ALL APPLICANTS WHO ARE AUTHORIZED AND RECEIVE PERMITS FOR THE PLACEMENT OF FACILITIES AND POLES TO SUPPORT WIRELESS FACILITIES SHALL BE CHARGED AN ANNUAL RECURRING AND NON-RECURRING RATES AND FEES IN ACCORDANCE WITH THE STANDARD RATES AND FEES TABLE INCLUDED HEREIN.

THESE FEES ARE NECESSARY TO ENSURE THE RCOC IS FAIRLY AND JUSTLY COMPENSATED FOR THE LONG TERM, ACCRUED COST OF HOSTING WIRELESS FACILITIES AND POLES WITHIN RCOC RIGHTS OF WAY AND TO ENSURE THE TAXPAYERS OF THE STATE OF MICHIGAN ARE NOT REQUIRED TO SUBSIDIZE THE APPLICANT'S COST.

16 APPLICATION PROCESS - GENERAL

The process for applying for and receiving Permits for access to and use of RCOC Rights of Way and the placement of Poles and Facilities is reflected below.

- 16.1. Pre-application and Plan Review:** Applicants may request a pre-application meeting with the RCOC and the Authorities designated Property Manager at no cost to the Applicant for the purpose of reviewing the Applicant's plans and the RCOC's prerequisites and formal Application Submittal requirements.

The Pre-application meeting is not mandatory, although highly recommended to ensure all pre-application requirements have been met prior to the Application submittal date, aid the Applicant in avoiding unnecessary cost or time being incurred and to streamline the review and approval process.

An Applicant's alternative to a Pre-application meeting includes preparation and delivery of a completed Application that includes all Planning and Permitting requirements including the prerequisites (Qualifier, Executive Affidavit, Executed Master Lease etc.).

- 16.2. Preliminary Plan Comments:** The RCOC will provide comments and feedback to the Applicant on the Pre-application that will assist it in properly submitting the Application.

- 16.3. Application Submittal:** Applicants may submit multiple individual sites on a single Application for review and approval, accompanied by remittance of the Permit Fee as instructed by RCOC personnel. Each Application will include individual Site Plan Drawings and submittal documents inclusive of those items reflected on Exhibit C specific to the Pole Type and the Applicant's Facilities.

Applications will not be accepted unless accompanied or preceded by the Applicant's prerequisites and the then current Permit Fees.

- 16.4. Application and Submittal Package Review:** The RCOC, or the RCOC's Property Manager acting as the RCOC's agent, shall review the Application Submittal and provide comments and edit notations on the Applicant's submittal package.
- 16.5. Application Work Flow:** The Application Submittal Package may be bifurcated or unified based on the Applicant's preference as indicated on the Application. The bifurcated process allows Applicants to minimize their cost of production of Permit Drawings until the Site(s) receives Planning Approval while the Unified Process is intended to save the Applicant time. In either event, Permits will not be issued until the Application Submittal is complete and the Sites on the Application have been reviewed and approved.
- 16.6. Bifurcated Process:** Includes the Engineering and Planning Review Drawings only, in which case the Applicant will only receive Planning Approval and may follow up with Permit Drawings.
- 16.7. Unified Process:** Includes the Engineering and Planning Review Drawings accompanied by Permit Drawings and will be eligible for Planning and Permit Review in parallel.
- 16.8. Applicant Corrections:** Upon receipt of the RCOC's comments, the Applicant will correct and resubmit the Application in accordance with the Application Review Checklist applicable to each Site type. The review process will continue until (i) the Application Submittal is Accepted by the RCOC as Complete or (ii) if, after 3 (three) Application Reviews, the Application Submittal is rejected by the RCOC due missing information or the Applicant has not corrected the Submittal Package to the reasonable satisfaction of the RCOC or (iii) the amount of time elapsed between the Applicant's receipt of comments that have not been added or corrected has exceeded 45 days, at which time the Application Submittal will be deemed rescinded by the Applicant unless the Applicant requests additional time, which shall not unreasonably be denied.
- 16.9. Permit Fees:** Permit Fees will be submitted by the Applicant during the Planning Review phase in accordance with the Permit Fee Schedule reflected in Exhibit A. Regardless of the number of Sites included in any Application Submittal, the Applicant shall include individual checks for each individual Site on the Application.
- 16.10. Permit Fee Non-Refundable :** Permit Fees offset the costs incurred by the RCOC in reviewing the Application and are non-refundable

- 16.11. Application Review:** Completed and Accepted Application Submittals shall be reviewed and either (i) approved within 60 days or (ii) denied based upon valid grounds with the grounds for denial provided to the Applicant in writing. Individual Sites may be approved or denied without regard to the total number of Sites included on a given Application which shall be limited to a maximum of 5 (five) Sites per Application Submittal.
- 16.12. Approved Sites:** Sites that have been Approved are advanced to Permitting. Permits may be submitted on approved sites and pulled by the Applicant or the Applicant's designated Contractor. Each Approved Site Requires a separate Permit Application including the Permit Submittal requirements reflected in Exhibit C
- 16.13. Denied Sites:** Applicants may request and the RCOC will schedule a Plan Review meeting within 30 days of the Applicant's receipt of Notice to reconsider sites that have been denied, upon written request of the Applicant. Sites that have been denied that have not been escalated for Applicant provides Notice of intent to waive internal escalation and advance directly to more formal remedies.
- 16.14. Permit Review of Approved Sites:** Site specific Permit Applications may be submitted immediately following the Applicant's receipt of Site Approval. Permit Submittal Requirements are reflected in Exhibit [D]. Permit Approval is conditioned upon the Permit Application and Submittal being complete to the reasonable satisfaction of the RCOC's Permitting department and will typically be issued within 15 to 30 days receipt of a completed Permit Application.
- 16.15. Final Permits and Conditions of Approval:** Permits that have been approved will be available for pick up by Applicant or the Applicant's designee or contractor (approved Applicants and their contractors are collectively referred to herein as "Permit Holders") and will include any Conditions of Approval noted on the final Permit. The Applicant must submit a Start of Work Form a minimum of two business days prior to the intended start of construction date. Submission of the Start of Work Form will signify consent to the Conditions of Approval. Upon completion of Construction, the Applicant or the Applicant's designee or Contractor shall notify the Permitting department that construction and restoration is complete and ready for final inspection.
- 16.16. Inspections:** To the extent construction and restoration Work is complete to the reasonable satisfaction of the Inspector, the Applicant will receive a Notice of Satisfactory Completion.

16.17. Punch List: To the extent construction and / or restoration work is unsatisfactory, the Inspector will provide the Applicant's designated contractor with a Punch List of items that need to be corrected prior to receiving Notice of Satisfactory Completion.

16.18. Remedial Work: The contractor shall then have 30 days to correct the deficiencies noted that do not pose an immediate public safety hazard and 5 days to correct the deficiencies that do pose a public safety hazard, the later conditioned on the contractor taking immediate action to place barriers, signage and take such other actions to minimize the public safety hazard. Upon completion of the remedial Work, the contractor shall request a follow up inspection.

16.19. Failure to Perform: In the event the contractor fails to correct the noted deficiencies or commit to a plan to affect such corrections that is acceptable to the Inspector, the RCOC may cause the deficiencies to be corrected at the sole cost and expense of the Permit Holder.

16.20. Penalties for Failure to Perform: In the event a Permit Holder fails to correct noted deficiencies in a timely manner, displays a chronic or systemic inability or unwillingness to correct noted deficiencies or fails to pay invoices for reimbursement of costs incurred by the RCOC when due, the RCOC may invoke Fines, Penalties and will stop or suspend any further work including revoking approved Permits until such time as the noted deficiencies are corrected.

17 APPLICATION PROCESS - GROUND FURNITURE

Ground Furniture is permissible to the extent the Ground Furniture shall be placed in locations that do not materially interfere or impede the safe flow of vehicular traffic or pedestrian walkways (including ADA rules regarding wheelchair accessibility) and is fully contained within RCOC rights of way.

Ground Furniture shall not:

- a. obstruct the corner site distance of driveways or side streets, as per RCOC's "Guide to Corner Site Distance;"
- b. pose a fixed object hazard within 6 feet of the back of curb or 12 feet from the land line of an uncurbed road; or
- c. interfere with roadside drainage or the Authorities ability to maintain the road right-of-way.

- 17.1. Application for Ground Furniture:** For any existing RCOC owned Pole that also requires Ground Furniture, the applicant shall indicate the Ground Furniture option on the initial Application.
- 17.2. Application for Ground Furniture and New Applicant Owned Pole:** For Applications to place a new Applicant Owned Pole and Ground Furniture, the applicant shall also indicate the Ground Furniture option on the Application and provide an explanation as to the reasons the new pole is unable to safely accommodate the direct attachment of Applicant Facilities.
- 17.3. Conditions of Approval:** Any conditions of approval shall be detailed on the approved Permit and the Applicant shall be deemed to have agreed to comply with the conditions of approval upon acceptance of the permit approval and start of construction.
- 17.4. Annual Maintenance Charge:** Ground Furniture and new Applicant Owned Poles with Ground Furniture are subject to the annual maintenance charge indicated in the Schedule of Values reflected in Exhibit A.

18 INSURANCE

a. The Applicant and the County (collectively “Parties”) hereby waive and release any and all rights of action for negligence against the other which may hereafter arise on account of damage to the Premises or to the Property, resulting from any fire, or other casualty of the kind covered by standard fire insurance policies with extended coverage, regardless of whether or not, or in what amounts, such insurance is now or hereafter carried by the Parties, or either of them. These waivers and releases shall apply between the Parties and they shall also apply to any claims under or through either Party as a result of any asserted right of subrogation. All such policies of insurance obtained by either Party concerning the Premises or the Property shall waive the insurers right of subrogation against the other Party.

b. Applicant agrees that at its own cost and expense, it will maintain commercial general liability insurance with limits of \$4,000,000 per occurrence for bodily injury (including death) and \$4,000,000 general aggregate. Applicant will provide Certificates of Insurance evidencing the coverage required and including the County as an additional insured as its interest may appear under this Agreement. The insurance policies shall be issued by a company (rated A:VII or better by Best Insurance Guide) leased, authorized or permitted to do business in the State of Michigan. The policies shall specify that the coverage will be the primary and noncontributory. The policies shall also insure the indemnification obligation(s) contained herein. The coverage amounts set forth may be met by a combination of underlying and umbrella policies so long as in combination the limits equal or exceed those stated.

c. Applicant shall maintain worker's compensation insurance in compliance with the statutory requirements of the state in which the Premises is located and Employer's Liability with a limit of \$1,000,000 for each accident/disease/policy limit.

d. Applicant shall maintain a policy or policies of insurance with "Causes of Loss-Special Form Coverage," including coverage for vandalism or malicious mischief insuring the infrastructure and property with coverage in an amount equal to one hundred percent (100%) of full replacement and restoration cost without depreciation, in form and with such insurer as are reasonably acceptable to the County.

19 INDEMNIFICATION

a. Applicant shall, to the extent permitted by law, indemnify and hold the RCOC harmless against any claim of liability or loss (including without limitation any attorneys' fees or costs thereof) resulting from or arising out of: (a) personal injury or property damage resulting from or arising out of the Applicant's use of the Poles, Sites, PROW or Property and/or the Premises, its employees, contractors or agents; (b) any act, error, omission, or negligence of the Applicant, its employees, contractors or agents; (c) any alterations, activities, work or things done, omitted, permitted or allowed by Applicant or its employees, contractors, or agents in, on or about the Premises or Property, including the violation of or failure to comply with, or the alleged violation of or alleged failure to comply with any applicable laws, statutes, ordinances, standards, rules, regulations, orders, or judgments in existence on the date hereof or enacted, promulgated or issued after the date hereof; (d) any liens or encumbrances arising out of any work performed or materials furnished by or for the Applicant or its employees, contractor or agents; or any breach or default by Applicant; except no indemnification shall be made in all cases to the extent such claims or damages may be due to or caused by the gross negligence or willful misconduct of the RCOC, or its employees, contractors or agents.

20 LIMITATION OF LIABILITY

Except with respect to indemnification or a violation of law, neither party shall be liable to the other, or any of the other's directors, officers, employees, agents, members, managers, partners, representatives, assigns, contractors, subcontractors, or any third party, for any indirect, incidental, special, consequential, reliance, treble or exemplary/punitive damages, or lost profits, lost revenue, loss of financing, loss of technology, rights or services, loss of data, or interruption or loss of use of service, whether arising under any theory of contract, tort, strict liability, or otherwise, arising out of or in connection the Applicant's occupation or use of or access to RCOC owned assets or rights of way.

21 CONDEMNATION

If the whole or any part, of the RCOC's rights of way, Poles, assets and infrastructure shall be taken by any public RCOC under the power of eminent domain, or is sold to any entity having the power of eminent domain under threat of condemnation, then the Applicant's access and use shall cease for any site or locations in use as of the date of the granting of the petition or the date of the closing. All rates and fees earned and paid to said termination date shall be retained by the County and any and all rates or fees prepaid for use of the affected site or location beyond the termination date shall be reimbursed to Applicant by the RCOC.

Any award, compensation, or damages, shall be paid to and be the sole property of the RCOC, but nothing contained herein shall preclude the Applicant from claiming against the Condemning RCOC with respect to moving expenses and loss of personal property, and receiving an award therefor.

22 INTERFERENCE AVOIDANCE

The RCOC's guideline related to Radio Frequency Interference is to minimize the likelihood of harmful interference proactively. In general, most harmful interference can be avoided through the registration, coordination and placement of equipment transmitting or receiving radio signals including proper horizontal and vertical spacing.

Understanding the vast numbers of equipment types, output power levels, frequency bands, transmission protocols, licensed and unlicensed technologies that exist today as well as the onset of emerging technologies such as Autonomous Vehicles, Connected Cars, Intelligent Transportation Systems and the Internet of Everything, the RCOC has implemented and standardized on minimum separation requirements for small, wireless facilities located in, on, over or through the rights of way.

Vertical Separation on collocation poles, RCOC owned buildings or rooftops hosting multiple frequencies and wireless technologies will require a minimum separation of 5 vertical feet from antenna radiation center to antenna radiation center.

Horizontal Separation with antenna radiation centers transmitting or received within +/- 3 vertical feet of each other within the same horizontal plane shall maintain a minimum separation of 50 feet measured horizontally.

Registration will be required on all Applicant installed equipment and antenna systems. Registration data shall include but not be limited to the following minimum requirements:

- Equipment and Antenna Owner / Operator Contact Info

- Frequency bands in use (Transmit and Receive) Including the authorized FCC License Holder
- Licensed and Unlicensed Technologies and Protocols (LTE, GSM, UMTS, Wi-Fi etc.)
- Location Latitude / Longitude
- Equipment and Antenna Specification

The RCOC shall reserve the right to (i) require Applicants to register all sites or locations previously placed within RCOC rights of way as a prerequisite of approving future sites or locations, (ii) pay the application and registration fees and annual administrative charges, if any, in arrears and (iii) deny traffic control permits and access to RCOC rights of way needed to service unregistered locations and (iv) provide updated information within 30 days relating to any change, modification or addition of equipment, change in use or type of technology, change in location, equipment, antenna system or composite output power.

For the absence of doubt, any failure to comply may result in loss of privilege and / or eligibility at the sole and absolute discretion of the RCOC.

23 INTERFERENCE MITIGATION

Applicants shall be required to install equipment of the type and frequency, which will not cause harmful interference that is measurable in accordance with then existing industry standards to any equipment owned or operated by the RCOC, any entity providing wireless services for Public Safety or First Responders or other tenants of the Property which existed on the Property prior to the date the Applicant's equipment is placed in operation.

In the event any after-installed Equipment causes such interference, and after the RCOC has notified Applicant of such interference by a written communication and a call to Applicant's designated point of contact or such telephone number that is posted on the equipment, Applicant will employ best efforts to correct and eliminate the interference, including but not limited to powering down such interfering equipment and later powering up such interfering equipment for intermittent testing. If the interference continues for a period in excess of 48 hours following such notification, the RCOC shall have the right to require Applicant to reduce power, and/or cease operations of the interfering equipment until such time Applicant can affect repairs to the interfering equipment. In no event will the RCOC be entitled to require relocation of the equipment as long as the Applicant is making a good faith effort to remedy the interference issue. Applicant shall agree to take commercially reasonable steps to minimize any

interference which is measurable in accordance with the existing industry standards to the existing equipment from any equipment installed by Applicant.

The Parties acknowledge that there will not be an adequate remedy at law for noncompliance with the provisions of this Section and therefore, either Party shall have the right to equitable remedies, such as, without limitation, injunctive relief and specific performance.

24 ENVIRONMENTAL

a. Upon Request of the County, Applicants must obtain at Applicant's sole cost and expense, a radio frequency interference study carried out by an independent professional radio frequency engineer ("RF Engineer") showing that Applicant's use will not interfere with any existing, leased communications facilities, or the RCOC communications facilities. The RF Engineer shall provide said evaluation to the County no later than thirty (30) days after frequencies are provided by the Applicant. Applicant shall not transmit or receive radio signals until such evaluation has been waived or satisfactorily completed.

b. In accordance with Federal Communications Commission ("FCC") licensing rules, Applicants may be responsible for the performance of the required radio frequency electromagnetic emissions ("RF EME") study for a particular site or location. Applicant shall be responsible for all costs of such study and shall be responsible for the ongoing management and mitigation of RF EME and compliance actions to the extent required by the FCC. Applicant shall provide a copy of the study and compliance requirements to the County upon request following its completion.

c. Applicant shall be responsible for ensuring that all facilities are compliant with all FCC safety requirements and recommendations for human exposure to RF electromagnetic fields.

25 STRUCTURAL ANALYSIS

Applicant shall be solely liable and responsible for the performance and review of the pass / fail criteria for equipment, antenna systems and related hardware and materials placed on any Site or Pole located within the RCOC ROW.

Structural Analysis including Wind Loading Studies shall be performed at Applicant's sole cost and expense on each Pole for which Applicant is requesting a Permit. Structural Analysis is required to contain a stamp of approval by a Professional Engineer ("PE Stamp") that is licensed, certified and insured in the State in which the Pole or Site is located.

The RCOC shall reserve the right to require or waive such structural analysis or wind loading study requirements for Applicant attachments to RCOC owned poles conditioned on (i) receipt of a PE Stamp is included in a report verifying the additional height and dimensions of the Applicant's Facilities will have no effect on the structural

integrity of the Pole, (ii) the Applicant accepts primary liability and indemnifies the RCOC, and (iii) the Professional Engineer accepts secondary liability.

26 FINES AND COST RECOVERY BASED CHARGES

The RCOC may, invoice Applicants in possession of permits or deployed Facilities for Fines and other Cost Recovery based charges.

Fines imposed on an Applicant for Safety Infractions or other breach of these guidelines may be levied by the RCOC. Generally, Fines may include but not be limited to, triple the values of the Fees, Charges and Rates including Permit Fees, Cost Recovery Charges and Annual Rates.

The RCOC may also impose Cost Recovery based charges for any cost incurred that are directly attributable to the Applicant's Facilities, Poles and Ground Furniture.

Prior to the imposition of Fines or Cost Recovery based charges, the Applicant, Lessee or Permittee will be provided Notice to afford and opportunity to Cure or minimize the costs incurred.

Items classified as Cost Recovery include without limitation, staff time, legal, litigation and court costs associated with complaints and damage related to Applicant Facilities, Poles and Ground Furniture, Private Property, Sidewalk, Road Surface and Right of Way Restoration work and damage caused by the placement of Applicant Facilities Poles and Ground Furniture that accelerates the erosion and deterioration of RCOC owned or controlled rights of way, assets and infrastructure, excepting only the Work performed by the RCOC under mandatory Make Ready.

Fines and Cost Recovery charges and their associated values will be itemized on the associated invoice.

28 ANTENNA ZONES AND RATE TIERS

Commensurate with customary cell tower management standards and practices, small wireless facilities placed on Poles are essentially miniaturized versions of traditional macro cell sites.

- 28.1. **Standard Method:** Traffic Signal Poles, Street Light Poles and New Poles placed and owned by the RCOC shall apply a standard method relating to the height of the existing, replaced or modified Pole to an elevation above ground of 40 feet.
- 28.2. **Antenna Zones:** Excluding the Unused, Common Area and Public Safety sections of the pole below 20 feet, the section of the Pole greater than 20 feet in elevation Above Ground Level ("AGL") are individual Tiers intended for use as Antenna Zones for small wireless Facilities and Antennas. Each

Antenna Zone is segmented into three individual sectors spaced 120 degrees apart.

- 28.3. Antenna and Facilities Placement:** Applicants may install their Antennas in the Antenna Zone and Facilities in either the Antenna Zone or their designated Common Area of the Pole within the same vertical plane as their Antenna Sector.
- 28.4. Maximum Width:** Combined Antenna's, Facilities and support brackets may extend up to a maximum of 30" out from the pole face.
- 28.5. Designated Zones:** All Applicant Antennas and Facilities must be contained within their designated Zone and Sector and may not encroach on adjacent Zones or Sectors beyond the Zones or Sectors reflected in the Applicant's Permit and Agreement.
- 28.6. Additional Pole Space:** In the event an Applicant requires more Antenna space, either vertically or laterally, those Zones or Sectors may be included in the initial Application and Agreement or added as an administrative amendment to an existing Permit and incorporated into the Applicant's Agreement.
- 28.7. Tier Levels and Application of Rates:**
- The Tier 1 (20' to 25') rate is currently the State Mandated Rate ("SMR") and applied on a per sector basis.
- The Tier 2 (25' to 30') rate is currently the FCC Flat Rate ("FFR") and applied on a per sector basis.
- The Tier 3 (30' to 35') rate is currently the FCC Cost Recovery Rate ("FCR/3") divided by 3 and applied on a per sector basis.
- The Tier 4 (35' to 40' plus 5' above Pole Top) rate is currently the FCC Cost Recovery Rate ("FCR") and includes all three pole top sectors and an additional 5' above the pole top.
- 28.8. FCC Cost Recovery Based Rate Formula:** Both the Tier 3 FCR/3 rate and Tier 4 FCR rates applies a cost recovery formula based on a reasonable approximation of the Authorities average Cost to engineer, purchase and place the pole and pole foundation, maintain and manage the pole as well as a nominal allocation of cost for staff and administrative time, property and asset management and a minority allocation of the original cost of acquisition of the land needed to establish the right of way. The average Cost is multiplied by the approximate Percentage of pole space and capacity utilized by the Applicant over an initial period of Time measured in years the applicant will likely occupy that space to establish the baseline 2019 Rates.

Tier 4 FCC Cost Recovery Based Formula - $((C \times P) / T)$

Tier 3 FCC Cost Recovery Based Formula - $((C \times P) / T) / 3$

- 28.9. Rate Escalator:** All current rates also include an annual escalator that complies with State Law and FCC orders of a 10% increase every 5 years.
- 28.10. Change in Law:** In the event of a material change, revocation or reversal in law, the RCOC will publish and implement adjusted and amended rates based upon the regulatory and legislative environment in place and recognized at that time.
- 28.11. Retroactive Adjustments:** Those Applicants that have secured Permits and installed their Facilities, Equipment and Antennas in Zones 1 or 2 on existing or newly placed, RCOC Owned Poles will be subject to a retroactive application of adjusted rates.
- 28.12. Grandfather Provisions:** Those Applicants that have secured Permits and installed their Facilities, Equipment and Antennas in Zones 3 or 4 prior to the implementation of adjusted rates, the original rates and annual escalators will continue in full force and effect through the end of the Term of the Applicant Agreement, including subsequent renewal Terms.
- 28.13. Adjusted Rates on Future Leases:** Those Applicants that submit Applications after the application of adjusted rates will be processed and approved in accordance with the adjusted rates.

NOTE: BOTH THE STATE MANDATED RATE AND THE FCC RATES ARE BEING CHALLENGED IN BOTH STATE AND FEDERAL COURT. APPLICANTS SECURING ACCESS TO RCOC OWNED POLES ACKNOWLEDGE THAT THE RETROACTIVE APPLICATION AND ADJUSTED RATES MAY APPLY IN THE EVENT OF A CHANGE OR REVERSAL OF STATE LAW OR FCC ORDER. ALL ISSUED APPROVALS AND PERMITS AS WELL AS THE DEFINITIVE AGREEMENTS GOVERNING ACCESS TO RCOC OWNED POLES WILL INCLUDE CONDITIONS OF APPROVAL THAT ACKNOWLEDGE THE POSSIBILITY OF THE RETROACTIVE APPLICATION OR ADJUSTMENT OF RATES.

TRAFFIC SIGNAL POLES

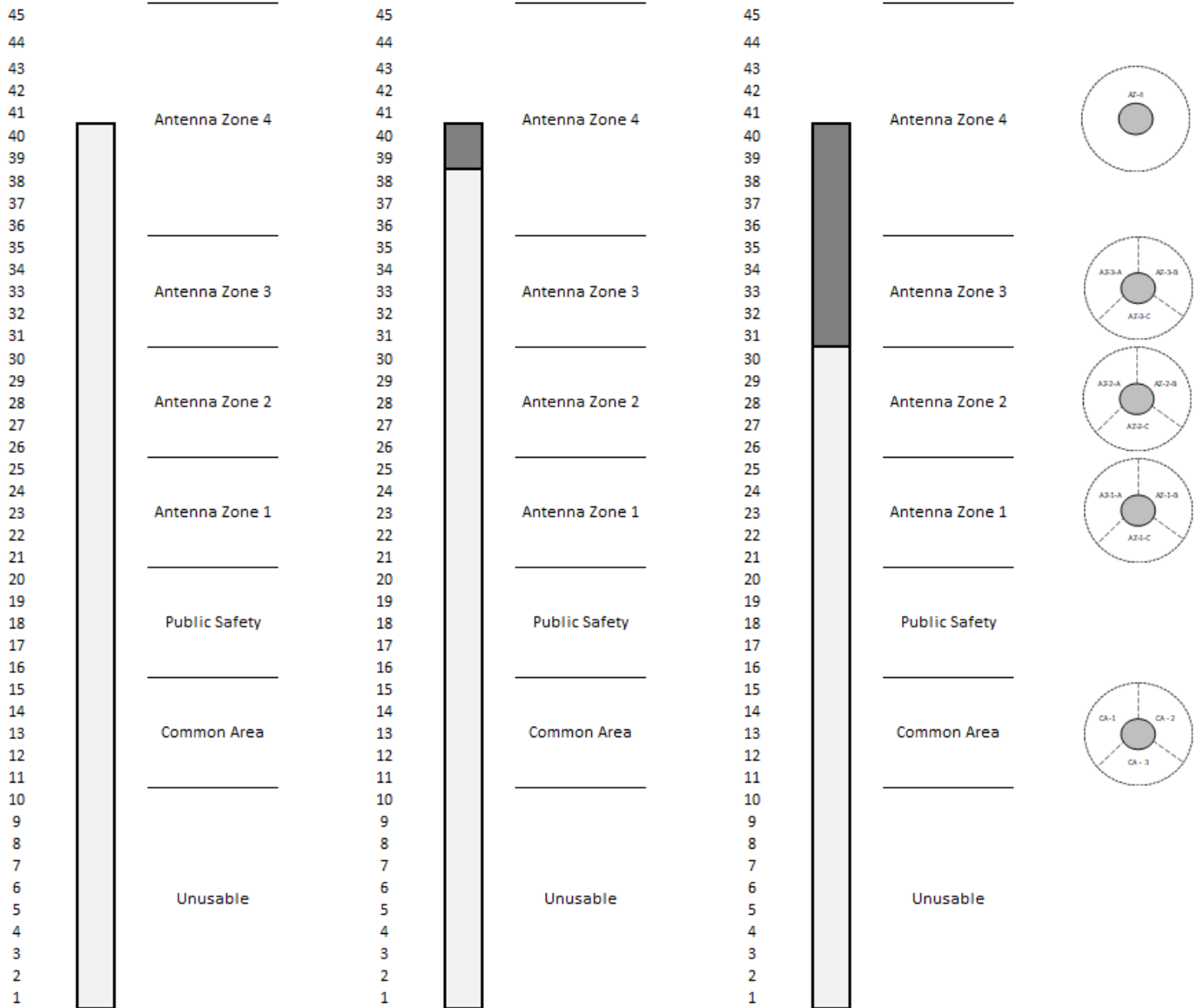


EXHIBIT A

TABLES OF FEES AND CHARGES

Permit Fees, Make Ready and Annual Maintenance	Utility Owned	
	Existing Wood Utility Distribution Pole	Existing Wood Utility Distribution Pole
	Direct Attachment	Ground Furniture
Permit Fee	\$100	\$100
Make Ready Estimate	\$0	\$1,250
Annual Maintenance Charge	\$0.00	\$450.00
Annual Rate	\$0.00	\$0.00

Permit Fees, Make Ready and Annual Maintenance	Authority Owned							
	Existing Traffic Signal Pole	Existing Traffic Signal Pole	Street Light Pole	Street Light Pole	New Wood Pole	New Wood Pole	New Metal or Composite Pole	New Metal or Composite Pole
	Direct Attachment	Ground Furniture	Direct Attachment	Ground Furniture	Direct Attachment	Ground Furniture	Direct Attachment	Ground Furniture
Permit Fee	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
Make Ready Estimate	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250
Annual Maintenance Charge	\$0.00	\$450.00	\$0.00	\$450.00	\$0.00	\$450.00	\$0.00	\$450.00
Annual Rate	See Standard Rate Table							

Permit Fees, Make Ready and Annual Maintenance	Applicant Owned			
	New Wood Pole	New Wood Pole	New Metal or Composite Pole	New Metal or Composite Pole
	Direct Attachment	Ground Furniture	Direct Attachment	Ground Furniture
Permit Fee	\$1,000	\$1,000	\$1,000	\$1,000
Make Ready Estimate	\$0	\$0	\$0	\$0
Annual Maintenance Charge	\$450.00	\$625.00	\$450.00	\$625.00
Annual Rate	See Standard Rate Table			

EXHIBIT B

ANNUAL RATES - SCHEDULE OF VALUES

Federal and State Regulated Rates						
Pole Types			Traffic Signals	Street Lights	New Poles - Initial Applicant	New Poles - Subsequent Applicant
Zone	Radius / Azimuth	Elevation Above Ground Level ("AGL")	2019 to 2023 Base Annual Rates Table			
AZ-4	360 Degrees	35' to 40' AGL (Plus 5' Above Pole Top)	\$1,650.00	\$973.50	\$825.00	\$1,650.00
AZ-3-A	0 Degrees	30' to 35' AGL	\$550.00	\$324.50	\$275.00	\$550.00
AZ-3-B	120 Degrees	30' to 35' AGL	\$550.00	\$324.50	\$275.00	\$550.00
AZ-3-C	240 Degrees	30' to 35' AGL	\$550.00	\$324.50	\$275.00	\$550.00
AZ-2-A	0 Degrees	25' to 30' AGL	\$270.00	\$270.00	\$135.00	\$270.00
AZ-2-B	120 Degrees	25' to 30' AGL	\$270.00	\$270.00	\$135.00	\$270.00
AZ-2-C	240 Degrees	25' to 30' AGL	\$270.00	\$270.00	\$135.00	\$270.00
AZ-1-A	0 Degrees	20' to 25' AGL	\$20.00	\$20.00	\$10.00	\$20.00
AZ-1-B	120 Degrees	20' to 25' AGL	\$20.00	\$20.00	\$10.00	\$20.00
AZ-1-C	240 Degrees	20' to 25' AGL	\$20.00	\$20.00	\$10.00	\$20.00
CA-1	120 Degrees	As Specified By Pole Type	No Charge			
CA-2	240 Degrees	As Specified By Pole Type				
CA-3	360 Degrees	As Specified By Pole Type				

APPLICANT QUALIFIER AFFIDAVIT

SWORN AFFIDAVIT

Name of Applicant/Company _____

My name is _____. I am _____(Title) of _____ (Applicant). My personal knowledge of the facts stated herein has been derived from my employment with _____ (Applicant)

I affirm that _____ [Name of Applicant]:

- Agrees to comply with all federal and state statutes, rules, regulations, local ordinance and siting policy and contractual rules and regulations, if granted the request as stated in this application; and
- Certifies that all answers to the attached are true and correct;
- Certifies that neither Applicant nor anyone involved with Applicant as an affiliate, officer, director, partner, or owner of more than 10% of Applicant, or anyone acting in a management capacity for Applicant, has

(a) held one of these positions with a company that filed for bankruptcy; been associated with a telecommunications carrier that filed for bankruptcy,

(b) been personally found liable, or held one of these positions with a company that has been found liable, for fraud, dishonesty, failure to disclose, or misrepresentations to consumers or others,

(c) been convicted of a felony,

(d) been the subject of criminal referral by a judge or public agency,

(e) had a telecommunications license or operating authority denied, suspended, revoked or limited in any commission or jurisdiction,

(f) personally entered into a settlement, or held one of these positions with a company that has entered into settlement of criminal or civil claims involving violations of Business & Professions Code of Conduct, or of any other statute, regulations, or decisional law relating to fraud, dishonesty, failure to disclose, or misrepresentations to consumers or others; or

(g) been found to have violated any statute, law or rule pertaining to public utilities or other regulated industries; or

(h) entered into any settlement agreements or made any voluntary payments or agreed to any other type of monetary forfeitures in resolution of any action by any regulatory body, agency, or attorney general. Furthermore, to the best of Applicant's knowledge, neither Applicant, any affiliate, officer, director, partner, nor owner of more than 10% of Applicant, or any person acting in such capacity, whether or not formally appointed, is being or has been investigated by the

Federal Communications Commission or any law enforcement or regulatory agency for failure to comply with any law, rule or order.

I affirm and declare under penalty of perjury under the laws of the State of Michigan that, to the best of my knowledge, all of the statements and representations made in this Application are true and correct.

Dated:

Signature and title

Type or print name and title

END