

**STANDARDS AND SPECIFICATIONS**  
**FOR**  
**SUBDIVISION STREETS**  
**WITHIN THE JURISDICTION OF THE**  
**LEELANAU COUNTY ROAD COMMISSION**



**ADOPTED BY:**

**LEELANAU COUNTY ROAD COMMISSION**  
**10550 EAST ECKERLE ROAD**  
**SUTTONS BAY, MICHIGAN 49682**  
**PHONE: (616) 271-3993 FAX: (616) 271-5612**

**ON JULY 19, 1994**

**AS AMENDED JUNE 3, 2003**

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## THE PLAT ACT

All plats intended to be recorded with the Register of Deeds must be in conformity with the "Subdivision Control Act" - Act 288, Public Acts of 1967, as amended.

Section 183 of the Subdivision Control Act reads as follows, in part:

"The County Road Commission may require the following as a condition of approval of final plat for all highway, streets and alleys in its jurisdiction or to come under its jurisdiction and also for all private roads in unincorporated areas:

(a) Conformance to the general plan, width and location requirements that the Board may have adopted and published.

(b) Adequate provision for traffic safety in laying out drives which enter county roads and streets, as provided in the Board's current published construction standards.

(c) Proper drainage, grading and construction of approved materials of a thickness and width provided in its current published construction standards.

(d) Submission of complete plans for grading, drainage and construction, to be prepared and sealed by an engineer registered in the state.

(e) Installation of bridges, culverts and drainage structures where it deems necessary.

(f) Completion of all required improvements relative to streets, alleys and roads, or a deposit by the proprietor with the Board in the form of cash, a certified check or irrevocable bank letter of credit, whichever the proprietor selects, in an amount sufficient (as determined by the Engineer) to insure completion within the time specified."

## DEFINITIONS

BOARD            The Board of County Road Commissioners of the County of Leelanau, State of Michigan.

ENGINEER        The Engineer of the Board or any of his associates designated to act for him in carrying out the provisions of the Plat Act.

PROPRIETOR     The owner or owners of the lands to be platted.

A.A.S.H.T.O.    American Association of State Highway and Transportation Officials.

These published minimum requirements and specifications are subject to change without notice by the Board of County Road Commissioners. The Board reserves the right to require construction to higher standards where warranted by special conditions.

I. PRELIMINARY REQUIREMENTS

A. PRELIMINARY PLAT In order that subdivision plats may be prepared in conformity with the general highway and street plans of the Board, the subdivider shall have prepared a preliminary plat of the area which is to be platted. The plat shall be prepared under the direction of a Licensed Land Surveyor or Registered Professional Engineer and shall be drawn on a topographic map to a convenient scale not smaller than one inch equals one hundred feet.

The preliminary plat shall give the name of the proposed subdivision and the location with reference to the section and township in which the parcel is situated. The plat shall show the proposed street and alley layout, lot and plat dimensions (dimensions to the nearest foot are adequate on the preliminary plat), and governing factors such as adjoining subdivisions, proposed, feasible, or possible future developments, bodies of water, highway, railroads, parks, cemeteries, natural water courses, sewers, or any other feature which might affect the layout of the plat.

At the Boards discretion, the proprietor may be required to perform a traffic impact study for any proposed development with 50 or more total dwelling units. This study must be presented to the Board before preliminary approval of the development.

Three copies of the preliminary plat prepared as noted above shall be submitted to the Board, together with a letter requesting preliminary approval of the plat. The Board shall approve or reject in writing the preliminary plat within thirty days. One copy will be returned to the Proprietor with notations from the Board.

B. DRAINAGE PLAN A drainage plan, as it affects the roadways, shall be submitted indicating the manner in which surface drainage is to be disposed of. To accomplish this will usually require making use of existing ditches, natural watercourses, or constructing tributaries thereto. An easement of twenty feet or more in width shall be provided when the drain crosses private property within the subdivision or adjacent to it.

The drainage plan may be superimposed on the preliminary plat or it may be submitted as a supplement to the preliminary plat. The drainage plan shall be drawn on a topographic map unless an exception is approved by the Board due to natural features.

C. RIGHT-OF-WAY WIDTH The following minimum widths of right-of-way will be required for all roads, streets and alleys;

Alleys	33 feet
Residential or Local Access Routes	66 feet
Industrial or Commercial	66 feet
County Primary Roads (numbered roads)	100 feet

Greater right-of-way width may be required by the Board when considered necessary.

Right-of-way widths shall be increased by an additional 20 feet unless utilities are located in separate easements located outside the road right-of-way.

Section line and quarter line roads shall be centered on said lines unless the Board approves an exception. Half width dedications of roads, streets or alleys will be acceptable only when the boundary of the proposed plat coincides with the boundary of a recorded plat on which a half road, street, or alley has been previously dedicated, or along an existing county road or street.

D. STREET LAYOUT The street layout shall conform to the pattern established by adjacent roads and streets. All existing public roads and streets that terminate at the boundaries of a proposed plat must be connected with the street system of the proposed plat. Suitable access from an isolated plat to existing public streets or roads must be provided by easement or dedication. Driveway access from lots to Arterial or Collector Roads will not be permitted except in special cases where adverse topography or other special conditions exist. Access limitations shall be included in the plat restrictions.

The layout of roads and streets in a proposed plat shall provide a continuous circuit for travel. Every effort shall be made to eliminate cul-de-sacs from the street layout. In special cases where the lands to be subdivided are limited in area or are subject to a natural barrier, the Board may approve a dedication which provides access to another road or street at one end only if a cul-de-sac of ninety foot minimum radius with sixty-six foot road or street right-of-way or one hundred foot minimum radius with eighty-six foot road or street right-of-way is provided at the terminus of the street to permit turning in a continuous circuit. Refer to Figure 2, sketch of typical cul-de-sac. The minimum length of any street ending in a cul-de-sac shall be 650 feet, measured from the centerline of the intersecting street to the center of the cul-de-sac. No more than five driveways will be permitted to enter the cul-de-sac beyond the point of curvature at the beginning of the cul-de-sac. All mailboxes for lots around the cul-de-sac shall be located at the beginning of the cul-de-sac, and these mailbox limitations shall be included in the plat restrictions.

When the proposed plat abuts unplatted land, outlots designated for "Future Road Purposes" to serve as future street extensions shall be provided to the title line of the unplatted areas. Before approval of the final plat, easements describing the proposed outlots must be provided in favor of the Board. Upon recordation of the Plat, the Proprietor must provide warranty deeds conveying title to the Board. Construction of the future road to standards in Figure 1 will be required, however placement of gravel and bituminous pavement will be the responsibility of the future developer of the adjacent lands.

E. STREET NAMES Road and street dedications shown on plats shall be designated by name. Road and streets which are extensions of, or are in line with existing roads and streets, must be named to agree with those in existence. Other streets may be given such names as the Proprietor may choose, subject to approval of the Board.

F. SIGNS The Board will furnish and erect street name signs, traffic control signs, and pavement markings for public and private roads at the expense of the Proprietor. Street name signs will be placed at all intersections within the subdivision and entrances thereto. Traffic control signs shall be placed in accordance to the Michigan Manual of Uniform Traffic Control Devices. The design of the signs shall be similar to road name signs currently being purchased for use on existing county roads. Pavement markings shall include solid white line markings on all streets to delineate between the driving lane and paved shoulder.

Signs marked "Private Road" shall be erected and maintained by the Proprietor at the entrance to all private roads and streets in the subdivision.

## II. REQUIRED IMPROVEMENTS AND SPECIFICATIONS

The owner of the plated lands, or his agent, shall be required to grade, drain and surface the Public streets alleys shown on the plat in accordance with the standards and specifications of the Board of County Road Commissioners.

All private streets and alleys shall be required to meet either:

- 1) All the required improvements and specifications set forth herein for public streets and alleys; or
- 2) All the required improvements and specifications set forth in duly adopted Private Road Standards in force for the unincorporated area in which the lands are located. The owner of the platted lands shall submit a Certificate of Compliance issued by the appropriate Township authority as adequate evidence of compliance with any such Private Road Standards.

A. PLAN AND PROFILE Plan and profile drawings shall be prepared by the Proprietor's Registered Professional Engineer in detail complete enough to be used as construction plans. The drawings shall show the proposed gradients of all road and streets and the location of drainage facilities and structures as well as other pertinent information.

Two copies of the plan and profile drawings shall be forwarded to the Engineer for approval. More detailed construction plans may be required by the Engineer. One copy will be returned to the Proprietor's engineer with approval or necessary revisions marked thereon. Approval must be obtained before construction begins.

Permissible percents of grades on any subdivision roads shall be within the following ranges:

Maximum.....8%  
Cul-de-sac Maximum.....3%

On intersecting streets, an elevation higher than four feet above the intersected road shoulder will not be allowed within 200 feet of the intersected road shoulder. A minimum of fifty feet of flat gradient [(0.5% (special cases approved up to 2%) sloped down away from the through road or street having the traffic right-of-way)] measured from the shoulder line, shall be provided at the approach of a controlled right-of-way road or street to a main road or street. No intersections will be allowed on grades steeper than six percent.

Vertical curves shall be used at all changes in grade. Sight distance, horizontal and vertical alignment shall be based on the following minimum design speeds:

- Residential, Commercial, Industrial.....30 MPH
- All Other Routes.....55 MPH

Sight distance and alignment will be approved by the Engineer and shall be in accordance with current A.A.S.H.T.O. Standards for Geometric Design. A design speed of 25 MPH may be approved in special cases on dead end roads. Horizontal curve radii, vertical curve lengths and percent of grade shall all be shown on the plan and profile drawings.

It is desirable that all intersecting roads and streets meet at right angles but in no case shall the intersection angle be less than 70 degrees. Sight distance at intersections shall be approved by the Engineer. Intersections on opposite sides of an intersected road shall either be located opposite each other or be a minimum of 300 feet apart, centerline to centerline. Intersections on the same side of an intersected road shall be located a minimum of 360 feet apart, centerline to centerline. School bus loading / unloading areas shall be provided in conjunction with intersection construction if the determination of need is made between the Board and the jurisdictional school district (Figure 3). Turning radii shall be provided at all intersections with a minimum radius of 30 feet at the lot lines.

The Board may require installation of a passing flare to accommodate turning movements into the development. See Figure 6 for typical details.

B. CLEARING AND GRUBBING All trees, stumps, brush and roots thereof shall be entirely removed from within the grading limits of all streets and alleys in the proposed plat and shall be disposed of outside the right-of-way.

C. GRADING AND DRAINAGE A roadway shall be constructed on the center of the street right-of-way conforming to requirements shown on the Board's Standard Plans for Subdivision Road Grading and described herein.

Roadbeds shall have the following minimum widths between shoulder lines as detailed in Figure 1:

- Residential & Local Access.....32 feet
- Commercial.....32 feet
- Industrial.....34 feet
- County Primary Roads (numbered roads).....36 feet

M.D.O.T. type B-2 curb and gutter will be required on all developments with a total of 15 or more dwelling units at any intersecting existing county road.

The Engineer prior to the start of construction must approve plans and specifications. Minimum distance from face of curb to face of curb is 25 feet.

Internal bituminous raised edge (see Figure 4) may be approved by the Board for use in areas subject to severe erosion, possibly eliminating the need for roadside ditches. Minimum width between beginnings of raised edges shall be the same as shown for the minimum distance between shoulder lines as shown on Figure 1.



Where the subdivision is located adjacent to an improved county road, the Proprietor may be required to meet the Board's existing construction standards for such roads. The work within the road right-of-way will normally include such items as intersection widening, deepening and / or relocating existing ditches, and developing an approved grading cross-section along the limits of the subdivision.

The presence of other than well drained granular materials in the sub-grade soil shall require a full width 15 inch sub-base (granular material class II) or other special treatment approved by the Engineer.

All peat and muck shall be removed from beneath the roadbed in accordance with Michigan Department of Transportation Method A.

The level of the finished sub-grade shall be at least two and one-half feet above the high water table.

Drainage ditches shall be constructed on each side of the roadway in cut sections and in fill sections when required. Ditches shall be a minimum of two feet in depth and deeper where necessary to permit placing of future driveway culverts.

Driveways located in major cut sections shall be graded during construction to an elevation at the right-of-way line which is not more than one and one-half feet above the elevation of the finished shoulder to facilitate placing of utilities.

Private alleys shall be graded to a minimum width of 20 feet with a minimum three-inch crown to assure adequate drainage.

D. DRAINAGE STRUCTURES AND EROSION CONTROL Drainage structures shall be installed as indicated on the Drainage Plan. Minimum diameter of culverts across roads shall be 15 inches. The bottom ends of culverts shall extend to the bottom of the slope. Either concrete culvert pipe, corrugated metal pipe or corrugated polyethylene pipe meeting Michigan Department of Transportation specifications of the required size and strength may be used. Standard flared end sections shall be used on all road cross-culverts. White painted or treated guard posts shall be placed beside the ends of cross culverts to mark their location.

Bridges shall be designed for HS-20 or more loading on all roads.

Culverts at driveway entrances may be necessary and shall be provided either by the Proprietor or lot owners. Minimum diameter of driveway culverts shall be 12 inches. Driveway permits will be required after roads have been taken over by the Board. All driveway construction shall conform to current Road Commission standards.

Sodding, rip-rapping, sediment basins, topsoil, seeding, mulching or other methods of erosion control shall be used in accordance with the recommendations of the Soil Erosion and Sedimentation Control Officer and the Drain Commissioner.

E. SURFACING A minimum total depth of six inches of compacted dense graded 22-A aggregate, MDOT 1984 Standard Specifications for Construction, Section 3.01 shall be placed on Public and Private roads and streets. The prepared sub-grade width, depth and compaction must be inspected and approved by the Project Engineer and the Road Commission prior to the placement of aggregate base.

The aggregate base course shall be placed on the prepared sub-grade for the entire width of the roadway in accordance with the Standard Plans for Subdivision Grading (Figure 1). Alleys shall have a minimum width between shoulders of 24 feet and shall have a crown of three-inch minimum. Bituminous width on alleys shall be 18 feet. Gravel to be used on project must be approved by the Project Engineer prior to placement.

F. BITUMINOUS PAVING Bituminous paving shall be done in accordance with section four of MDOT 1990 Standard Specifications. "See Section IV for specifications of bituminous mixtures - coarse aggregate". Bituminous aggregate pavement course shall consist of (base course 165# / SYD C.A.L.C.) and (top course 110# / SYD C.A.T.M.) applied in two or more courses (except private roads may be one course) shall be placed on all roads and streets at the following minimum rates:

- Private Roads.....170# / SYD of C.A.L.C.
- Residential, Local Access and Commercial.....275# / SYD
- Industrial, Collector and Arterial.....275# / SYD or greater\*

\*Industrial, collector and arterial roads shall be designed and constructed in accordance with "Design Guidelines - AASHTO Interim Structural Pavement Design Procedure Adopted for All Season County Roads".

For rates between 275# / SYD and 385# / SYD, the leveling course shall be placed at a rate of 165# / SYD with the remainder placed on the surface course. For rates over 385# / SYD, the number of courses and the application rates shall be as directed by the Engineer.

Prepared gravel width, depth and compaction must be inspected and approved by the Project Engineer prior to the placement of bituminous surface. Contractor shall give the Project Engineer and the Road Commission 48 hours notice when the bituminous surface is to be placed. A certified inspector must be present to check width, yield and take bituminous samples. It is the responsibility of the contractor to make specified yield and to place bituminous that will pass quality specifications.

A time period of no more than one year shall elapse between the placement of any two courses of bituminous pavement. A bituminous prime coat applied at the rate of 0.25 gal / SYD on the prepared aggregate base course and a bituminous bond coat applied at a rate of 0.10 gal / SYD between pavement courses will be required unless waived by the Engineer. All contractors who perform bituminous paving on subdivision roads must be currently pre-qualified with MDOT for this item.

The following minimum widths of bituminous pavement shall be placed:

Residential and Local Access.....	30 feet
Commercial.....	30 feet
Industrial.....	32 feet

The road right-of-way or within the outside ten feet of the right-of-way increased to provide for utility locations. Watermains and sanitary sewer manholes may be located a minimum of 25 feet from road centerline. Special conditions may be granted for sanitary sewer manholes at a minimum of 18 feet from road centerline.

In existing county roads where utilities are located within the road right-of-way resulting in significant conflicts, the Road Commission staff may determine alternate locations.

G. MAINTENANCE It shall be the Proprietor's responsibility to maintain all public roads and streets in good condition until they are taken over by the Board. Maintenance of eroded areas shall be the responsibility of the Proprietor until erosion and sedimentation are definitely controlled.

H. INSPECTION Inspections of subdivision roads and streets will be made by the Engineer as follows:

- \_\_\_\_\_ 1. Prior to construction
2. After grading and trenching is complete but before aggregate and topsoil is placed.
3. After aggregate is final shaped and compacted and ready for bituminous surfacing.
4. After construction is complete.

It shall be the Proprietor's responsibility to inform the Engineer when he is ready for the above inspections. The above inspections will be made at no cost to the Proprietor. A fee will be charged to cover the cost of each additional inspection due to sub-standard work.

It shall be the Proprietor's responsibility to provide engineering inspection during the construction.

There will be no inspection of construction work by the Engineer between December 1 and April 1 unless favorable weather conditions prevail.

I. CERTIFICATION Upon completion of construction, the Proprietor's Engineer shall certify that all work has been done in accordance with the approved plans and specifications. If requested, the Proprietor's Engineer shall provide to the Road Commission copies of inspection and testing reports to verify compliance to Road Commission Standards and Specifications. If field changes in the plans have been approved, as-built construction plans shall also be submitted to the Engineer.

J. TESTED MATERIAL All materials incorporated in the work shall meet the specifications called for or be approved by the Engineer. Test reports from a commercial laboratory or approved engineering firm shall be submitted to the Road Commission before they assume maintenance of the roads for the following materials:

Aggregate - Gradation test, width and depth checks on finished grade before paving and density tests (98%).

Bituminous Material - Approved mix design, extraction tests, yield checks during paving.

### III. FINAL PLAT

A. CONSIDERATION BY BOARD In accordance with the provisions of Sections 164 and 165 of the Subdivision Control Act, the Proprietor shall submit to the Board of County Road Commissioners all copies of the plat prepared in conformity with the requirements of the Act. Delivery of plat to the Board shall be made at least one week before their next regular meeting. The Board shall consider and either approve or reject the plat within fifteen days after it is received.

If the Board approves the plat, it shall have its certificate of approval transcribed thereon and shall return the approved plat to the Proprietor.

If the Board rejects the plat for any reason, it shall give written notice of such rejection and its reason therefore to the Proprietor and shall send a copy of the letter to the clerk of the governing body.

B. GUARANTEE OF IMPROVEMENTS If the Proprietor has not completed the grading, draining and surfacing of the roads, streets and alleys in the plat prior to submitting it to the Board for final approval, he shall furnish a deposit. The deposit shall be in the amount required by the Road Commission in the form of cash, irrevocable Bank Letter of Credit or Certified Check in the form acceptable to the Board in accordance with Section 183 of the Subdivision Control Act. The deposit shall guarantee the completion of all improvements within a period of 24 months from the date of final approval of the plat by the Board.

C. PRIVATE ROADS: If the plat includes roads, streets or alleys which are private, the Proprietor shall submit a letter stating that he will inform purchasers of lots that the roads, streets or alleys are not required to be maintained by the Board of County Road Commissioners as outlined in Section 261 of the Subdivision Control Act.

D. FEES: In accordance with Section 248 of the Subdivision Control Act, the Board may adopt a schedule of fees to be charged Proprietors seeking approval of plats. After adoption, this schedule shall become a part of these Standards and Specification.

#### GENERAL NOTES

Ditches shall be of sufficient depth to permit placing of driveway culverts. Where ditch grades exceed 5%, a six foot wide minimum approved mulch blanket must be placed centered in ditch bottom and staked down in accordance with manufacturers specifications.

Earth grade to be trenched before gravel is placed.

Sodded one-on-two back slope and one-on-two fill slopes with three foot widening on shoulders may be approved under special conditions.

Guard-rail with three foot shoulder widening shall be placed on fills with less than one-on-four fill slopes which are six feet in height or greater. The construction of one-on-four or flatter slopes is preferred over the use of guard-rail and is required where practical. All guard-rail shall meet MDOT specifications.

Exceptions to the "Typical Cross Section" for Residential and Commercial Subdivisions can be found in Section C – Grading and Drainage and in Section E – Surfacing.

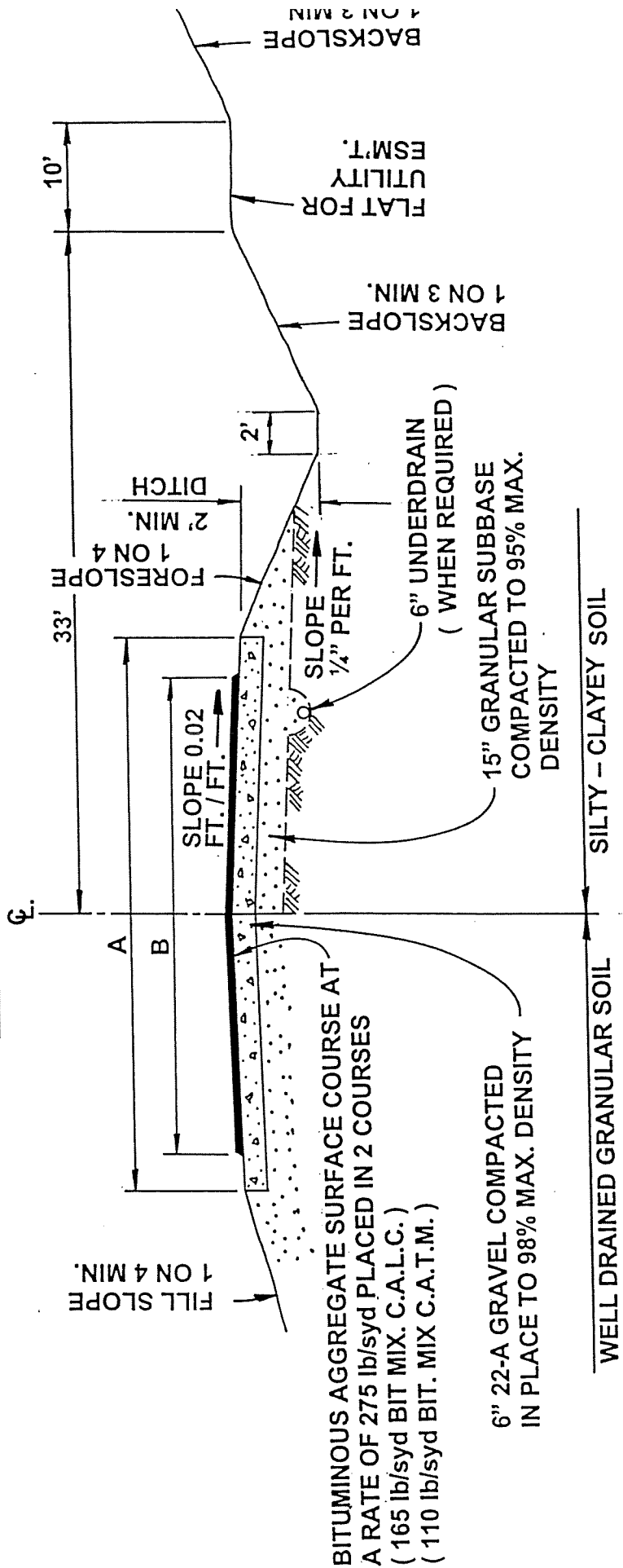
Any changes in specifications must have prior approval by the Road Commission.

Signs denoting the subdivision name will not be permitted within the road right-of-way.

Minor, low impact landscaping may be placed in the center of a cul-de-sac, but must be a minimum of ten feet from the edge of the paved surface. A landscaping plan must be submitted and approved in advance. Items such as flowers, shrubs, ornamental trees and other natural occurring vegetation may be acceptable. Rocks, boulders, structures of any kind, sprinkler systems, playground equipment, and similar items are not allowed.

The Road Commission retains jurisdiction over this area, and if a need arises may require that any landscaping be removed.

# RESIDENTIAL & LOCAL ACCESS TYPICAL CROSS SECTION (NO SCALE)



NOTE: IF FILL SLOPE IS DESIRED STEEPER THAN 1 ON 4, APPROVAL BY THE ROAD COMM. IS REQ'D. & A FLAT UTILITY BENCH MUST BE CONSTRUCTED 33' TO 43' FROM CL.

Road Classification	A	B
Residential & Local Access	32'	30'
Commercial	32'	30'
Industrial	34'	32'
Minor Collector	36'	*
Major Collector	36'	*
Minor Arterial	36'	*

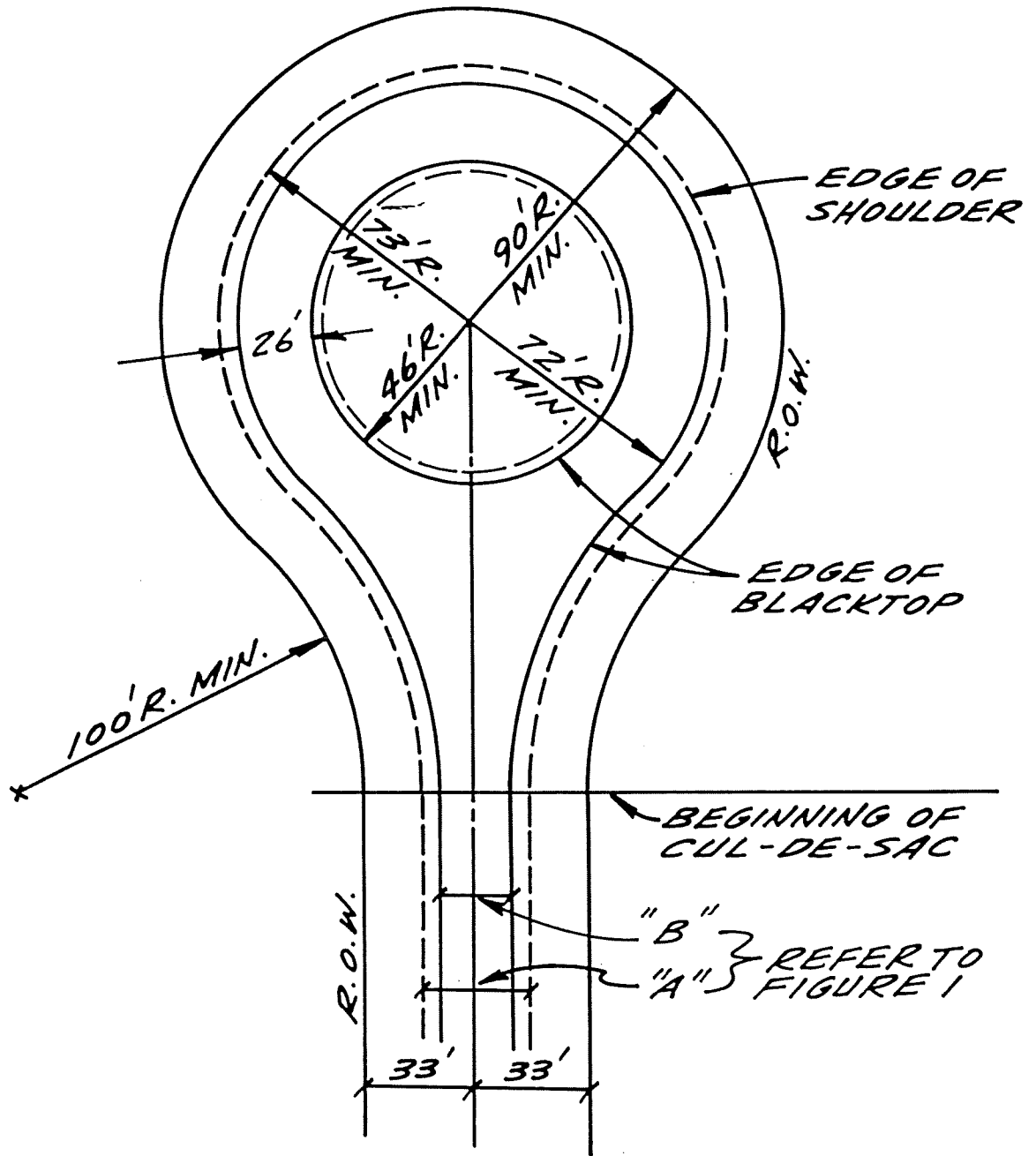
\* = to be determined by the County Road Engineer

FIGURE NO. 1  
REV. 3-17-00



LEELANAU COUNTY ROAD COMMISSION  
10550 EAST ECKERLE ROAD  
SUTTONS BAY, MICHIGAN 49682

NOTE : THE REMOVAL OF TREES WITHIN THE CENTER OF THE CUL-DE-SAC SHALL BE AT THE DISCRETION OF THE ENGINEER.



NOTE: ALL DIMENSIONS TO R.O.W. LINE SHALL BE INCREASED BY 10 FT. FOR 86 FT. R.O.W.

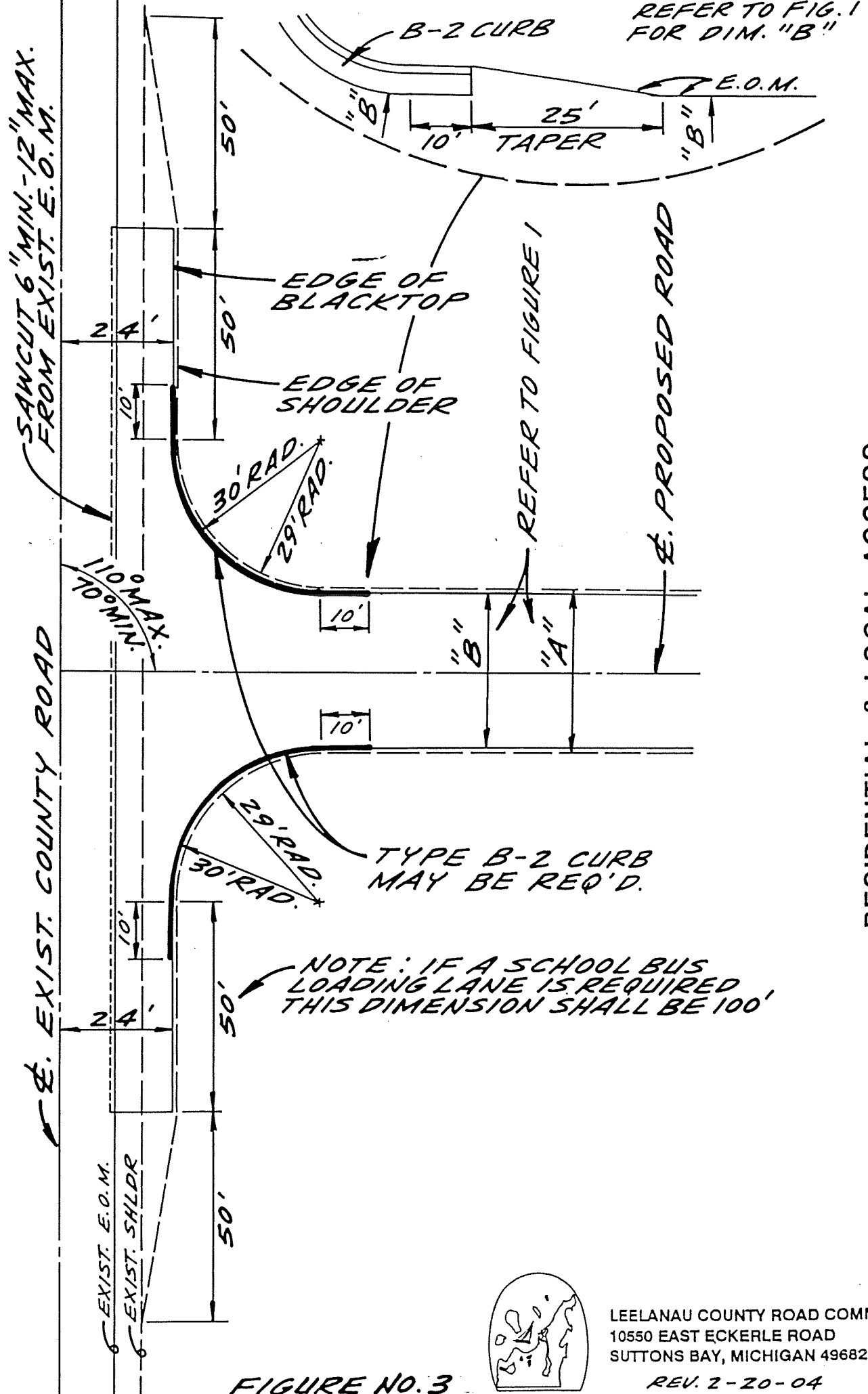
**TYPICAL CUL-DE-SAC**

NO SCALE

FIGURE NO. 2



LEELANAU COUNTY ROAD COMMISSION  
 10550 EAST ECKERLE ROAD  
 SUTTONS BAY, MICHIGAN 49682



RESIDENTIAL & LOCAL ACCESS  
 TYPICAL INTERSECTION WITH EXIST. CO. RD (NO SCAIF)

FIGURE NO. 3

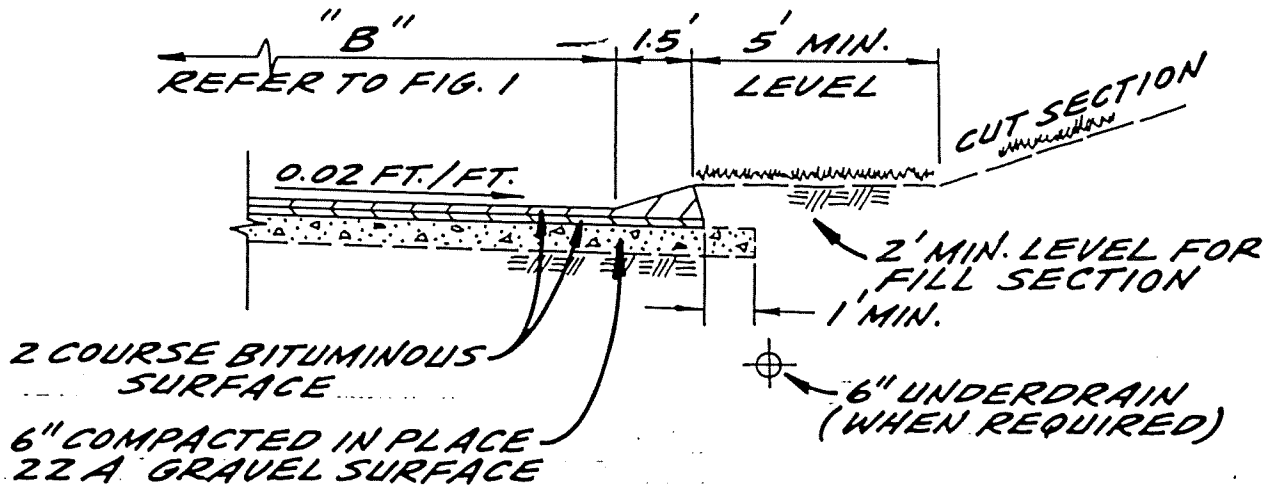


LEELANAU COUNTY ROAD COMMISSIO  
 10550 EAST ECKERLE ROAD  
 SUTTONS BAY, MICHIGAN 49682

REV. 2-20-04



# INTEGRAL BITUMINOUS RAISED EDGE PAVEMENT SECTION (NO SCALE)



## RAISED EDGE DETAIL (NO SCALE)

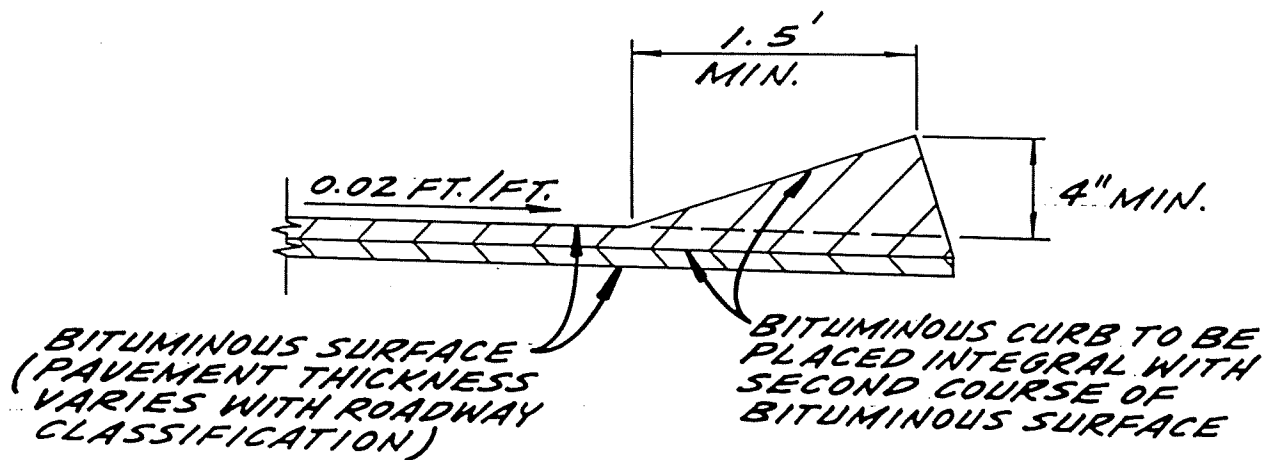
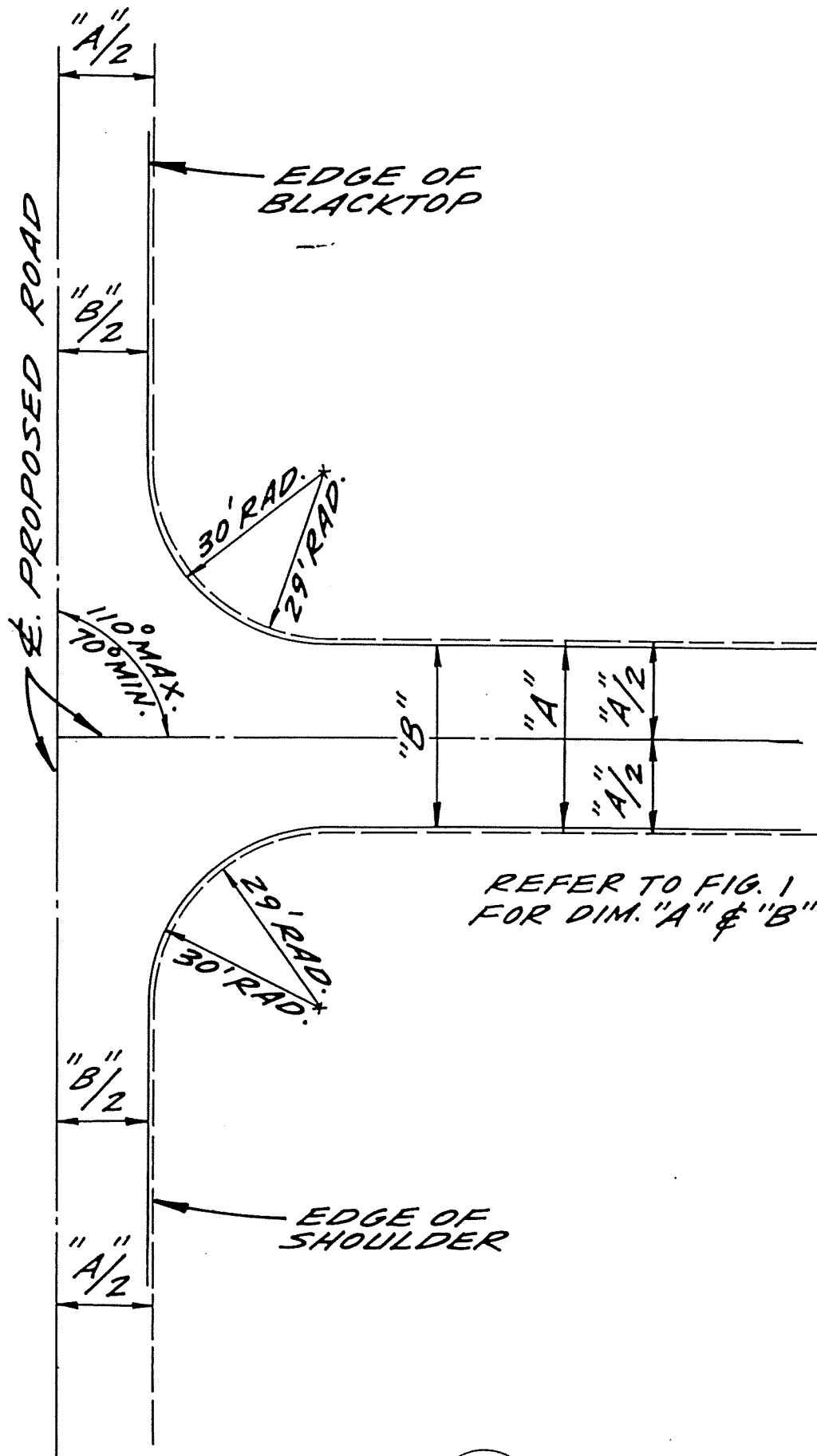


FIGURE NO. 4

DFU 7-70-04



LEELANAU COUNTY ROAD COMMISS  
10550 EAST ECKERLE ROAD  
SUTTONS BAY, MICHIGAN 49682



TYPICAL INTERSECTION FOR INTERNAL RESIDENTIAL SUBDIVISION ROADS  
(NO SCALE)

FIGURE NO. 5  
REV. 2-20-04



LEELANAU COUNTY ROAD COMMISSION  
10550 EAST ECKERLE ROAD  
SUTTONS BAY, MICHIGAN 49682

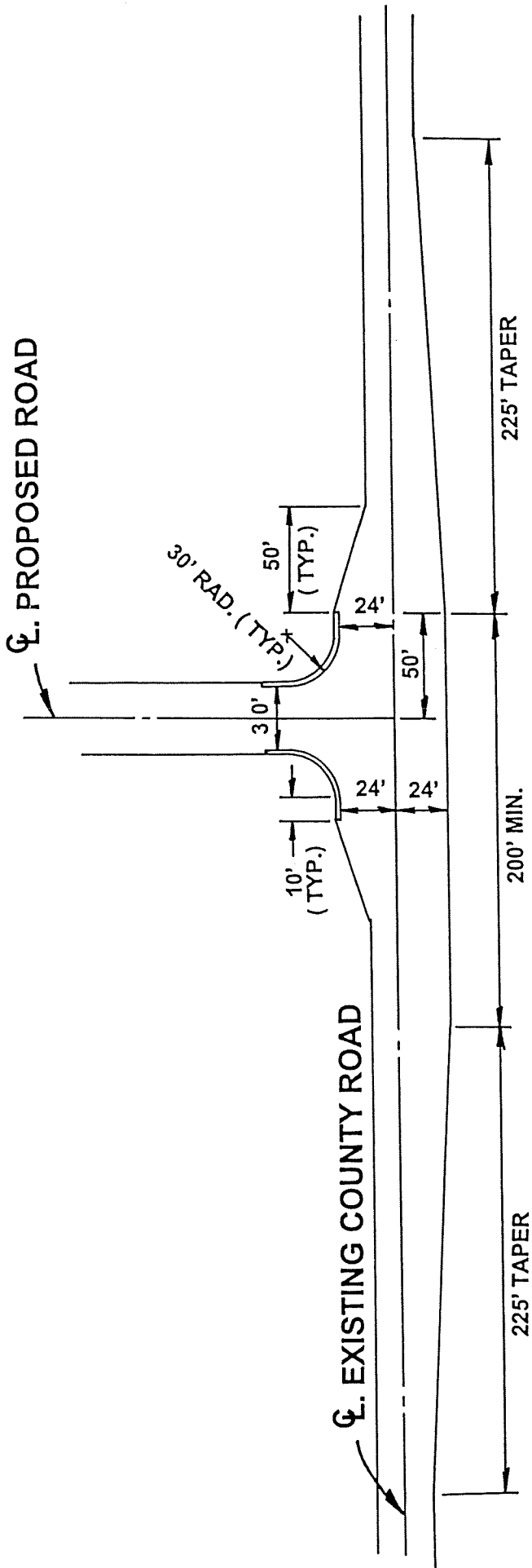


FIGURE NO. 6



LEELANAU COUNTY ROAD COMMISS  
 10550 EAST ECKERLE ROAD  
 SUTTONS BAY, MICHIGAN 49682

# PASSING FLARE DETAIL

SAMPLE ENGINEER'S CERTIFICATE

Date:

Leelanau County Road Commission  
10550 E. Eckerle Road  
Suttons Bay, Michigan 49682

Re: Plat of \_\_\_\_\_

Section \_\_\_\_\_, T \_\_\_\_\_ N, R \_\_\_\_\_ W, \_\_\_\_\_ Township

Gentlemen:

I hereby certify that the construction of the roads in the above plat is complete and that:

1. I have personally directed the supervision and inspection of the construction.
2. All improvements to date have been installed in accordance with the approved "Standards and Specifications for Subdivision Roads and Streets Within the Jurisdiction of the Leelanau County Road Commission".
3. The construction materials meet the afore mentioned specifications and that the reports of material tests, where required, have been made and have been filed with the Leelanau County Road Commission.
4. All the monuments as shown on the plat are in place and in good condition.

\_\_\_\_\_  
Proprietor's Engineer

**CONFLICT OF INTEREST CERTIFICATION**  
**SAMPLE OF CERTIFICATION TO ACCOMPANY PRELIMINARY PLATS**

Submit with preliminary plat names of all company and principal owners

Owners of the Plat \_\_\_\_\_

Design Engineer \_\_\_\_\_

Construction Engineer \_\_\_\_\_

Construction Contractor \_\_\_\_\_

This certification can be changed in the future by filing an amended certification with the Leelanau County Road Commission.

=====

The Leelanau County Road Commission will require that independent, non-associated construction engineers and certified technicians be retained to provide certification of construction in the event of any of the following circumstances:

1. The Construction Engineer selected by the owners is an employee, associate or officer of the owner or a business organization of which the owner is an employee or member;

2. The Construction Engineer selected by the owners is an employee, associate or officer of the contractor or a business organization of which the contractor is an employee or member or;

3. The Construction Engineer selected by the owners has any other apparent conflict of interest.

SAMPLE OF LETTER TO ACCOMPANY ALL PLATS WITH PRIVATE ROADS

Date:

Leelanau County Road Commission  
10550 E. Eckerle Road  
Suttons Bay, Michigan 49682

Re: Plat of \_\_\_\_\_

Section \_\_\_\_\_ T \_\_\_\_\_ N, R \_\_\_\_\_ W, \_\_\_\_\_ Township

Gentlemen:

This will assure you that I will inform all purchasers of lots in the Plat of \_\_\_\_\_ that the roads in said Plat are private roads and that they will not be accepted as county roads in the future until Leelanau County Road Commission specifications and requirements for public roads are met.

I understand that the Road Commission will furnish and erect road name signs at my expense.

I will also erect a sign marked "Private Road" at all entrances to said Plat.

\_\_\_\_\_  
Proprietor

SAMPLE OF LETTER TO ACCOMPANY DEPOSIT  
TO GUARANTEE COMPLETION OF PRIVATE ROADS

Date:

Leelanau County Road Commission  
10550 E. Eckerle Road  
Suttons Bay, Michigan 49682

Re: Plat of \_\_\_\_\_

Section \_\_\_\_\_ T \_\_\_\_\_ N, R \_\_\_\_\_ W, \_\_\_\_\_ Township

Gentlemen,

The enclosed \_\_\_\_\_ in the amount of \$ \_\_\_\_\_  
is hereby submitted to guarantee the improvement of the roads in the Plat of  
\_\_\_\_\_ in accordance with the Road Commission  
Standards and Specifications.

\_\_\_\_\_  
Proprietor

SAMPLE OF LETTER TO ACCOMPANY DEPOSIT  
TO GUARANTEE COMPLETION OF PUBLIC ROADS

Date:

Leelanau County Road Commission  
10550 E. Eckerle Road  
Suttons Bay, Michigan 49682

Re: Plat of \_\_\_\_\_

Section \_\_\_\_\_ T \_\_\_\_\_ N, R \_\_\_\_\_ W, \_\_\_\_\_ Township

Gentlemen:

The enclosed \_\_\_\_\_ in the amount of \$ \_\_\_\_\_  
is hereby submitted to guarantee the improvement of the roads in the Plat of  
\_\_\_\_\_ in accordance with Road Commission Standards  
and Specifications.

I understand that I will be responsible for the maintenance of the roads in said  
Plat until they have been approved and taken over by the Road Commission.

I also understand that the Road Commission will furnish and erect road name  
and traffic control signs at my expense.

\_\_\_\_\_  
Proprietor



SAMPLE OF IRREVOCABLE COMMERCIAL LETTER OF CREDIT

Date:

Leelanau County Road Commission  
10550 E. Eckerle Road  
Suttons Bay, Michigan 49682

Gentlemen:

We hereby open our Irrevocable Letter of Credit in your favor for the account of \_\_\_\_\_, \_\_\_\_\_, Michigan \_\_\_\_\_, for a sum not exceeding \_\_\_\_\_ dollars.

We are advised that \_\_\_\_\_ is to install roads and drainage improvements in the Plat of \_\_\_\_\_, Section \_\_\_\_\_ T \_\_\_\_\_ N, R \_\_\_\_\_ W, \_\_\_\_\_ Township in accordance with plans and specifications approved by you.

In the event \_\_\_\_\_ shall fail to install roads and drainage improvements you may draw a draft at Sight on \_\_\_\_\_ Bank, \_\_\_\_\_, Michigan for amounts not exceeding in aggregate the aforesaid sum of \_\_\_\_\_ dollars when accompanied by:

"Your signed statement certifying that \_\_\_\_\_ failed to install roads and drainage improvements."

Upon receipt of your Resolution authorizing a release in the amount you will accept under this Credit, we shall issue our formal amendment reducing our liability to an amount equal to the original amount of this credit, less any amounts released by your Resolution and drawings hereunder.

All drafts drawn under this Credit must be marked "Drawn under Letter of Credit dated \_\_\_\_\_." Any amendments to the terms of the Credit must be in writing over authorized signatures of this Bank.

This Credit is subject to the Uniform Customs and Practice for Documentary Credits (1983 Revision), International Chamber of Commerce, Publication 400.

We agree with you that all drafts drawn hereunder and in compliance with the terms of this Credit will be duly honored on delivery of your Statement as specified if presented at this office on or before \_\_\_\_\_.

Sincerely,

IV. BITUMINOUS MIXTURES - COARSE AGGREGATE

1 of 3

a. Description - This work shall consist of constructing plant-mixed bituminous binder, leveling and top course (through combining 9A, 25A, or 31A coarse aggregate with 3CS or 3FS fine aggregate and mineral filler, if necessary) mixtures in accordance with Section 4.00 and 7.10 of the 1984 Standard Specifications, with the following exceptions:

1. Subsection 4.00.19-c and the fourth and fifth paragraphs (last two paragraphs on page 469) and the subsection "Reclaimed Asphalt Pavement" (on page 470) of Subsection 7.10.02 are hereby deleted.
2. Subsections 7.10.05 and 7.10.06 are hereby deleted and are replaced by the requirements herein.
3. Subsections 4.00.19 is hereby modified by the addition of the pay items herein under "e. Measurement and payment."
4. The use of reclaimed asphalt pavement is prohibited.

b. Aggregate - Aggregates to be used in the bituminous mixture shall conform to the requirement of Section 8.02. Alternate aggregate substitutions will not be allowed. Quality control on aggregates to be incorporated into the bituminous mixture shall be the Contractor's responsibility. The Engineer shall retain the right to sample and test stockpiled aggregate when deemed appropriate.

The aggregate shall be stockpiled at the plant site in such a manner as to minimize segregation. If in the opinion of the Engineer excessive segregation has occurred, the Contractor shall remix and restockpile the material. Mix production on any day shall not start until the Contractor has properly stockpiled at the plant site sufficient quantities of all aggregates for at least 4 hours production of mixture.

c. Composition of Bituminous Mixture - The bituminous mixture required will be specified on the plans or in the proposal. The bituminous mixture shall be designed to meet the applicable requirements for flow, voids in the mineral aggregate (VMA), and air voids as specified in Table A.

The Contractor shall furnish a mix design (CFMD) and samples of the mix constituents for review and acceptance by MDOT bituminous laboratory.

Mixtures failing to meet the requirements specified in Table A will be rejected and the Contractor will be required to submit additional mix design(s) and samples of aggregates until a mix design is found which will produce a mixture meeting the Table A requirements.

If there is a change in the source of any of the aggregates, a new job-mix-formula (JMF) will be required. If there is a change in the aggregate production process or in the nature of the aggregate deposit, the Engineer may require a new JMF).

The aggregates, mineral filler (if required), and asphalt cement shall be combined as necessary to produce a mixture proportioned within the master gradation range limits shown in Table B and meeting the uniformity tolerance limits shown in Table C.

After the JMF is established, the aggregate gradation and the bitumen content of the bituminous mixture furnished for the work shall be maintained within the Range 1 uniformity tolerance limits permitted for the JMF as specified herein under Table C and within the master gradation range as specified in Table B. However, if the deviations are preponderantly either below or above the JMF, the Engineer may order alternations in the plant to bring the mixture to the JMF. If 2 consecutive aggregate gradations on 1 sieve, or bitumen contents as determined by the field extractions, are outside Range 1 but within Range 2 tolerance limits, or out of the master gradation range, the Contractor shall suspend all operations. Contract time will continue during these times when the plant is down. Before resuming any production, the Contractor shall propose, for the Engineer's approval, all necessary alternations to the materials or plant so that the JMF can be maintained. The Engineer, after evaluating for effects on Aggregate Wear Index (AWI) and mix design properties, will approve or disapprove such alterations. If the aggregate blend proportion or the crushed particle content are not as specified in the JMF the Engineer may require a new mix design.

d. Rejected Mixtures - Field extraction tests will be made for acceptance testing. Quality control measures to insure job control are the responsibility of the Contractor. If, in any 1 mixture, 2 consecutive aggregate gradations on 1 sieve or bitumen content as determined by field extractions exceed the uniformity tolerance of range 2 under Table C, or exceed the limits specified for the master gradation range, the mixture will be rejected. If such mixtures are placed in a pavement, the remaining portions of the failing field samples (split sample) will be sent to MDOT's Testing Laboratory to confirm the field extraction test results. If the Laboratory's results do not confirm the field extraction test results and there are no price adjustments required due to test failures on the asphalt, then no price adjustments will be made for the mixture involved. If the Laboratory's results confirm the field extraction test results and if in the Engineer's judgement the defective areas warrant removal, the Contractor shall remove and replace the areas, at the Contractor's expense, with mixtures meeting specification requirements. If the Laboratory's results confirm the field extraction test results and if in the Engineer's judgement the defective mixture can remain in place and there are no price adjustments required due to test failures on the asphalt, the contract unit price for the defective mixture involved, as determined from extractions, will be decreased on the following basis:

The contract unit price for material outside the Master Gradation Range will be decreased 50 percent.

The contract unit price for material within the Master Gradation Range but outside of Range 2 will be decreased 25 percent.

Table A  
Mix Design Criteria

Mixture Designation (a)	Flow, hundredths of an inch	VMA, percent minimum	Air Voids, percent target (b) (c)
CATF	8-15	16.0	3.0
CATM	8-15	16.0	3.0
CATC	8-15	15.5	3.0
CALF	8-15	15.5	4.5
CALC	8-15	14.5	4.5
CABC	8-15	12.5	4.5

(a) C - Coarse            L - Leveling            B - Binder  
 A - Aggregate        F - Fine  
 T - Top                M - Medium

(b) Unless otherwise authorized by the Engineer

(c) Material used strictly for shoulders shall have an air voids target value 0.5 percent less.

Table B  
Master Gradation Range and Percent Bitumen

Sieve Sizes	Total Percent Passing Designated Sieve for Applicable Bituminous Mixture (a)					
	CATF (31A, 3CS, 3FS)	CATM (31A, 3CS, 3FS)	CATC (25A, 3CS, 3FS)	CALF (31A, 3CS, 3FS)	CALC (25A, 3CS, 3FS)	CABC (9A, 3CS, 3FS)
1-1/2"	--	--	--	--	--	100
1"	--	--	--	--	--	98-100
3/4"	--	--	100	--	100	--
1/2"	100	100	--	100	--	--
3/8"	--	--	--	--	--	--
No. 4	--	60-90	55-75	30-60	30-60	30-45
No. 8	70-90	50-70	45-70	25-45	25-45	25-40
No. 30	--	25-45	20-40	15-35	15-35	10-25
No. 200	5-8	4-8	4-8	0-5	0-5	0-5
% Bitumen in Mixture (b)	5-10	5-9	5-8	4-8	4-8	3-6

- (a) Composition limits are shown in percent by weight, based on the total aggregate, including mineral filler, in the mixture.
- (b) The percent of bitumen in the mixture shown in table B is a range and the actual bitumen content in the production mixture shall be as determined by the JMF.

Table C  
Uniformity Tolerance Limits

Type of Course	Range	Percentage Passing Designed Sieves			Bitumen Content
		No. 8	No. 30	No. 200	
All Courses	Range 1 (a)	+5.0	+4.0	+1.0	+0.30
	Range 2 (b)	+7.0	+6.0	+2.0	+0.40

- (a) This range allows for normal mixture and testing variations. The mixture shall be proportioned to test as closely as possible to the JMF.
- (b) When deviations are in excess of limits specified for Range 1, but not in excess of values specified for Range 2, mix production shall be suspended and changes made to bring the mixture back to the JMF.