

# **Title 12 STREETS, SIDEWALKS AND PUBLIC PLACES**

## **Chapters:**

[Chapter 12.04 - ROAD AND STREET SPECIFICATIONS](#)

[Chapter 12.08 - DRAINAGE REGULATIONS](#)

[Chapter 12.12 - DRIVEWAY ENTRANCE CULVERTS\(Reserved\)](#)

[Chapter 12.16 - UNDERGROUND UTILITY LINES\(Reserved\)](#)

## **Chapter 12.04 ROAD AND STREET SPECIFICATIONS**

### **Sections:**

[12.04.010 Definitions.](#)

[12.04.020 Preliminary consideration recommended.](#)

[12.04.030 Dedication of street right-of-way by metes and bounds.](#)

[12.04.040 Dedication of street right-of-way by plat.](#)

[12.04.050 Plan submission including performance bond.](#)

[12.04.060 Governing specifications.](#)

[12.04.070 Construction inspection.](#)

[12.04.080 Acceptance of work.](#)

[12.04.090 Materials testing.](#)

[12.04.100 Designation of street classification.](#)

[12.04.110 Minimum right-of-way widths.](#)

[12.04.120 Minimum pavement widths.](#)

[12.04.130 Curbs and gutters.](#)

[12.04.140 Minimum pavement thickness.](#)

[12.04.150 Normal crown.](#)

[12.04.160 Grades.](#)

[12.04.170 Drainage—Urban storm drainage design standards.](#)

[12.04.180 Shoulders—Minimum width.](#)

[12.04.190 Minimum stopping sight distances.](#)

[12.04.200 Street alignment.](#)

[12.04.210 Horizontal curves.](#)

[12.04.220 Intersections.](#)

[12.04.230 Dead-end streets.](#)

[12.04.240 Continuation of dedicated right-of-way.](#)

[12.04.250 Street and regulatory signs.](#)

[12.04.260 Street names.](#)  
[12.04.270 Standard plans and typical cross sections.](#)  
[12.04.280 Bridges—Plans and design.](#)  
[12.04.290 Subgrade.](#)  
[12.04.300 Rigid pavement \(plain cement concrete\).](#)  
[12.04.310 Bituminous pavement \(hot asphalt concrete\).](#)  
[12.04.320 Bituminous pavement \(hot asphalt emulsion\).](#)  
[12.04.330 Aggregate bases.](#)  
[12.04.340 Curbs and gutters.](#)  
[12.04.350 Sidewalks.](#)  
[12.04.360 Driveway entrances and approaches.](#)  
[12.04.370 Bridges and structural concrete.](#)  
[12.04.380 Drainage requirements— Submittal of engineering plans.](#)  
[12.04.390 Shoulders and slopes—Final shaping, grading and finishing.](#)  
[12.04.400 Backfill and compaction.](#)  
[12.04.410 Pavement restoration.](#)  
[12.04.420 Utilities—Location and depth within the limits of public right-of-way.](#)  
[12.04.430 Street name signs.](#)  
[12.04.440 Barricades and warning signs.](#)  
[12.04.450 Valley gutters.](#)  
[12.04.460 Highway maintenance system—Acceptance procedures.](#)  
[12.04.470 Maintenance bond.](#)  
[12.04.480 Permit bond and liability insurance.](#)  
[12.04.490 Sidewalk permits.](#)  
[12.04.500 Driveway approach permits.](#)  
[12.04.510 Permit to cut into the county right-of-way—Road cuts.](#)  
[12.04.520 Oversize and overweight permits.](#)  
[12.04.530 Pole line permits.](#)  
[12.04.540 Utility permits.](#)  
[12.04.550 Barricades and channelizing devices.](#)

#### **12.04.010 Definitions.**

As used in this chapter, the following words and phrases shall be understood to mean as follows:

"Alley" means right-of-way other than a street, road, crosswalk or easement designed for the special accommodation of the property it reaches and serves.

Arterial Street. An arterial street interconnects with expressways providing a continuous high mobility network which primarily serves regional and intra-county traffic.

"Board" means the board of commissioners of the county of Porter, Indiana.

"Boulevard street" means two or more distinct lanes of traffic, flowing in opposite directions, which are separated by a physical barrier, grassed median or landscaped island.

Collector Street. A collector street distributes traffic from the arterial system to neighborhood street systems (minor collectors and local), generally operating with a moderate service level and traffic volume.

"Commission" means the Porter County plan commission.

"Construction access road" means a temporary, nondedicated, unplatted right-of-way, other than a street, alley or easement designed to provide sole ingress and egress for all development and construction equipment as well as all laborers and materials in connection with the improvements of a platted subdivision of land including but not limited to the construction of dwellings, buildings and other improvements which right-of-way is constructed and maintained by the developer and owner at either's sole expense or their cumulative expense and continuously in the absolute ownership and/or exclusive control of the developer and owner until such time as ninety (90) percent of the record lots have dwelling completed for occupancy or other buildings located thereon, and/or unless by prior release by the Porter County plan commission.

"County highway administration" means government bodies that include all aspects of construction, maintenance, repairs and operation of a county highway system from planning to the final execution.

"County highway system" includes all roads, bridges, culverts and the necessary supports thereto of earth, masonry or other material, and further includes drainage facilities, as well as roadside development within the rights-of-way within Porter County, Indiana.

"Cul-de-sac street" means a dead-end street that terminates in a circular right-of-way and does not provide more than one access point onto another street, nor act as a collector, or means of access to lots not fronting thereon.

"Dead-end street" means a street having one of its termini closed.

"Developer" means any person or organization who lays out and subdivides land.

"Easements" are strips of ground shown on the plat marked "drainage easements," "sewer easements" and "utility easements," either separately or in any combination of the three, which are reserved for the use of public utility companies and governmental agencies. Drainage easements are created to provide paths and courses for area and local storm drainage, either overland or in the public drainage system. Responsibility of maintenance placed on the property owner, the homeowner association, or the local agency bearing jurisdiction over an urban drainage system. Sewer easements are created for the use of the local agency bearing jurisdiction over the storm and sanitary waste disposal system for the purpose of installation and maintenance of sewers that are part of the system. Utility easements are created for the use of all utility companies, not including transportation companies, for the installation of mains, ducts, poles, lines, wires and also all rights and uses specified for sewer easements above designated.

Expressway-Freeway. An expressway-freeway operates at a high service level, consists of limited land access, carries region-wide traffic and is generally classified as part of the interstate system.

"Highway supervisor" means the person employed by the board to administer the affairs of the highway maintenance department.

"Highway engineer" means the person employed by the board to undertake all of the engineering duties required in operating the county highway and related drainage systems pursuant to statute.

"Industrial street" or "commercial street" means a street which, by virtue of its location or design, primarily serves as an access to industrial or commercial property or serves to conduct traffic from industrial or commercial land to a higher classification street.

"Local street" means a residential street designed to provide access to adjacent property and to conduct traffic from low volume streets to an activity center or higher classification street.

"Lot" means a parcel of land of specific form and dimension, situated within a legally recorded plat, and is designated by number or letter for convenience or accuracy, in legal conveyance of the title thereto.

"Lot corner" means a lot abutting two or more streets at their intersection where the interior angle of the intersection does not exceed one hundred thirty-five (135) degrees.

"Low volume street" means a residential street having a maximum number of twenty (20) lots.

"Master plan" means the complete plan or any of its parts for the development of the county as prepared by the commission and adopted in accordance with Chapter 174, Acts of 1947 General Assembly of Indiana, and acts amendatory thereto, as is now or may hereafter be in effect.

Minor Collector Street. A minor collector street serves as a connecting link between collector streets and local streets, primarily serving internally to residential communities.

"Parcel" means a part or portion, a piece of land described and taken from a larger area.

"Pavement width" means the width of the paved surface measured from the outer edges of that surface, or in the case of a curbed surface, measured from the back of the curb to the back of the opposite curb.

"Person" means a corporation, firm, partnership, association, organization or any other group acting as a unit, as well as a natural person.

"Proposed plat" means the map or drawing on which the subdividers plan of subdivision is presented.

"Structure" means anything constructed or erected with a fixed location on the ground, or attached to something having a fixed location on the ground. Among other things, structures include bridges, culverts, sewers, service pipes, underdrains, foundation drains, buildings, mobile homes, fences, billboards and pools.

"Subdivision" (including the word "subdivide") means the division, or act thereof, by conveyance, of a parcel of land into lots or other parcels therefrom and approved by the Porter County plan commission, when applicable.

"Subgrade" means the top of the roadbed upon which the pavement structure and shoulders are constructed.

"T-turn around" means a dead-end street that terminates at a T. It shall be used only when a street is expected to be extended in the future. It shall be included inside the phase, unit or section improved. The curbing shall end twenty-four (24) feet from the lot line of the last lot to be developed. The T-turn around is to be placed within the twenty-four (24) feet from the right-of-way line to right-of-way line. See Standard Plan Sheet Number 62.

"Valley gutter" means a shallowly-depressed, paved surface, (generally concrete), which ordinarily crosses a cul-de-sac street at its intersection with a local street or minor collector street, which facilitates continuous gutter flow across the cul-de-sac street to the receiving gutter of the local or minor collector street, and without requiring the interception of the gutter flow by a surface inlet that otherwise would be located at the upstream quadrant in the intersection.

(Ord. 90-3 § 1)

#### **12.04.020 Preliminary consideration recommended.**

In order to conserve time, effort and expense in the process of subdividing and dedication of right-of-way, it is strongly recommended that a developer consult with the Porter County engineer's office, the Porter County surveyor's office, and the Porter County plan commission staff prior to the preliminary plat

or plans.

(Ord. 90-3 § 2(A))

#### **12.04.030 Dedication of street right-of-way by metes and bounds.**

The dedication shall be granted to the board of commissioners on a form acceptable to the board and on file with the Porter County highway department. No dedication will be accepted until the road and drainage comply to standards.

The legal description for the right-of-way shall be prepared and certified by a land surveyor registered in the state of Indiana.

The right-of-way width shall conform to the standards of the board as specified in Sections [12.04.100](#) and [12.04.110](#).

Two sets of plans and specifications for the proposed improvement shall be submitted to the Porter County highway department and approved by the Porter County engineer, and the Porter County surveyor, who shall take action within forty-five (45) days and notify the petitioner by letter of that action.

The proposed name of the street shall be approved by the executive secretary of the plan commission of Porter County.

Upon execution of the dedication form and subsequent approvals by the involved agencies, the dedication shall be recorded by the Porter County highway department, the cost paid by the petitioner, and copies of the recorded document will be distributed to the grantor and to all county agencies having a probable interest in the dedication.

(Ord. 90-3 § 2(B))

#### **12.04.040 Dedication of street right-of-way by plat.**

Dedication by plat shall conform to the Porter County subdivision control ordinance and any applicable amendments thereto.

(Ord. 90-3 § 2(C))

#### **12.04.050 Plan submission including performance bond.**

Submission of engineering plans for a platted subdivision for review and approval shall be made to the proper agencies in accordance with the published procedures of each department, including the Porter County master plan, subdivision control ordinance. These plans and specifications shall be prepared by a professional engineer or professional land surveyor licensed in the state of Indiana.

Submission of engineering plans for a metes and bounds dedication of right-of-way for review and approval shall be made to the Porter County highway engineering department.

All streets intended for use by the public, including streets designated by plat or deed of dedication, shall be constructed in accordance with the above approved engineering plans submitted by the developer and in accordance with the following specifications:

- A. Prior to approval of construction plans for the public improvements by the Porter County highway engineer and the Porter County surveyor, the subdivider shall file a written schedule with the Porter County highway engineer and the Porter County surveyor making clear his plan of complying with the conditions of this chapter, showing a program of progressive development.
- B. The Porter County highway engineer and the Porter County surveyor shall not approve the construction plans unless the owner/developer has posted satisfactory security (performance

bond) to the Porter County board of commissioners in an amount equal to the cost of providing all improvements in the subdivision and also, specifically the time for completion of the improvements and installations.

- C. In the event construction is not initiated within two years and work completed within three years after the approval of the final engineering plans, such plans shall be presented to the Porter County highway department for re-review and certain design features may be required to be changed due to changes in design criteria.

(Ord. 90-3 § 2(D))

#### **12.04.060 Governing specifications.**

Unless otherwise provided in these specifications or on the plans or specifications supplied for the project, the Indiana Department of Transportation Standard Specifications and American Association of State Highway and Transportation Officials' Policy on Geometric Design of Highways and Streets and the Manual on Uniform Traffic Control Devices of Indiana and Porter County master plan current at the time of construction plan approval, shall apply to all work performed and to all materials used in all improvements.

(Ord. 90-3 § 2(E))

#### **12.04.070 Construction inspection.**

- A. In an attempt to assure proper street construction, the following policy for inspection shall apply to all subdivision streets and/or metes and bounds (including frontage roads) which are beyond the corporate limits of any city or town in Porter County and which are to be petitioned for Porter County highway department maintenance.
- B. Work shall not be started until the engineering plans have been approved by all agencies having jurisdiction over the phase of construction. Site preparatory work may be initiated at the developers risk with the permission of the county highway engineer.
- C. The subdivision owner, developer or his agent must notify the Porter County highway department at the following stages of street construction.

Notification shall be to the Porter County highway engineer twenty-four (24) hours in advance, (exclusive of Saturday and Sunday) of the work being performed:

1. Inspection of subgrade prior to the placing of concrete curbing, concrete surface or aggregate base course;
2. Inspection of the aggregate base course prior to the placing of bituminous surface;
3. Inspection during the placing of bituminous binder and surface course;
4. Final acceptance upon completion prior to acceptance for maintenance. When pavement test cores are necessitated, the hourly charge to the contractor shall be forty dollars (\$40.00) for 1989. This rate shall be adjusted annually, based on federal cost of living guidelines. The county highway engineer shall determine the need for test cores.

The period of notice prior to the anticipated time of application of any materials shall not be less than twenty-four (24) hours or more than ten days.

- D. The Porter County highway department shall not be obligated to accept any work which is not in compliance with the above inspection policy until the department has been satisfied that all affected work and construction conforms to the approved engineering plans and to these specifications. Noncompliance may also result in extended maintenance bonds on the affected construction or other requirements as may be determined by the board of commissioners and/or the Porter County highway engineer.

- E. In the event a request is made to inspect a street in a preliminary plat or a final plat prior to the recording of the plat, the developer or subdivider must submit and agree to the following:
1. The submission of final engineering plans for the street and storm drainage which have received final approval from the Porter County highway engineer and the Porter County surveyor or the applicable storm drainage agency;
  2. The submission of the written letter to the Porter County highway engineer requesting inspection of the streets in the affected plat;
  3. The agreement to meet all provisions, conditions and procedures of [Section 12.04.460\(C\)](#) of these specifications.

(Ord. 90-3 § 2(F))

#### **12.04.080 Acceptance of work.**

Neither the Porter County highway department nor any other affected agency shall be obligated to accept any work started prior to approval of the engineering plans of any work which is not in accordance with the approved engineering plans and these specifications.

(Ord. 90-3 § 2(G))

#### **12.04.090 Materials testing.**

Testing of material required by the Porter County highway engineer shall be performed by an independent testing laboratory at the developers expense. The Porter County highway engineer shall retain the right to perform tests. All materials testing shall be performed in accordance to the current Indiana Department of Transportation Standard Specifications section on control of material.

(Ord. 90-3 § 2(H))

#### **12.04.100 Designation of street classification.**

- A. Thoroughfare Plan. The official thoroughfare plan of the county found in the Porter County master plan consists of a map entitled "Porter County, Indiana, Thoroughfare Plan" dated May, 1983 or current plan which shows the locations of existing and proposed thoroughfares within the jurisdiction of the Porter County plan commission. The official thoroughfare plan is to be a part of this chapter and notations, references, indications and other details shown herein are as much a part of this chapter as if they were fully described in the text of this chapter.
- B. Designation of Thoroughfares. The major streets and highways comprising the official thoroughfare plan are classified on the basis of right-of-way width and type, in accordance with their proposed function, as major arterial, minor arterial, collector and residential streets, as shown on the thoroughfare plan and cross section designs.
- C. Policies and Directives.
1. Opening or Widening of Streets. Whenever a street classified in the official thoroughfare plan is to be platted as a part of a subdivision, the required right-of-way width for such street shall be as specified in the official thoroughfare plan; provided, however, that where a street borders a tract of land to be subdivided, the owner of such land shall be required to plat only one-half of the right-of-way designated for such street, measured at ninety (90) degrees to the center line thereof. The county will not accept one-half of a road. If the road is not needed at present time then the cost of the improvement shall be put into escrow for the county to use at such time in the future that the improvement can be made. If the road is to be constructed, then the developer shall obtain the total necessary right-of-way for the proper alignment and construct the road as further described in Sections [12.04.100](#) through [12.04.280](#)

2. Location of Streets. Wherever the location of a street is indicated in the official thoroughfare plan as following an existing road or street, or a section or half section or other established property line, the location of the street shall conform to such location; however, a street lying wholly within a subdivision, and not designated as following an existing road or established property line, may be varied in its alignment when such variance promotes the plan of a neighborhood development unit in accordance with good site planning principles, and if such alignment provides for the continuity of traffic movement.
  3. Whenever the location of a street is indicated in the official thoroughfare plan as following an irregular alignment, or a revised alignment or is not referenced to an established line, it shall follow the alignment shown on the official thoroughfare plan. Such alignment shall be subject to a detailed survey which may be provided by the Porter County plan commission or other public agencies, or by the owners of the land to be subdivided if required by the Porter County plan commission. The location for such street shall be subject to the approval of the Porter County plan commission prior to the dedication of the street.
- D. Consideration by Public Agencies. The board of commissioners shall be guided by and give consideration to the general policy and pattern of street development set out in the official thoroughfare plan in the authorization, construction, widening, alteration, relocation or abandonment of the public streets, highways and related structures.

(Ord. 90-3 § 3(A))

**12.04.110 Minimum right-of-way widths.**

A. Minimum Right-of-Way Width for Streets:

Frontage road	40 feet
Local street	60 feet
Low volume street	60 feet
Industrial	60 feet



ial stre et	
Bou leva rd stre et	As det erm ine d by high way dep art me nt
Min or coll ect or stre et	80 feet or as det erm ine d by high way dep art me nt
Coll ect or stre et, arte rial stre et as	100 feet

shown in the master plan	
Expressways	260 feet
Diameter of cul-de-sac	65' radius 130' diameter
(including side ditches)	70' radius 140' diameter

In cases of deep cuts where the top of the ditch back slope falls beyond the minimum right-of-way line, additional right-of-way may be required as determined by the Porter County highway engineer.

(Ord. 90-3 § 3(B))

**12.04.120 Minimum pavement widths.**

Note: all cul-de-sacs to have minimum radius of fifty (50) feet (one hundred (100) feet diameter). No center islands allowed.

- A. Minimum pavement widths for streets designed with curbs and gutters:

Typ e of Stre et	Spe cial Desi gn Req uire me nts
Loc al - 30'	Low traf fic pot enti al
Loc al - 24'	No par king one side
	Low traf fic pot enti al
Loc al - 20'	One - way desi gn
Bou leva rd - 18'	No par king
(ind	No

ividual lane )	parking
Industrial - 27'	No parking
Minor collector or	Porter County highway department approval
Collector or	Porter County highway department approval
Arterial	Porter County

	nty high way dep art me nt app rov al
Exp ress way	Port er Cou nty high way dep art me nt app rov al

B. Minimum pavement widths for streets designated with ditches. Shoulders are required if curb and gutters are not utilized. See [Section 12.04.180](#), for shoulder requirements.

Loc al - 26'	Cur b and gutt er wai ver and 40,0 00 sq.
--------------------	---

	ft. lots.
Local - 24'	Cur b and gutt er wai ver and 40,0 00 sq. ft. lots.
	Low traf fic pot enti al.
Local - 18'	Cur b and gutt er wai ver and one - way desi gn.

(Ord. 90-3 § 3(C))

**12.04.130 Curbs and gutters.**

The Porter County plan commission may require curbs and gutters to be installed on each side of any street surface.

Curbs and gutters shall be constructed in accordance with the specifications and requirements of Section IX of the ordinance codified in this chapter, Standard Plans 15 through 21A of these specifications, on file for public inspection at the Porter County highway department or the board of commissioners' office. The gutter line shall not be filled in at driveways nor is it allowed for water to be drained in a concentrated form. Violators will be notified and given three weeks to make correction then the county highway department will make correction and bill the property owner for labor, equipment and material.

(Ord. 90-3 § 3(D))

**12.04.140 Minimum pavement thickness.**

These minimum thicknesses shall be increased if CBR values or projected traffic require it. The use of a stabilization fabric approved by the county highway engineer could be used instead of increased thickness.

A. Alley.

		Total
Rigid type pavemen t (plain cement concrete)		7.0"
Dee p stre ngt h asp halt		7.5"
Flexible type pavemen t		12. 0"
	1.0"	

Bituminous surface course		
Bituminous binder course	2.0"	
Aggregate base	8.0"	

**B. Local Street or Residential.**

		Total
Rigid type pavement (plain cement concrete)		7.0"
Depth strength		7.5"



asp halt		
Flex ible typ e pav em ent		13. 0"
Bitu min ous bin der cou rse	1.0"	
Bitu min ous surf ace cou rse	2.0"	
Agg reg ate bas e	10. 0"	

C. Minor Arterial or Collector.

		Tot al
Rigid		7.0"

type pavemen t (plain cement concrete)		
Deep strength asphalt	9.0"	
Flexible type pavemen t	16. 5"	
Bitu min ous surf ace cou rse	1.5"	
Bitu min ous bin der cou rse	3.0"	
Agg reg ate bas e	12. 0"	

D. Major Arterials.

		Total
Rigid type pavement (plain cement concrete)		10.0"
Deep strength asphalt		12.5"
Flexible type pavement		24.5"
Bituminous binder course	1.5"	
Bituminous surface course	3.0"	
Aggregate base	20.0"	

(Ord. 90-3 § 3(E))

#### **12.04.150 Normal crown.**

The pavement crown for all streets shall be computed at a minimum rate of one-quarter inch per foot except where otherwise noted on the approved engineering plans.

(Ord. 90-3 § 3(F))

#### **12.04.160 Grades.**

##### **A. Maximum Grades.**

1. The maximum grade for arterial streets shall not exceed six percent.
2. The maximum grade of street classifications other than local shall be six percent.
3. The maximum grade for local streets shall not exceed eight percent.
4. The maximum grade for cul-de-sacs within the turning area shall not exceed three percent.

##### **B. Minimum Grades.** The minimum grade for all streets with curbs shall be five-tenths percent.

(Ord. 90-3 § 3(G))

#### **12.04.170 Drainage—Urban storm drainage design standards.**

An adequate stormwater drain system with surface inlets shall be installed by the owner or developer. The plans for the drainage of the subdivision showing topography, directions of flow, size, location, materials, profiles and all connections thereto, shall meet the requirements of the urban drain and be approved by the Porter County surveyor and Porter County highway engineer. Subsurface roadway drains are required if conditions warrant them.

The following criteria shall be adhered to in the design of pipe structure if proposed right-of-way crosses an open ditch:

- A. In the event a pipe structure is required under a road with a sixty (60) foot right-of-way or more, with a curb and gutter cross section, the pipe shall be of sufficient length to allow the entire width of right-of-way to be utilized. This sufficient length of pipe shall allow for sidewalks to be constructed to within one foot of the right-of-way line.

In the event a street does not require a sidewalk, the length of pipe required shall be based upon the conditions set forth by each individual situation, i.e., depth of ditch, size of ditch, etc. However, a minimum six-foot shoulder, measured from the back of curb to the intersection of the shoulder slope and side slope, shall be required.

- B. In the event a pipe structure is required under a road with a sixty (60) foot right-of-way with open side ditches, the length of pipe required shall be based upon the conditions set forth by each individual situation, i.e., prescribed pavement width, prescribed shoulder width, depth of ditch, size of side ditches, etc.

(Ord. 90-3 § 3(H))

**12.04.180 Shoulders—Minimum width.**

The minimum width of shoulders, where required, shall be eight feet for minor collector and industrial streets; residential, local and boulevard streets shall have six-foot shoulders; low volume streets shall have four-foot shoulders. One-half of shoulder next to road will be aggregate base six inches deep.

The shoulder width shall be measured from the edge of pavement to the point of intersection of the shoulder slope and side of slope. Items placed on shoulders must not create a traffic hazard (mail boxes).

(Ord. 90-3 § 3(I))

**12.04.190 Minimum stopping sight distances.**

Improvements must be the greater distance of Article IV, of the master plan of Porter County or a Policy on Geometric Design of Highways and Streets from American Association of State Highway and Transportation Officials.

The stopping sight distance for arterial streets shall be five hundred (500) feet. The stopping sight distance for collector streets shall be three hundred (300) feet. The stopping sight distance for residential, local boulevard, low volume streets shall be a minimum of one hundred fifty (150) feet. The stopping sight distance for all other streets shall be as determined by the Porter County highway department.

(Ord. 90-3 § 3(J))

**12.04.200 Street alignment.**

The minimum length of vertical curves shall be as shown on Standard Plans 55 and 56 of these specifications.

Vertical curves shall be considered at all intersections of grade, and the maximum grade change without a vertical curve shall be based on comfort and as shown on Section IX of the ordinance codified in this chapter, Standard Plans 55 and 56 of these specifications, on file for public inspection at the Porter County highway department or the board of commissioners' office. At intersections, the break in grade may be four percent maximum, conforming to the crown of the cross street.

(Ord. 90-3 § 3(K))

**12.04.210 Horizontal curves.**

The minimum radius of horizontal curvature measured on the centerline of street shall be as follows:

	M	M
	i	i
	n	n
	i	i
	m	m
	u	u
	m	m
	R	T
	a	a

	d	n
	i	g
	u	e
	s	n
	t	
Exp ress way	To be det erm ine d by the	
Porter County highway dept.		
Arte rials	5 0 0 f e e t	1 0 0 f e e t
Coll ect or	3 0 0 f e e t	6 0 f e e t
Loc al or resi den tial	2 0 0 f e e t	4 0 f e e t

	t	
--	---	--

(Ord. 90-3 § 3(L))

#### **12.04.220 Intersections.**

- A. At street intersections, the property or right-of-way lines of corner lots shall be rounded at the street intersection corner with an arc which will have a minimum radius of twenty (20) feet drawn tangent to each of the intersecting property lines.
- B. Street curbs at intersections shall have a radius minimum being twenty (20) feet. Turn lanes with tapers and passing blisters, as shown on Standard Sheet 31A, on file for public inspection at the Porter County highway department or the board of commissioners' office, are required at approaches.
- C. Details shall be shown on the approved plans.
- D. Street jogs with centerline offsets of less than one hundred fifty (150) feet shall not be permitted.
- E. The centerline of intersecting streets should intersect as nearly at right angles as possible. No intersection shall be at an angle of less than seventy (70) degrees.
- F. The simultaneous intersection of streets resulting in traffic from more than four directions is prohibited.
- G. The use of concrete valley gutters at street intersections shall require the concurrence and approval of the Porter County highway department and the concrete valley gutter design shall conform to the following criteria:
  - 1. Concrete valley gutters may be located only across low volume streets that serve twenty (20) or fewer lots and at their intersection with local streets or minor collector streets. Ordinarily, concrete valley gutter locations shall be restricted to cul-de-sac streets; under special circumstances, however, other types of low volume streets (such as loop streets) may be crossed at concrete valley gutters and with the special permission of the Porter County highway department.
  - 2. The flow line (or invert) line of the concrete valley gutter must be substantially parallel to the center line of the local street or minor collector street which is intersected by the low volume street.
  - 3. The profile section of the local residential street or minor collector street that is parallel to the axis of the concrete valley gutter must have a slope gradient not less than 1.0 percent for at least fifty (50) feet each side of the center line of the intersecting low volume street.
  - 4. The ordinary stormwater runoff that is to be conveyed by the valley gutter (five feet width) must not exceed a rate of flow (or corresponding depth of flow) which, as determined by the Porter County highway department, would cause excessive encroachment of the local street or minor collector street by gutter flow and/or unreasonably flood the intersection, design runoff calculations shall be prepared and included with the plans for the drainage area upstream from each concrete valley gutter.
  - 5. The plans must include detail drawings (generally similar to Section IX of the ordinance codified in this chapter, Standard Plans 60 and 61, on file for public inspection at the Porter County highway department or the board of commissioners' office) which shall show the grade elevations, slope gradients and horizontal dimensions pertaining to the concrete valley gutter and the adjoining pavement areas at the intersection. These details shall serve as the

construction drawings for the intersection and will be the basis for definition of geometric parameters required for the determination of gutter-flow hydraulics.

(Ord. 90-3 § 3(M))

#### **12.04.230 Dead-end streets.**

Temporary dead-end streets will be permitted where the approved preliminary plan shows that the street will be extended to conform to the provisions of the Porter County plan commission's subdivision control ordinance. A circular right-of-way in excess of the required street right-of-way at the termination of a temporary dead-end street must be shown on the approved preliminary plan. The excess right-of-way and paved turn-around shall be relinquished only at that time in which the dead end street is extended.

A T-turn around is also acceptable if shown on the approved preliminary plan. The turn-around is to be placed permanently only to be relinquished at that time the dead-end street is extended (within the subdivision limits).

Design of temporary dead-end street turn-arounds is shown in Section IX of the ordinance codified in this chapter, Standard Plans and Details, on file for public inspection at the Porter County highway department or the board of commissioners' office.

(Ord. 90-3 § 3(N))

#### **12.04.240 Continuation of dedicated right-of-way.**

Wherever there exists a dedicated or platted portion of a street or alley adjacent to the proposed subdivision, unless the Porter County plan commission finds it unnecessary, the continuation of the street or alley and its right-of-way to the prescribed width shall be platted within the proposed subdivision.

(Ord. 90-3 § 3(O))

#### **12.04.250 Street and regulatory signs.**

The subdivider shall provide and properly install all street and regulatory signs in the subdivision in conformance with the Manual on Uniform Traffic Control Devices of Indiana. Street name signs installed and not conforming to the Manual on Uniform Traffic Control Devices of Indiana shall not be maintained by the Porter County highway department and location shown by table.

(Ord. 90-3 § 3(P))

#### **12.04.260 Street names.**

In no case shall the name of any street, road drive or avenue already in use or established by plat anywhere in Porter County be used except in the case of a direct extension; and in no case shall any street name include the word north, south, east or west, unless it denotes a geographical location.

Note: For a platted subdivision, the above subsection may be modified by the Porter County plan commission in accordance with Porter County master plan.

(Ord. 90-3 § 3(Q))

#### **12.04.270 Standard plans and typical cross sections.**

Reference should be made to the standard plans and typical cross sections for any miscellaneous design items not covered in Sections [12.04.100](#) through [12.04.280](#). Other designs not covered or any proposed alternate designs may be submitted to the Porter County highway department for review and



approval.

(Ord. 90-3 § 3(R))

#### **12.04.280 Bridges—Plans and design.**

- A. Plans for bridges or structures having clear spans of twenty (20) feet or greater shall be reviewed separately from the street plans. Construction may be separate or combined with the adjacent street at the discretion of the developer.
- B. The bridge shall be designed to meet the criteria set forth in the AASHTO Standard Specifications for highway bridges in effect at the time of design and shall be designed for HS-20 loading.
- C. In order for the Porter County highway engineer to review the plans for a bridge crossing a waterway of any size, copies of acceptance of the waterway opening by the various other governmental agencies having jurisdiction over stream crossings at the time of design shall be submitted along with the plans.
- D. In the event that construction of the bridge is not initiated within one year and work completed within three years after the approval of construction plans, such plans shall be presented to the Porter County highway engineer for re-review and certain design features may be required to be changed due to changes in the design criteria.

(Ord. 90-3 § 3(S))

#### **12.04.290 Subgrade.**

- A. The construction of the subgrade shall conform to the lines, grades and cross sections as shown on the approved engineering plans. Refer to Indiana Department of Transportation Standard Specifications, Section 207.
- B. The subgrade material shall be brought to a firm and unyielding condition with a uniform density. All soft and yielding material that will not compact readily when rolled or tamped shall be removed and replaced with suitable material. Paving material shall not be placed on a soft, spongy, frozen or otherwise unsuitable subgrade, subbase or base.
- C. During subgrade preparation and after its completion, adequate drainage shall be provided at all times to prevent water from standing on the subgrade.
- D. Prior to the placement of concrete, the subgrade or subbase shall be thoroughly moistened, but the method of moistening shall not be such as to form mud or pools of water.
- E. A leveling course is not required as long as the finished subgrade conforms to the lines, grades and cross sections of the approved engineering plans and is firm and unyielding with a uniform density. However, if a leveling course is used, it shall be a suitable compacted aggregate, such as "B" Borrow, and shall conform to subsections A through D of this section.
- F. Inspection by the Porter County highway department shall be in accordance with [Section 12.04.070](#) of these specifications.
- G. Prior to the placement of a pavement structure, proof rolling of the subgrade for a firm unyielding condition and a uniform density is required. In the event a subgrade, including any portion of the construction of an embankment or any cut required to meet the proposed subgrade, does not meet with the above described compaction requirements to the satisfaction of the on-site inspector and the Porter County highway engineer, it shall be the responsibility of the developer or his contractor to prove that one hundred (100) percent compaction, based on maximum dry density in accordance with AASHTO T 99, has been achieved for the top six inches. Subbase shall not be required in conjunction with any types of pavement sections shown in these specifications. However, if engineering plans include subbase in the design of a cross section, the Porter County highway engineer will review the subbase on an individual basis.

(Ord. 90-3 § 4(A))

### **12.04.300 Rigid pavement (plain cement concrete).**

The following specifications apply to local, low volume, industrial, boulevard and minor collector streets. The specifications for collectors, minor and major arterials and expressways shall be determined by the Porter County highway engineer. Refer to Indiana Department of Transportation Standard Specifications, Section 500.

- A. Materials. The materials used in concrete shall conform to the applicable sections of 501.02 and shall meet the requirements of the following subsections of Section 900 of the current Indiana Department of Transportation Standard Specifications:

Fine aggregate, size No. 23 .....903.01

Coarse aggregate, Class A, Size

No. 8 .....903.02

Portland cement .....901.01

Water .....912.01

Air entraining admixtures .....911.03

Joint Materials .....905.00

Curing materials .....911.01

Reinforcing steel .....909.01

All materials used in the construction of rigid pavement (plain cement concrete) shall conform to the current Indiana Department of Transportation Standard Specifications and all current supplemental specifications with the exception that blending of crushed stone with gravel in order to comply with mechanical crushed requirements will not be permitted.

- B. Design.

1. The design of the mixture shall conform to Section 501 of the current Indiana Department of Transportation Standard Specifications.
2. Water cement ratio shall not be more than 5.5 gallons per ninety-four (94) pound sack of cement.
3. The fine aggregate shall be no less than thirty-five (35) percent nor more than forty-five (45) percent of the total weight of the aggregate in each cubic yard.
4. Air entraining concrete shall be used with a content of five percent to eight percent by volume.
5. Slump shall be no less than one and one-fourth inches nor more than three inches for machine placed concrete.
6. Slump for hand placed concrete shall be not less than two inches nor more than four inches.
7. Each cubic yard of concrete shall contain a minimum of six sacks of cement (ninety-four (94) pounds per sack) with a seven-day minimum compressive strength of three thousand (3,000) psi and with a twenty-eight (28) day minimum compressive strength of four thousand (4,000) psi.

- C. Forms. The subgrade or subbase beneath the forms shall be cut to grade and compacted so that the forms, when set, will be firmly in contact for their whole length and at the required elevation. The forms must be set and secured so as to resist springing, settlement or other movement resulting from the placement of concrete against them or from the weight or vibration of any equipment they support. Permission must be received from the Porter County highway engineer prior to use of slipform paving machines.
- D. Curing. Concrete shall be cured by protecting it against loss of moisture, rapid temperature change or mechanical injury for at least ninety-six (96) hours after placement, unless the Porter County highway engineer or a designated representative orders a longer period.

Materials used in the curing shall include white liquid membrane-forming compound, white burlap-polyethylene sheets, white polyethylene sheeting film, waterproof paper blankets and burlap cloth.

Methods used in the curing process shall meet with the approval of the Porter County highway engineer or a designated representative.

E. Joints.

1. All longitudinal and transverse joints shall be constructed and placed in accordance with Section IX of the ordinance codified in this chapter, Standard Plans 29 and 30 of these specifications, on file for public inspection at the Porter County highway department or the board of commissioners' office.
2. The length between transverse contraction joints shall not exceed twenty (20) feet and in no case shall a transverse construction joint be placed within ten feet of a transverse contraction joint.
3. Transverse contraction joints shall be placed at every catch basin, inlet or manhole in line of pavement. The location of catch basins, inlets or manholes shall determine the exact location of joints. All joints shall be extended throughout pavement section and curbs to full width of pavement.
4. Expansion joints shall be placed in accordance with approved plans and Porter County highway department standards.
5. Whenever the width between forms of pavement under construction is greater than thirteen (13) feet, longitudinal joints shall be constructed so as to divide the pavement into strips.

F. Cold Weather Temperature Limitations.

1. No concrete shall be placed during the period from November 15th to April 15th without written authorization.
2. No concrete shall be mixed, placed or finished when the natural light is insufficient, unless an adequate artificial lighting system is operated.
3. Unless authorized in writing, mixing and concreting operations shall be discontinued when a descending air temperature away from artificial heat reaches forty (40) degrees Fahrenheit and not resumed until an ascending air temperature away from artificial heat reaches thirty-five (35) degrees Fahrenheit.
4. When concreting is authorized during cold weather, the aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might injure the materials. Unless otherwise authorized, the temperature of the mixed concrete shall be no less than fifty (50) degrees Fahrenheit and no more than eighty (80) degrees Fahrenheit at the time of placing it in the forms.
5. If the air temperature is thirty-five (35) degrees Fahrenheit or less at the time of placing concrete, the highway engineer may require either or both the water and the aggregates to be heated to no less than seventy (70) degrees Fahrenheit nor more than one hundred fifty

(150) degrees Fahrenheit. When either aggregates or water are heated to above one hundred (100) degrees Fahrenheit, they shall be combined in the mixer before the cement is added.

6. No concrete shall be deposited on a frozen subgrade.

G. Opening to Traffic.

1. Pavement shall be closed to traffic for fourteen (14) days after it is placed, except this period may be extended or decreased if the Porter County highway engineer determines that the strength of the concrete justifies such action.
2. As a guide in determining strength, the Porter County highway engineer or the developer (or his contractor) may prepare test beams. If the Porter County highway engineer or his designated representative decides that opening to traffic is to be based on test beams, the pavement shall not be opened until the test beams indicate a modulus of rupture of at least five hundred fifty (550) psi. The beams shall be tested as simple beams with third-point loading in accordance with AASHTO T97 except:
  - a. The beam size shall be measured to the nearest one-sixteenth inch instead of one-tenth inch;
  - b. The test result shall be discarded when the break occurs outside the middle one-third of the beam.

H. Construction Requirements. All construction requirements shall be in accordance with applicable provisions of Section 501 of the current Indiana Department of Highways Standard Specifications, or as approved by the Porter County highway engineer.

(Ord. 90-3 § 4(B))

### **12.04.310 Bituminous pavement (hot asphalt concrete).**

The following specifications apply to local, low volume, industrial, boulevard and minor collector streets. The specifications for collectors, minor and major arterials and expressways shall be determined by the Porter County highway engineer.

- A. Materials. The materials used in the hot asphalt concrete pavement shall conform to the applicable Section 401 and 403 of the current Indiana Department of Transportation Standard Specifications.
1. Aggregates. The aggregates shall conform to the requirements of the subsections referenced below:

Coarse aggregates .....903.02

for base and binder mixtures, Class A, B, or C

for surface mixtures, Class A or B

Fine aggregate (sand, mineral filler) .....903.01

2. Bituminous Materials. The bituminous materials shall conform to the requirements of the subsections referred below:

Bituminous Material for Mixtures.

Petroleum asphalt cement AP-5, AP-4,

AP-3 .....902.01 (a)

AC-20 .....902.01 (g)

Bituminous Materials for Prime Coat.

Cut-back asphalt MC-70 .....902.00

Asphalt emulsion AE-P .....902.04

Bituminous Materials for Tack Coat.

Asphalt emulsion AE-T .....902.04

Cut-back asphalt RC-70 .....902.03

All materials used in the construction of flexible pavement (deep strength bituminous or compacted aggregate base) shall conform to the current Indiana Department of Transportation Standard Specifications and all current supplemental specifications with the exception that blending of crushed stone with gravel in order to comply with mechanical crushed requirements will not be permitted.

B. Design, Preparation and Composition of Mixtures. The design, preparation and composition of mixtures shall conform to Sections 401 and 403 of the current Indiana Department of Transportation Standard Specifications.

Individual typical cross sections that are submitted which include hot asphalt concrete base, binder, surface, prime coat or tack coat are subject to review and approval by the Porter County highway engineer or a designated representative.

C. Construction Requirements. All construction requirements shall be in accordance with applicable provision of Section 401 and 403 of the current Indiana Department of Transportation Standard Specifications or as approved by the Porter County highway engineer.

D. Pavement Protection. No vehicular traffic of any kind shall be permitted on any lift until the mixture has hardened sufficiently not to be unduly distorted. The contractor shall be responsible for bituminous pavement placed during rain, cold weather or other unfavorable conditions.

(Ord. 90-3 § 4(C))

**12.04.320 Bituminous pavement (hot asphalt emulsion).**

The following specifications apply to local, low volume, industrial, boulevard and minor collector streets. The specifications for collectors, minor and major arterials and expressways shall be determined by the Porter County highway engineer.

A. Materials. The materials used in hot asphalt emulsion pavement shall conform to the applicable Sections 401 and 402 of the current Indiana Department of Transportation Standard Specifications.

1. Aggregates. The aggregates shall conform to the requirements set out in the following referenced subsections:

Coarse aggregates .....903.02

for base and binder mixtures, Class A, B, or C

for surface mixtures, Class A or B

Fine aggregates (sand) .....903.01

2. Bituminous Materials. The bituminous materials shall conform to the requirements set out in the following referenced subsections:

For mixing and patching, asphalt emulsion,

AE-60 .....902.04

For prime coat, cut-back asphalt,

MC-70 .....902.03

For prime coat, asphalt emulsion,

AE-P .....902.04

For tack coat, asphalt emulsion,

AE-T .....902.04

For tack coat, cut-back asphalt,

RC-70 .....902.03

All materials used in the construction of flexible pavement (deep strength bituminous or compacted aggregate base) shall conform to the current Indiana Department of Transportation Standard Specifications and all current supplemental specifications with the exception that blending of crushed stone with gravel in order to comply with mechanical crushed requirements will not be permitted.

B. Design Preparation and Composition of Mixtures. The design, preparation and composition of mixtures shall conform to Sections 401 and 402 of the current Indiana Department of Transportation Standard Specifications.

Individual typical cross sections that are submitted which include hot asphalt emulsion base, binder, surface, prime coat or tack coat are subject to review and approval by the Porter County highway engineer or a designated representative.

C. Construction Requirements. All construction requirements shall be in accordance with applicable provision of Sections 401 and 402 of the current Indiana Department of Transportation Standard Specifications or as approved by the Porter County highway engineer.

(Ord. 90-3 § 4(D))

### **12.04.330 Aggregate bases.**

The following specifications apply to low volume aggregate streets and typical cross sections consisting of bituminous pavement with an aggregate base.

A. Materials. The materials used in aggregate bases shall conform to the following subsection of the current Indiana Department of Transportation Standard Specifications:

Coarse aggregate, Class A, B, C, and D,

No. 53 and 73 .....903.02

All materials used in the construction of aggregate bases shall conform to the current Indiana Department of Transportation Standard Specifications and all current supplemental specifications with the exception that Class D coarse aggregate mechanical crushed requirement shall be fifty (50) percent and that blending of crushed stone with gravel in order to comply with mechanical crushed requirements will not be permitted.

B. Design of Aggregate Bases. Individual typical cross sections that are submitted which include aggregate bases are subject to review and approval by the Porter County highway engineer or a designated representative.

- C. Construction Requirements. All construction requirements shall be in accordance with applicable provisions of Section 303 of the current Indiana Department of Transportation Standard Specifications or as approved by the Porter County highway engineer.

(Ord. 90-3 § 4(E))

#### **12.04.340 Curbs and gutters.**

- A. Dimensions. Curbs and gutters shall conform to the typical cross sections as shown in Section IX of the ordinance codified in this chapter, Standard Plans 15 through 24 of these specifications, on file for public inspection at the Porter County highway department or the board of commissioners' office. Other designs will be considered on an individual basis.
- B. Materials and Design. The quality of the material in and the design of the concrete mixture for the curbs and gutters shall conform to that of a rigid pavement as specified in [Section 12.04.300](#) of these specifications.
- C. Joints. Joint construction shall be in accordance with either [Section 12.04.300\(E\)](#) or Section IX of the ordinance codified in this chapter, Standard Plans Number 24 of these specifications, on file for public inspection at the Porter County highway department or the board of commissioners' office. Joints not covered by these specifications or Standard Plans shall be constructed as directed by the Porter County highway engineer.

The expansion joints in curbs and gutters shall be sealed for the full width of the section. Joint sealing materials shall be in conformance with Section 905 of the current Indiana Department of Transportation Standard Specifications.

- D. Curing. The curing of the concrete curb and gutter section shall conform to that of a rigid pavement as specified in [Section 12.04.300\(D\)](#) of these specifications.
- E. Cold Weather Limitations. Same as required in [Section 12.04.300\(F\)](#) of these specifications.
- F. Subgrade. Subgrade shall conform with the provisions of [Section 12.04.290](#) of these specifications.
- G. Construction Requirements. All construction requirements shall be in conformance with the provisions of these specifications. Construction requirements not included in these specifications shall be in accordance with the applicable provisions of subsection 605.04 of the current Indiana Department of Transportation Standard Specifications or as approved by the Porter County highway engineer.

(Ord. 90-3 § 4(F))

#### **12.04.350 Sidewalks.**

- A. Preliminary Considerations. Grading the entire right-of-way shall be provided for the location of sidewalks one foot from front lot lines and a proper grade shall be provided by the developer according to standards shown on plans and cross sections approved by the board of commissioners. Exceptions or deviation to sidewalk location will be considered on an individual basis.

Sidewalks shall be provided on each side of all streets within the subdivision; provided however, the Porter County plan commission may waive or amend the above requirement only in those subdivisions with less than two lots per gross acre in planned unit developments and only upon showing by the developer that the sidewalks will serve no specific or future need.

- B. Materials and Design. The quality of materials and the design of the concrete mixture for sidewalks shall conform to that of a rigid pavement as outlined in [Section 12.04.300](#) of these specifications.
- C. Dimensions. Sidewalks constructed within the street right-of-way shall have a minimum width of four feet and a minimum depth of concrete of four inches, except when the sidewalk is designed into a section of driveway entrance, in which case the minimum depth of concrete shall be six inches.

The surface shall be sloped one-quarter inch per foot toward the street.

- D. Subgrade. The subgrade for the sidewalks shall meet the requirements of [Section 12.04.290](#) of these specifications. In addition, the finished subgrade shall receive a two-inch course of suitable compacted aggregate if required. This course shall be thoroughly compacted by tamping or rolling until it is brought to a firm, unyielding and smooth surface. The sidewalks, together with the lawns, shall be graded to the width shown on the plans and the lawns dressed off with fine earth and left perfectly smooth.
- E. Forms. Forms shall be of wood, metal or other approved material and shall extend for the full depth of the concrete. Forms shall be straight, free from warp, and of sufficient strength to resist the pressure of the concrete without springing. Bracing and staking of forms shall be such that the forms remain in both horizontal and vertical alignment until their removal.
- F. Joints. Transverse joints shall be made at intervals of five feet and only with a proper joint cutting tool or metal division plates. One-half inch transverse expansion joints shall be placed not more than fifty (50) feet apart and one-half expansion joints shall be placed along intersecting sidewalks, yardwalks, curb walks and street curbing.
- G. Cold Weather Temperature Limitations. Same as required in [Section 12.04.300\(F\)](#) of these specifications.
- H. Finishing. The surface shall be finished with a wooden float or broom finish. No plastering of the surface shall be permitted. All outside edges of the slab and all joints shall be edged with one-quarter inch radius edging tool.
- I. Curing. Concrete shall be cured for at least seventy-two (72) hours. Curing shall be by means of moist burlap or mats or by other approved methods. During the curing period, all traffic, both pedestrian and vehicular, shall be excluded. Vehicular traffic shall be excluded for such additional time as directed.

(Ord. 90-3 § 4(G))

#### **12.04.360 Driveway entrances and approaches.**

- A. Definitions. The following words and phrases shall have the meaning ascribed to them in this section when used in this part of this chapter.
  - 1. "Residential entrance" means a driveway by which a street is connected to a R-1 zoned or R-2 zoned facility and is ordinarily used only by the owner or occupant of the premises such as a garage, barn, residence or other improved property.
  - 2. "Commercial entrance" means a driveway or driveways by which a street is connected to public or private property which is R-3 zoned, commercial zone or industrial zone.
  - 3. "Driveway" means every way or place not in the right-of-way of any public highway and which is used for vehicular traffic.
  - 4. "Entrance" means the connecting line of the driveway and the approach.
  - 5. "Approach pavement" means that portion of roadway adjoining the traveled way including tapers for recovery lane, deceleration, speed change, turning movements or other purposes supplementary to the through traffic movement. The auxiliary lane may be existing or proposed to be constructed by the applicant.
  - 6. "Site" means one area consisting of one or more contiguous lots or parts of lots which is to be used as one consolidated area.
- B. Residential Driveway Entrances. That portion of a residential driveway entrance which is within the street right-of-way shall be constructed as shown to meet or exceed the following depths:
  - 1. Five inches of plain cement concrete pavement;



2. Six inches of deep strength bituminous pavement;
3. A three-inch bituminous lay with a six- inch compacted aggregate base;
4. In platted subdivisions, a nine-inch aggregate base residential driveway entrance will be permitted when the approved street cross section for the subdivision consists only of an aggregate base with a seal coat;
5. For residential driveway entrances not included within platted subdivisions, a nine-inch aggregate base residential driveway entrance will be permitted subject to the approval of the Porter County highway engineer.

The dimensions and geometrics of that portion of a residential driveway within the street right-of-way shall conform to the standards shown in Section IX of the ordinance codified in this chapter, Standard Plan 31-33 of these specifications, on file for public inspection at the Porter County highway department or the board of commissioners' office.

- C. Commercial Driveway Entrance and Approaches. Cross section depths of commercial driveway entrances and widening lanes are dependent upon the existing road cross section, the speed limit and the nature of the land use served by the entrance. The limits of these depths are as follows:
1. Seven to nine inches of plain cement concrete pavement;
  2. Nine to twelve (12) inches of deep strength bituminous pavement;
  3. Four-inch bituminous lay with a twelve (12) to eighteen (18) inch compacted aggregate base.

The dimensions and geometrics of the commercial driveway entrances and approaches and subdivision entrances shall be approved by the Porter County highway engineer. They are also subject to deceleration, acceleration and passing lane requirements in Section IX of the ordinance codified in this chapter, Standard Plan Sheet No. 31A, on file for public inspection at the Porter County highway department or the board of commissioners' office.

- D. General Requirements. For residential driveway entrances and commercial driveway entrances and approaches, the subgrade, materials, design requirements, construction requirements and other requirements shall conform to the provisions of [Section 12.04.290](#) and applicable portions of Sections [12.04.300](#) through [12.04.340](#) of these specifications as determined by the approved type of pavement cross section.

Driveways shall not have more than an eight percent grade sloped toward the street. Driveways containing more than one thousand two hundred (1,200) square feet and sloped toward the street shall have a framed trench drain across driveway. Design is Neenah R-4990 or equal. Driveways sloping away from the street may be waived from this requirement.

E. Culverts.

1. Culverts under all driveway entrances and/or approaches shall be constructed and installed whenever necessary to provide adequate drainage in accordance with the approved engineering plans and specifications. The minimum size culvert is a pipe twelve (12) inches in diameter and twenty (20) feet in length, with two metal end sections. The size of the culvert shall be determined by the county highway engineer.
2. Residential driveway entrance culverts shall be installed in accordance with the standard shown in Section IX of the ordinance codified in this chapter, Standard Plans 31-34 of these specifications, on file for public inspection at the Porter County highway department or the board of commissioners' office or as approved by the Porter County highway engineer.

(Ord. 90-3 § 4(H))

#### **12.04.370 Bridges and structural concrete.**

All materials and construction requirements for structural concrete shall be in accordance with the applicable provisions of Section 701 through 714 of the current Indiana Department of Transportation Standard Specifications or as approved by the Porter County highway engineer.

(Ord. 90-3 § 4(I))

#### **12.04.380 Drainage requirements— Submittal of engineering plans.**

- A. Engineering plans showing the type and location of all pipes, culverts, side ditches, bridges, etc., intended to carry stormwater within public rights-of-way shall be approved by the Porter County highway department according to the basic urban storm drainage design standards.
- B. Duplicate engineering plans for storm-water drainage shall be submitted to the Porter County surveyor for review and concurrence with the Porter County highway department regarding all pipes, culverts, side ditches, manholes, inlets, bridges and similar or related installations or facilities necessary to provide adequate surface water drainage of the area.
- C. Within the public rights-of-way, surface water shall be drained by either an approved enclosed drainage system or an approved open type surface drainage system. All pipes, culverts, side ditches, manholes, inlets, bridges and similar or related installations or facilities necessary to provide adequate surface water drainage of the area, shall be constructed and installed in accordance with the approved engineering plans and specifications submitted therefore by the developer to the various governmental agencies having jurisdiction over drainage.

(Ord. 90-3 § 4(J))

#### **12.04.390 Shoulders and slopes—Final shaping, grading and finishing.**

The final shaping, grading and finishing of all required shoulders and slopes shall conform to the elevations and cross sections as shown on the approved engineering plans. All rights- of-way must be seeded or sodded and erosion control measures must be taken if necessary.

(Ord. 90-3 § 4(K))

#### **12.04.400 Backfill and compaction.**

- A. Backfill requirements for trenches located on public rights-of-way where the pavement structure has not been constructed shall be in conformance with Section IX of the ordinance codified in this chapter, Standard Plans 47, 48 of these specifications, on file for public inspection at the Porter County highway department or the board of commission-ers' office, and Section 211 of the Indiana Department of Transportation Standard Specifications.
  1. All special backfill shall be compacted to ninety-five (95) percent maximum dry density. "Special backfill" is defined as current Indiana Department of Transportation Standard Specifications for "B" Borrow, except that not more than twelve (12) percent nor less than five percent shall pass the Number 200 sieve (silt or clay).
  2. It will be the contractor's responsibility if required by the Porter County highway department to prove that ninety-five (95) percent maximum dry density has been achieved.
  3. Special backfilling methods may be used if approved in writing by the Porter County highway department.
  4. Utility bedding shall be Class B (see Section IX of the ordinance codified in this chapter, Standard Plan 46 of these specifications, on file for public inspection at the Porter County highway department or the board of commissioners' office, unless otherwise approved as

shown on the final engineering plans.

B. Backfill Requirements for Rights-of-Way With Existing Pavements.

1. If the trench is to be cut in the existing pavement, the opening shall be no larger than necessary to make the required repairs. When ground conditions are unstable and there is danger of widespread caving, sheeting shall be driven, and if so ordered by the engineer, the sheeting shall be left in place. The opening shall be made by sawing with a concrete saw. The saw cut shall be cut back of the area which might slough off due to vibration to undisturbed earth.

If the trench crosses the pavement, it shall be backfilled with either No. 53 or No. 73 compacted aggregate or "B" Borrow to a point twelve (12) inches from the top of pavement. The material shall be deposited in approximately six-inch loose horizontal layers and thoroughly compacted. The top twelve (12) inches of the travel portion shall then be restored according to the existing surface and the procedures shall conform to Section IX of the ordinance codified in this chapter, Standard Plans 48 and 49 of these specifications, on file for public inspection at the Porter County highway department or the board of commissioners' office.

If the trench is parallel to the centerline of the pavement, it shall be backfilled with "B" Borrow and compacted to ninety-five (95) percent maximum dry density to a point fifteen (15) inches from the top of the pavement. The top fifteen (15) inches shall then be backfilled with No. 53 or No. 73 compacted aggregate with further compaction being obtained by J-Tamp or Roller. The required amount of this aggregate will then be removed and the pavement restored according to the existing surface and to procedures as outlined in Section IX of the ordinance codified in this chapter, Standard Plans 47 and 49, on file for public inspection at the Porter County highway department or the board of commissioners' office.

2. Any trench within five feet of the pavement must be backfilled completely with special borrow or bank run gravel, excluding the top twelve (12) inches. Any trench beyond the five-foot minimum must be backfilled with special borrow from an imaginary line out from a lateral distance of minimum of five feet on a one to one slope (forty-five (45) degrees), as shown in Section IX of the ordinance codified in this chapter, Standard Plan 47, on file for public inspection at the Porter County highway department or the board of commissioners' office. All backfill materials must be compacted to a ninety-five (95) percent Proctor Dry Density. Excavated material may be utilized for backfill if found to be suitable. Prior to using excavated material approval must be obtained from the Porter County highway engineer.
3. Replacement of grassed areas shall be restored by seeding or sodding as directed by the Porter County highway engineer. Removal of shrubs and the boring or trenching of trees shall be done in accordance with the following:
  - a. Trenching must be no closer than having inside wall of the trench six feet from the trunk of trees fifteen (15) inches in diameter and larger.
  - b. On trees fifteen (15) inches and smaller, the inside wall of the trench must be no closer than three feet.
  - c. Tunnels under trees must be started at the drip line with a vertical depth of twenty-four (24) inches. The drip line is at the outer tips of the limbs.
  - d. When trenching is to be done closer than six feet on trees fifteen (15) inches and larger and closer than three feet on trees fifteen (15) inches and smaller, the trees and stumps should be removed by a competent tree specialist who is insured and licensed.
  - e. All trees removed for trenching will be replaced with new trees by a reputable treespecialist with a minimum of one year's growth guaranteed. The size and type must be approved by the Porter County highway engineer.

(Ord. 90-3 § 4(L))

#### **12.04.410 Pavement restoration.**

- A. All cuts in existing pavement shall be backfilled and compacted in accordance with Sections [12.04.290](#) through [12.04.450](#) of these specifications.
- B. There are only three methods by which the cut can be open to traffic:
  - 1. Plated with a heavy gauge steel plate properly secured and capable of bridging traffic over the cut;
  - 2. Temporary asphalt brought to the top of the existing pavement which shall be removed when the permanent pavement is placed. Temporary asphalt (cold mix) shall be a minimum of two inches and a maximum of three inches thick;
  - 3. Permanent Pavement. If the permanent pavement restoration for concrete pavement is made at this time, the exposed sides of the cut in the pavement shall be wire brushed or blown free of all loose particles of dust. Concrete with a low slump shall then be placed in the opening and tamped. Care must be taken to float the concrete around the edges of the cut to insure a good bond between the new and the existing concrete. A final surface texture should be applied with either a broom or a burlap drag depending upon the finish of the existing concrete. The broom is used in a transverse direction across the lane to form uniform transverse ridges that will produce a surface with good skid resistant and light reflecting properties. The fresh concrete shall be properly protected until thoroughly cured.

If the cut is in a bituminous street, deep strength asphalt shall be used in lieu of a concrete base, the proceeding shall apply, except the ten inches of bituminous binder and one and one-half inches of bituminous surface will be thoroughly tamped or rolled to ninety-six (96) percent laboratory density.

(Ord. 90-3 § 4(M))

#### **12.04.420 Utilities—Location and depth within the limits of public right-of-way.**

Note: No utility is to place their lines within three feet of the ditch bottom. The highway department must be able to clean the ditches.

- A. Sanitary Sewer. All sanitary sewer lines shall be placed under the pavement or designed in such a manner so as not to interfere with other utilities and provide easy access to all manholes.
- B. Telephone. All underground telephone lines shall be placed approximately one foot outside of the edge of any existing road pavement in a zone located nine to thirteen (13) feet on forty (40) foot R/W roads and fifteen (15) to eighteen (18) feet on sixty (60) foot R/W roads from center of the highway, this zone shall be on the west side of north and south highways, and on the south side of east and west highways; all underground telephone lines shall be installed not less than thirty (30) inches, including the ditch area, below the existing pavement grade at the center line thereof.
- C. Electric. All underground electrical lines shall be placed approximately six feet outside the edge of existing road pavement in a zone, lying sixteen (16) to twenty (20) feet on a forty (40) foot R/W road and twenty-six (26) to thirty (30) feet on a sixty (60) foot R/W road measured from the center line of the highways; the zone shall be on the east side of north and south highways, and on the north side of east and west highways, electric line shall be installed with not less than thirty-six (36) inches of cover.
- D. Gas. All underground gas lines shall be placed approximately two feet outside of the edge of the existing road pavement in a zone, lying from nine to thirteen (13) feet on forty (40) foot R/W roads and fifteen (15) to nineteen (19) feet on sixty (60) foot R/W roads from the center line of highway; this zone shall be on the east side of north and south highways and on the north side of east and west highways; all underground gas lines shall be installed with not less than thirty (30) inches of cover including ditch area.

- E. Pole Lines. All utility poles, electrical, telephone, or cable television may generally be placed on either side of county roads in a zone lying eighteen (18) to twenty (20) feet on a forty (40) foot R/W road and twenty-eight (28) to thirty (30) feet on a sixty (60) foot R/W road measured from the center line of the highway.
- F. Water. All underground water lines shall be placed in a zone located between thirteen (13) and sixteen (16) feet on forty (40) foot R/W roads and twenty-two (22) to twenty-six (26) feet on sixty (60) foot R/W roads measured from the center of the highways; this zone shall be on the west side of north and south highways and on the south side of east and west highways; all water lines shall have a minimum forty-eight (48) inch groundcover.
- G. Cable Television. All underground cable television shall be placed outside the existing road edge in a zone lying from thirteen (13) to sixteen (16) feet on a forty (40) foot R/W road and nineteen (19) to twenty-two (22) feet on a sixty (60) foot R/W road measured from the center of the highway; this zone shall be on the east side of north and south highways, and on the north side of east and west highways; all cable shall be installed with not less than twenty-four (24) inches of groundcover.

(Ord. 90-3 § 4(N))

**12.04.430 Street name signs.**

**A. Specification for Street Name Sign Blanks.**

- 1. Sign blanks shall be extruded and furnished in aluminum alloy 6061-T6 or 6063-T6.
- 2. Material shall be free of burr pits, blemishes and shall present a smooth, clean surface.
- 3. Sign blanks shall meet minimum specification of the Indiana Department of Transportation unless otherwise specified, and be ready for application of Scotchlite sheeting without further preparation.

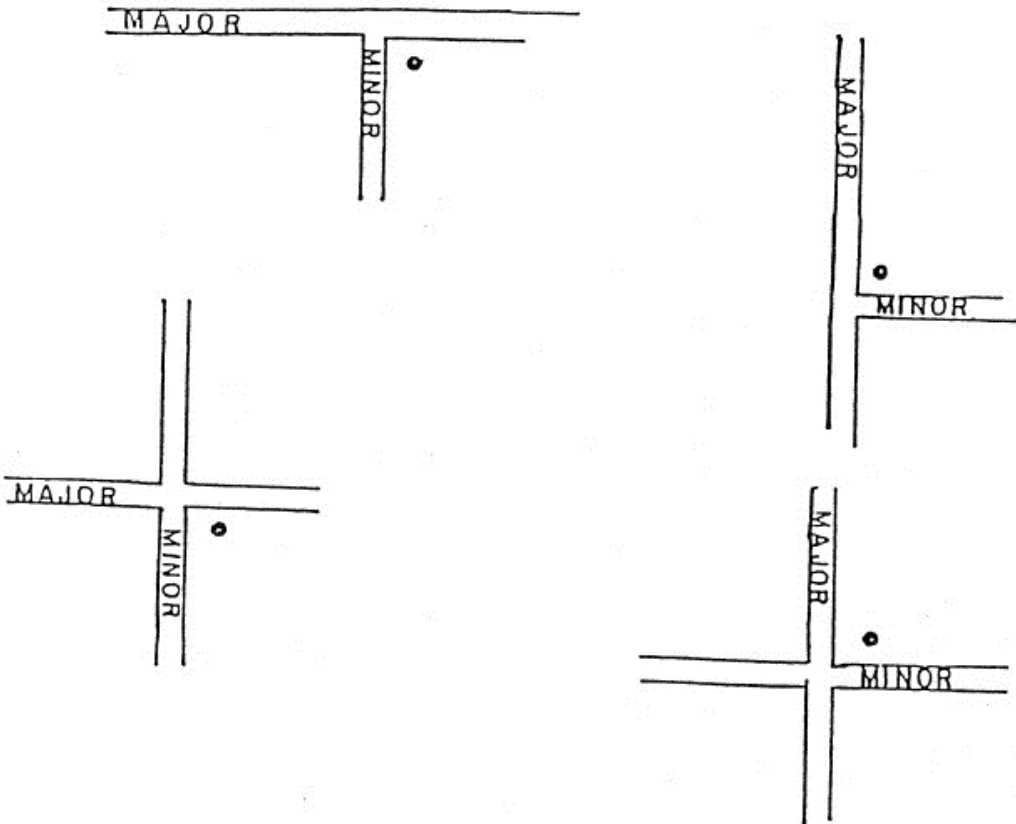
**B. Specifications for Reflective Street Name Sign Faces.**

- 1. All faces will be green background with white letters. All materials will be fabricated from reflective enclosed lens sheeting and meeting the current Indiana Department of Highways Standard Specifications.
- 2. The street name shall appear in lettering not less than four inches, Series C.
- 3. Supplementary lettering to indicate the type of street (Blvd., Ave., Dr., R., Ct., etc), may be in smaller lettering at least two inches, Series C.
- 4. All faces will display block numbers of two inches high.

**C. Thickness Table—Extruded Blanks.**

Length-Inches	Width	Web Thickness	Flange Thickness
24, 30, 36	6	.085	.240

24, 30, 36	6 <sup>3</sup> / <sub>4</sub>	.08 5	.24 0
30, 36, 42	9	.08 5	.24 0



Street name signs should be placed on corners so that they will be on the far right-hand side of the intersection for traffic north or east bound on the major street. If both streets are major routes, the sign should be on the N.E. corner.

(Ord. 90-3 § 4(O))

#### **12.04.440 Barricades and warning signs.**

Barricades and warning signs will be in accordance with the Manual on Uniform Traffic Control Devices of Indiana and [Section 12.04.550](#) of these specifications.

After the installations of the street and during the construction of utilities including storm sewer construction, open trenches and all open manholes shall be guarded during the non-working hours with the proper warning signs, and barricades.

If the type of work performed, the weather conditions, or other reasons necessitate keeping a trench or manhole open longer than a fifteen (15) day period, suitable covers shall be placed or temporary fences erected for general protection.

Where unusual conditions warrant, barricades may be required at the terminus of uncompleted streets (stub streets).

(Ord. 90-3 § 4(P))

#### **12.04.450 Valley gutters.**

- A. Dimensions and Grades. Valley gutters shall generally follow the pattern indicated by the typical details shown in Section IX of the ordinance codified in this chapter, Standard Plans 60 and 61, on file for public inspection at the Porter County highway department or the board of commissioners' office, with actual plans, dimensions and grades for specific crossings being shown on the approved plans.
- B. Materials and Design. Valley gutters will be constructed of:
  1. Reinforced Portland cement concrete (rigid pavement, as per [Section 12.04.300](#) of these specifications) when the adjacent regular street sections are of similar paving material or
  2. Reinforced Portland cement ([Section 12.04.300](#) when the adjacent regular street sections are bituminous pavement. (The gutter shall be four feet wide.)
- C. Joints. No joint parallel to the thread line of a valley gutter shall be less than two feet from the thread line. The joints lateral to valley gutter sections should be of an approved type which, for the given conditions (and based on Porter County highway department recommendations), have the least potential for allowing surface runoff to infiltrate along the joint into the pavement and subgrade.
- D. Subgrade shall conform generally with the provisions of [Section 12.04.290](#) of these specifications excepting, however the subgrade under a valley gutter and its transition zone must be "hand shaped" in order to control a full and uniform paving thickness in relation to that for the adjacent, regular street sections.
- E. Transition Zone Construction. The high side gutter of the low volume street must be sloped uniformly and continuously to the valley gutter. The low side gutter of the low volume street and the transition zone paving surface must be shaped as a smooth warp in according with the general details as shown in Section IX of the ordinance codified in this chapter, Standard Plans 60 and 61, on file for public inspection at the Porter County highway department or the board of commissioners' office.

(Ord. 90-3 § 4(Q))

#### **12.04.460 Highway maintenance system—Acceptance procedures.**

- A. Any metes and bounds dedication of public right-of-way submitted after the effective date of the ordinance codified in this chapter shall include the following:

1. A properly executed dedication of public right-of-way in a form agreeable to the Porter County board of commissioners. This dedication shall contain the following statement:

Maintenance Provision Notice by the Board of Commissioners

Until such time as the above described street is constructed according to the engineering and drainage plans as approved by and on file with the Porter County Highway Engineer's Office and other related agencies, said street will not be included in the Porter County Maintenance System.

2. A survey for the proposed public right-of-way prepared and certified by a land surveyor registered in the state of Indiana;
  3. A set of engineering plans which include a plan, profile, cross section and any required additional details or information. These plans are to be reviewed by the Porter County plan commission prior to review and approval by the Porter County highway department.
- B. In an attempt to assure proper street construction, the following policy for street acceptance in the Porter County highway maintenance system shall apply to subdivision streets which are beyond the corporate limits of any city or town in Porter County. This policy shall include all subdivision streets and metes and bounds streets which are petitioned for Porter County highway department maintenance.
1. Inspection Procedure. In the event a street is to be petitioned for Porter County highway department maintenance, the subdivision owner, developer or his agent must notify the Porter County highway engineering department at the following stages of construction: notification shall be to the Porter County highway engineer, twenty-four (24) hours in advance (exclusive of Saturday and Sunday) of the work being performed.
    - a. Inspection of subgrade prior to the placing of concrete curbing, concrete surface or aggregate base course;
    - b. Inspection of the aggregate base course prior to the placing of bituminous binder;
    - c. Inspection during the placing of bituminous binder and surface course;
    - d. Final inspection upon completion prior to acceptance for maintenance. When pavement cores are necessitated the hourly rate charge to the contractor shall be forty dollars (\$40.00) for 1989. This rate shall be adjusted annually based on federal cost of living guidelines.
- C. Acceptance Procedures for Roads or Streets.
1. Submission and Acceptance Procedures. Prior to sixty (60) days after the completion of any subdivision street construction within the affected area, the subdivision owner, developer or his agent must file with the Porter County highway department requesting acceptance of the street into the Porter County highway maintenance system.

In order to provide a mutual understanding of the proposed street construction schedule, the owner, developer or his agent shall consult with the Porter County highway engineer. Following the discussion, the Porter County highway engineer will advise the owner, developer or his agent of the acceptance policy and suggest a petitioning schedule so as not to place an undue burden on the owner or developer. Within sixty (60) days of receipt of petition, the Porter County highway engineering department shall core if necessary and inspect the street or portion thereof which has been petitioned for acceptance into the Porter County highway maintenance system. In the event the street meets or exceeds the approved construction plans for same, the applicant shall be so notified in writing. In the event there are conditions which must be corrected in order to meet the approved construction plans, the owner, developer or his agent shall be so notified in writing and given sixty (60) days to correct the condition. In the event adverse weather conditions occur, the Porter County highway engineering department may extend the completion time. If the corrections are not made to the satisfaction of the Porter County highway engineering department within the allotted time, the board of commissioners shall request the appropriate plan commission executive secretary to



withhold further improvement location permits on lots fronting on the affected street until the condition is corrected. The Porter County highway department shall advise the plan commission executive secretary of the request to withhold permits seven days in advance of the actual request and the plan commission executive secretary will notify the owner, developer or his agent in writing three days in advance of the actual withholding of additional improvement location permits. In determining the affected lots, permits will be withheld only between the two nearest intersecting streets from the defective area. In the case of cul-de-sac streets, all lots on the cul-de-sac streets shall be affected.

- D. Maintenance Provision Notice by the Board of Commissioners. Until a street is constructed according to engineering and drainage plans as approved by and on file with the Porter County plan commission, the Porter County highway engineer's office and other related agencies, the street will not be included in the Porter County highway maintenance system.
- E. Exceptions to Acceptance and Maintenance. The Porter County highway department does not accept or maintain street lighting or sidewalks. Furthermore, the Porter County highway department does not accept or maintain trees, shrubs or any other extraneous landscaping within cul-de-sac planters.
- F. Testing. When testing is required, all test results shall be submitted for review by the Porter County highway department prior to acceptance. The Porter County highway department reserves the right to test subgrades and aggregate bases with a Clegg Soil Impact Hammer.

(Ord. 90-3 § 5)

#### **12.04.470 Maintenance bond.**

- A. Two-Year Maintenance Bond Term. All public street rights-of-way which are petitioned for acceptance into the Porter County highway system, excepting therefrom those street rights-of-way which have been dedicated and properly constructed for a period of five years or more, shall have a maintenance bond submitted prior to the acceptance, the maintenance bond, prepared in a form and in a sum agreeable to the Porter County board of commissioners, shall have a maximum term of two years, the term shall commence sixty (60) days after developer petition for acceptance.

In accordance with [Section 12.04.460\(A\)](#) of these specifications, the developer will be notified by the Porter County highway department within sixty (60) days of receipt of petition of the requirements for acceptance of the petitioned street. If or when the petitioned street has been determined acceptable by the Porter County highway department and the Porter County board of commissioners, the developer will be notified in writing by the Porter County highway department.

- B. Five-Year Maintenance Bond Term. A five-year maintenance bond will be required in lieu of a two-year maintenance bond when, in the Porter County highway engineer's judgement, there are substandard or questionable conditions for the improvements on the public street rights-of-way to be accepted into the Porter County maintenance system warrant a five-year maintenance bond.

If a five-year maintenance bond is required, as set forth in this section, this five-year period cannot be terminated at any time prior to its full term.

- C. Waiver of Maintenance Bond. No maintenance bond shall be required for those rights-of-way which are petitioned for acceptance into the Porter County maintenance system which have been dedicated and properly constructed for a period of five years, or more; provided, that:
  - 1. The right-of-way lies entirely within the limits of the jurisdiction of the Porter County board of commissioners and the Porter County highway department; and
  - 2. The Porter County highway engineer or his designated representative has determined that the street improvement on the public right-of-way meets or exceeds the minimum required specifications as set forth in these specifications, which may include corings according to [Section 12.04.460\(B\)\(1\)\(d\)](#).

- D. Five-Year Bridge Maintenance Bond. Prior to the acceptance of a bridge into the Porter County maintenance system, the developer shall file a maintenance bond with the Porter County board of commissioners.

The bond shall:

1. Be a minimum of five thousand dollars (\$5,000.00) for a period of five years; however, the Porter County board of commissioners reserves the right to increase the minimum amount of the bond;
2. Provide surety and principal satisfactory to the Porter County board of commissioners;
3. Warrant that workmanship and materials used in the construction of the bridge are in conformance with approved engineering plans and specifications, and approved under [Section 12.04.370](#), and Sections [12.04.100](#) through [12.04.280](#)
4. Provide that, for a period of five years the developer or his approved principal will make necessary repairs in accordance with the warranty set out in subsection (D)(3) of this section.

(Ord. 90-3 § 6)

#### **12.04.480 Permit bond and liability insurance.**

A permit bond and liability insurance are required to do any type of construction work within the right-of-way.

A. Contractors.

1. Permit Bond. Minimum: two thousand dollars (\$2,000.00) blanket coverage or each job may be bonded separately. This bond is required for a period of one year and may be renewed with a continuation certificate.
2. Liability Insurance. Minimum: fifty thousand dollars (\$50,000.00).

B. Private Property Owners.

1. Permit Bond. Minimum: one thousand dollars (\$1,000.00) (per address). This bond is required for a period of one year.
2. Liability Insurance. Minimum: It is recommended that a rider to the homeowner's policy naming Porter County as additionally insured, be obtained.

The purpose of the permit bond is to assure that county specifications will be adhered to, including workmanship. This bond and liability insurance must be on file in the Porter County highway engineering department before any right-of-way permits will be issued.

(Ord. 90-3 § 7(A))

#### **12.04.490 Sidewalk permits.**

- A. Sidewalk permits are not required to replace or install new sidewalks in the county. However, the contractor must call for inspection before any concrete is poured.
- B. The county inspector may be contacted by calling 465-3574 at least twenty-four (24) hours before inspection is needed.

(Ord. 90-3 § 7(B))

#### **12.04.500 Driveway approach permits.**

- A. Who Needs a Permit. Anyone replacing or installing a driveway approach in the county right-of-way must obtain a driveway permit before any construction work is started. A permit is required for a change of use of an existing drive.

The permit application must be submitted in duplicate.

- B. Information needed on a permit:

1. Date;
2. Location (physical address) legal description, landmarks and township;
3. Plot to scale (commercial only) showing:
  - a. Type of street surface,
  - b. R/W lines and width,
  - c. Property lines,
  - d. Intersecting streets or railroads with five hundred (500) feet,
  - e. Size and kind of culvert pipe needed or existing,
  - f. Proposed geometrics,
  - g. All utility locations;
4. Applicant's name (same as on bond), address, telephone number and signature.

- C. Where to Obtain a Permit. Driveway permits may be obtained from or mailed to the Porter County Highway Engineering Department, 1955 S. State Road 2, Valparaiso, IN 46383. However, construction may not start until the permit is approved by the highway engineer.

- D. Procedure for Installation of Driveways.

1. All driveways must have county inspection for correctness of forms and grade before any concrete can be poured or bituminous mixture placed.
2. The county inspector can be contacted by calling 465-3574 at least twenty-four (24) hours before inspection is needed.
3. If the contractor has made proper call and an inspection was not made by the permit department in the specified time, the contractor may proceed at his own risk.

- E. Cost.

1. There is a forty dollar (\$40.00) inspection fee for residential or field driveway permits (Class I, II, or V).
2. Commercial (Class III or IV) without taper or passing lanes: forty dollars (\$40.00).
3. Commercial (Class III or IV) with taper or passing lanes: forty dollars (\$40.00).
4. Accepted subdivision entrance (Class VI), will be forty dollars (\$40.00).
5. Temporary construction entrance (Class VII), will be forty dollars (\$40.00).

(Ord. 90-3 § 7(C))

#### **12.04.510 Permit to cut into the county right-of-way—Road cuts.**

- A. Who Needs a Permit. Anyone cutting into or tunneling under any portion of the county right-of-way must obtain a R/W cut permit before any construction is started. Emergency permits must be submitted the next business day.

The permit application must be filed in duplicate.

B. Information needed on a permit:

1. Date;
2. Physical address or location and township;
3. Type of street surface;
4. Length, width and depth of the cut;
5. Name of applicant (same as on bond), address, telephone number and signature;
6. Plot plan showing the exact location of the cut.

C. Where to Obtain a Permit. Road cut permits may be obtained from or mailed to the Porter County Highway Department, 1955 S. State Road 2, Valparaiso Indiana, 46383. However, construction may not start until the permit is approved by the Porter County engineer.

D. Procedure for Restoration of Cuts.

1. All restoration must be inspected by the Porter County highway department.
2. The county inspector may be contacted by calling 465-3574 at least twenty-four (24) hours before inspection is needed.

E. Special Provisions.

1. Special provision will be attached by the county engineer whenever he deems them necessary to limit construction or define the materials used in restoration.
2. All special provisions which are attached by the county engineer must be adhered to before any restoration will be accepted.

F. Cost.

1. The cost of the permit will be determined by the length, width, depth, and location of the cut plus a forty dollar (\$40.00) inspection fee.
2. No newly constructed pavement less than five years old, or reconstructed pavement less than three years old shall be cut. Any exception must be by executive approval. If executive approval is given, the cost will be based on the following:
  - a. New pavement, twelve (12) months old or less equals four times the standard cost.
  - b. Twelve (12) months to twenty-four (24) months equals three times the standard cost.
  - c. Twenty-four (24) months to thirty-six (36) months equals two times the standard cost.
  - d. Thirty-six (36) months or older equals standard cost.
3. Standard Cut.
  - a. Any length of trench excavated in the same type of surface between roads is considered one cut.
  - b. If the trench excavated passes through a different type surface, it is considered another or additional cut.
  - c. If a lateral is constructed perpendicular or at any other angle from the main excavation, it is considered another or additional cut.
  - d. Any cut that is not continuous is considered another or additional cut. For example, cuts through six different bells or joints of a utility would be considered as six cuts.
4. Inspection Fee.

- a. A minimum inspection fee of twenty dollars (\$20.00) per hour for anticipated inspection costs on projects or jobs that the county engineer deem necessary due to hazards or unusual conditions, will be used.
  - b. If additional inspection is required, an estimate of the anticipated hours involved will be computed and the inspection cost will be added to the cost of the permit before it is issued. This will only apply to extreme conditions that would require full time inspection.
5. Penalty. Any person failing to obtain the proper R/W cut permit before starting construction may be fined a sum not to exceed one thousand dollars (\$1,000.00).

(Ord. 90-3 § 7(D))

#### **12.04.520 Oversize and overweight permits.**

- A. Who Needs a Permit. Anyone wishing to transport any vehicle or object which exceeds the legal size or weight limit, must obtain an oversize and/or overweight permit before beginning to make such a move.

Three copies of the permit must be filled out.

- B. Information needed on a permit:

1. Date;
2. Type of vehicles;
3. Make of tractor and/or trailer, license number, state and serial number;
4. Length, width and height;
5. Empty weight and gross weight of the vehicles;
6. Number of trips and length of each trip; total length of haul in Porter County;
7. Number of axles and distance between each axle;
8. Number of wheels on each axle;
9. Pneumatic or solid tires; manufacturer's rated width of each tire;
10. Total width of all tires on each axle;
11. Total weight on each axle;
12. Pounds/inches width of each tire;
13. Description and weight of the load;
14. Model number and capacity of any heavy equipment;
15. Origin, destination and route of the move;
16. Speed of the move;
17. Reason for the move;
18. Applicant's name, address and signature;
19. Date and time the move will start and end;
20. Number of hours the vehicle will be on Porter County roads.

- C. Where to Obtain Permits. Oversize and overweight permits may be obtained from or mailed to the Porter County Highway Department, 1955 S. State Road 2, Valparaiso, Indiana 46383. However, no move can be made until the permit has been approved by the county engineer and the Porter County sheriff's department.

D. Cost.

1. There is a ten dollar (\$10.00) fee for each oversize permit.
2. There is a ten dollar (\$10.00) fee for each overweight permit.
3. There is no fee for contractor's permits for oversize construction equipment renewed annually.
4. Penalty: covered by Indiana Code 1971.

Note: There may be a sheriff's escort required in many instances.

(Ord. 90-3 § 7(E))

**12.04.530 Pole line permits.**

- A. Who Needs a Permit. Any utility wishing to install a new pole line or where existing poles are moved to a different location must obtain a pole line permit prior to installation.

The permit must be submitted in duplicate.

- B. Information needed on a permit:

1. Date;
2. Location, township and section number;
3. Drawings showing:
  - a. Distance from nearest county road intersection, from centerline of road to the right-of-way line,
  - b. Length of spans, locations from R/W lines, length of poles, overhead guys, anchor guys, guy poles and all guy leads,
  - c. Voltage, phase, type of construction;
4. Utility company name, address and engineer's signature.

Pole line permits may be obtained from or mailed to the Porter County Highway Department, 1955 South State Road 2, Valparaiso, Indiana 46383. However, construction may not start until the permit has been approved by the county commissioners.

(Ord. 90-3 § 7(F))

**12.04.540 Utility permits.**

- A. Who needs a permit. Any utility wishing to install underground conduit, cable, lines, pipe etc., in the Porter County right-of-way needs a utility permit. No work is to be done until the permit is approved.

The permit must be submitted in duplicate.

- B. Information needed on a permit:

1. Date;
2. Location, township and section number;
3. Drawing showing:
  - a. Distance from nearest county road intersection,
  - b. Location from R/W lines, and from road edges,
  - c. Depth from crown of road,
  - d. Description of all installations and appurtenances, type of construction,

- e. Utility company name, addresses and engineer's signature.
- C. Where to Obtain Permits. Utility permits may be obtained from or mailed to the Porter County Highway Engineer, 1955 South State Road 2, Valparaiso, Indiana, 46383. However, construction may not start until the permit has been approved by the county engineer.
- D. Cost. Issuing and inspection charges of forty dollars (\$40.00) for an installation up to and including one-fourth mile (one thousand three hundred twenty (1,320) feet) plus fifteen dollars (\$15.00) for each additional one-fourth mile (one thousand three hundred twenty (1,320) feet) or fraction.
- E. Traffic Control. It shall be the duty of all holders of permits to erect proper warning signs, barricades and flares, and to provide flag-men or other appropriate warning devices commensurate with the risks involved throughout the progress of the work and all holders of permits shall indemnify and save the county harmless from any and all claims and cause of action, if any, which may be asserted or filed against the county by any persons, firms, corporations, who have been injured or damaged or claim to have been injured or damaged, on account of any installations made pursuant to this permit or on account of any work done in the making of such installation.

(Ord. 90-3 § 7(G))

#### **12.04.550 Barricades and channelizing devices.**

All barricades and channelizing devices must conform to the current Indiana Department of Transportation Standard Specifications and Standard Sheets and the Manual on Uniform Traffic Control Devices of Indiana.

- A. Functions. The functions of barricades and channelizing devices are to warn and alert drivers of hazards created by construction or maintenance activities in or near the traveled way and to guide and direct drivers safely past the hazards.

In fulfilling these two functions, barricades and channelization devices are often required to satisfy two opposing requirements. For example, a channelization installation should be constructed in a substantial manner to provide protection for men working in the roadway. At the same time, however, the channelization devices should provide a smooth and gradual transition which reduces the width of the traveled way and in this case the channelizing devices should not inflict any severe damage to a vehicle that inadvertently strikes them. The objective should be the development of a traffic control plan which uses a variety of traffic control measures in whatever combination necessary to assure smooth, safe vehicular movement past the work area, and at the same time, provides maximum safety for the equipment and the workmen on the job.

Barricades and channelizing devices are elements in a total system of traffic control devices for use in right-of-way construction and maintenance operations, and these elements shall be preceded by a sub-system of warning devices that are adequate in size, number and placement for the type of highway or street on which the work is to take place.

- B. Barricade Design. Barricades shall be one of three types: Type I, Type II or Type III. The characteristics of these types of barricades are shown on the following pages.

All barricades and warning device design shall follow the current Indiana State Department of Transportation Standard Specifications and Standard Sheets and the Manual on Uniform Traffic Control Devices of Indiana.

- C. Barricade Application. On construction projects, when a road section is closed to traffic, Type III barricades shall be erected at the points of closure. They may extend completely across a roadway and its shoulders (as a fence) or from curb to curb. Where provisions must be made for access of equipment and authorized vehicles, the Type III barricades should be provided with gates or movable sections that can be closed when work is not in progress, or with indirect openings that will discourage public entry. Where access is provided through the Type III barricades, responsibility should be assigned to a person to assure proper closure at the end of each working day.

When a road or street is legally closed but access must still be allowed for local traffic, the Type III barricade cannot be erected completely across a roadway. Instead, an arrangement should be devised that will permit local use but effectively discourage use by through traffic. A sign with the appropriate legend concerning permissible use by local traffic should be installed.

Type I or Type II barricades shall be used when traffic is maintained through the area being constructed and/or reconstructed. The important characteristic of these barricades is that each is movable and they may be used interchangeably.

Where maintenance activities are being performed, a street or road condition is seldom of a character that will require a complete closing of the facility. When such a condition does occur, it is almost always an emergency situation, as would result from a broken water main or a sewer cave-in, for example. Repair work is generally initiated on an emergency basis and the street or road closing generally is of a kind wherein Type I or Type II is utilized.

Signs may be erected on barricades, particularly those of the fixed type, and they offer a most advantageous facility for this purpose. The Road Closed and Detour Arrow signs, and the Large Arrow Warning signs, for example, call effectively be mounted above the barricade that closes the roadway.

D. Channelization. The single most important element within the system of traffic control devices commonly used in construction or maintenance areas (where a reduction in pavement width is involved), is the taper that is provided for the channelization. An inadequate taper will almost always produce undesirable traffic operations with resulting congestion and possible accidents throughout the area.

A minimum desirable taper rate expressed as length in feet per foot of offset and numerically equal to the eighty-five (85) percentile speed is essential for smooth traffic operations. For example, if a lane is to be closed on a roadway with an eighty-five (85) percentile speed of fifty-five (55) miles per hour, the channelization to accomplish the transition should be placed on 55:1 taper.

The minimum desirable length derived from the rate indicated above applies to roadway conditions of relatively flat grades and straight alignment.

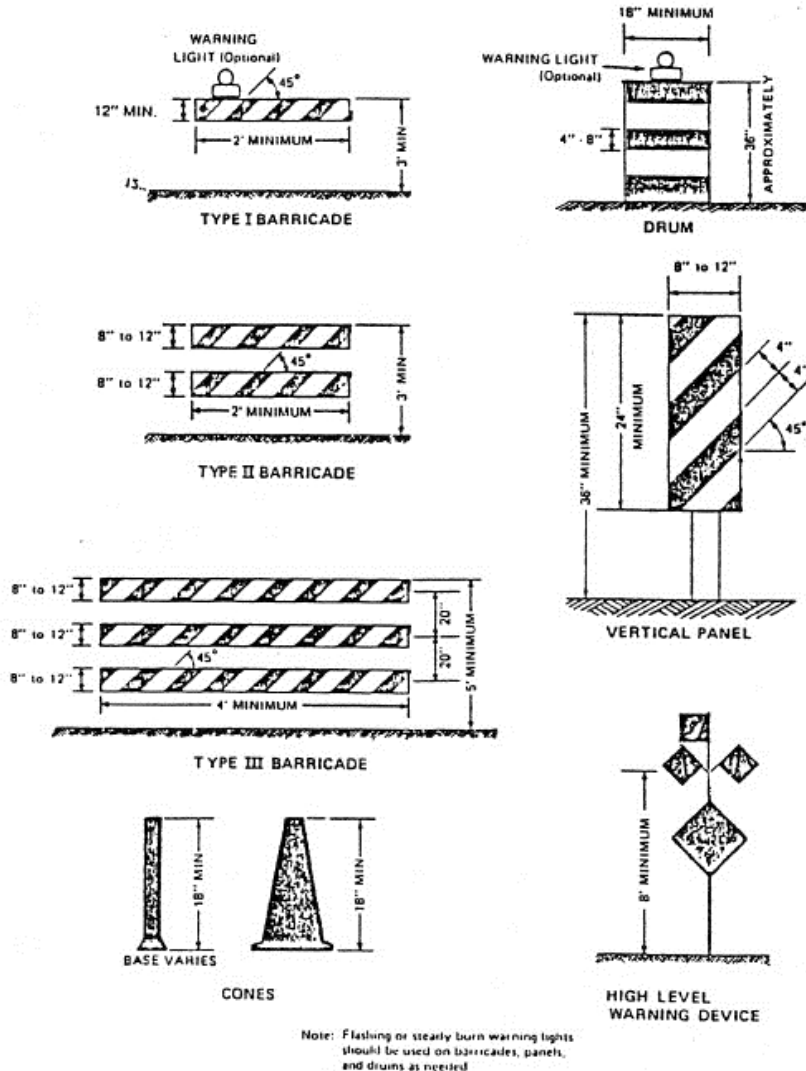
**Table VI-1 Barricade Characteristics**

**Type\***

	I	II	III
Width of Rail	12" min.	8" min. 12" max	8" min. 12" max
Length of Rail	2 ft. min.	2 ft. min.	4 ft. min.
Width	6 in.	6 in.	6 in.



th of Stri pes **			
Hei ght	3 ft. min.	3 ft. min.	5 ft. min.
Nu mb er of Re flec tori zed Rail k Fa ces	2 (on eac h dire ctio n)	4 (tw o eac h dire ctio n)	3 if faci ng traf fic in one dire ctio n 6 if faci ng traf fic in two dire ctio ns



E. Barrel or Drum Application. Barrel or drums are an effective traffic control device, particularly for use in construction areas.

One effective application is to delineate an unusual path made necessary by the construction activity. Another effective application occurs on road widening projects where a row of barrels is used at night to mark the edge of pavement and channelize traffic away from an open trench alongside the pavement. During working hours, the same barrels are moved onto the pavement to provide working room for the construction activity and smoothly channelize traffic around the work area.

Barrels or drums are bulky and not readily transportable, but they are highly visible and have good target value. They give the appearance of being formidable obstacles and, therefore, command the respect of the drivers yet do not inflict undue damage to a vehicle in the event they are struck. Finally, the barrels are portable enough to be shifted from place to place within a construction project in order to accommodate changing conditions as construction progresses. Barrels should not be weighted with sand, water or any other material to the extent that would make them hazardous to motorists.

For routine maintenance activities, barrels or drums are seldom used because of their bulk and relative lack of portability. Where maintenance forces undertake work such as pavement replacement, however, barrels or drums may be included among the traffic control devices used.

Their application should be as described above for construction projects.

- F. Traffic Cone Application. Included under this heading are a group of devices whose primary function is the channelization of traffic. They may be conical in shape, but there are also tubular shaped devices available capable of performing the same function. They may be set on the surface of the roadway or rigidly attached for continued use. Traffic cones may be easily stacked on a truck and one workman can carry and distribute several cones with ease. This mobility and flexibility (which cannot be equaled by Type I barricades) increases the usefulness of these devices.

When cones are used, precautions are necessary to assure they will not be blown over or displaced. This may be particularly critical adjacent to lanes of moving traffic where there may be a wind created by passing vehicles. Some cones are constructed with bases that may be filled with ballast. With others, it may be necessary to double the cones in order to provide added weight, or to construct weights (such as a square of reinforcing rod) that can be dropped over the cone and onto the base to provide increased stability. These added weights should not present a hazard if the devices are inadvertently struck.

In general, traffic cones have a greater target value than do the tubular shaped devices. However, the target value of either device may be enhanced during the daytime by the insertion of an orange flag in the top and at night by the insertion of appropriate colored delineators in the tops or by use of internal lights.

- G. Lighting Devices. Construction and maintenance activities often create conditions on or near the travelled way that are particularly hazardous at night when the ability of drivers to see is sharply reduced from daytime conditions. It is often desirable and necessary to supplement the reflectorized signs, barriers and channelizing devices with lighting devices.

Three types of electric lights are commonly used: floodlights, steady burning lights and flashing lights.

Because of the time and space allotted, we will not describe the specification on lighting devices, but copies are on file in the office of the Porter County highway engineer. We will however, try to cover part of the specifications on barricade warning lights.

As used herein, barricade warning lights are portable, lens directed, enclosed lights. The color of the light emitted shall be yellow. They may be used in either a steady burn or a flashing mode. Barricade warning lights shall be in accordance with the requirements of the Indiana Department of Transportation Specifications.

	Typ e A. Low Inte nsit y	Typ e B. Hig h Inte nsit y	Typ e Stea dy Bur n
Lens dire ctio nal face	<u>1</u> or 2	<u>1</u>	<u>1</u> or 2

s			
Flash rate per minute	55 to 75	55 to 75	constant
Flash duration	10%	8%	constant
Minimum effective intensity	4.0 candles	35 candles	0
Minimum beam candle power	0	0	2 candles
Hours of operation	8 hours to 24 hours	24 hours/day	8 hours to 24 hours

Type A low intensity flashing warning lights are mounted on Type I or II barricades, drums, vertical panels or advance warning signs and are intended to continually warn the driver that he is proceeding in a hazardous area.

Type B high intensity flashing warning lights are mounted on barricades and on the advance warning signs obstructing a driving lane for extremely hazardous sight conditions within the construction area. As these lights are effective in daylight as well as dark, they are designed to operate twenty-four (24) hours per day.

Type C steady burn lights are intended to be used to delineate the edge of the traveled way on detour curves, on lane changes, on lane closures and on other similar situations.

The light weight and portability of barricade warning lights are advantages that make these devices useful as supplements to the reflectorization on hazard warning devices. The flashing lights are effective in attracting a driver's attention and, therefore, provide an excellent means of identifying the hazard. Flashers shall not be used for delineation, as a series of flashers would tend to obscure the desired vehicle path. For nighttime use, it is desirable to add flashing warning lights when barricades are used singly, and steady burn lights when barricades are used in a series for channelization.

H. Lanterns and Torches. As used herein, lanterns and torches are single-unit, portable, constant-burning, low intensity types of lights with open or enclosed flame. They provide negligible illumination of other objects and are not altogether dependable under adverse weather conditions such as high wind or heavy rain. Furthermore, the flammable fuel used in the lanterns or torches may be a hazard to life and property, and their use, therefore, is not recommended, except in the special circumstances described below.

Open flame torches may have an application in rural areas where, under nighttime conditions, they might be the only devices available to a maintenance man to put into immediate use in the event of an emergency. However, even under these conditions, the torches should be replaced as quickly as possible with more effective devices.

I. Flagmen. Since flagmen are responsible for human safety and make the greatest number of public contacts of all construction personnel, it is important that qualified personnel be selected. A flagman should possess the following minimum qualifications:

1. Average intelligence;
2. Good physical condition, including sight and hearing;
3. Mental alertness;
4. Courteous but firm manner;
5. Neat appearance;
6. Sense of responsibility for safety of public and crew.

The use of an orange vest shall be required for flagmen, with the exception of a uniformed police officer. For nighttime conditions, similar outside garments shall be reflectorized.

Flagmen are provided at work sites to stop traffic intermittently as necessitated by work progress or to maintain continuous traffic past a work site at reduced speeds to help protect the work crew. For both of these functions the flagman must, at all times, be clearly visible to approaching traffic for a distance sufficient to permit proper response by the motorist to the flagging instructions and to permit traffic to reduce speed before entering the work site. In positioning flagmen, consideration must be given to maintaining color contrast between the flagman's protective garments and his background.

The following methods signaling with a flag should be used:

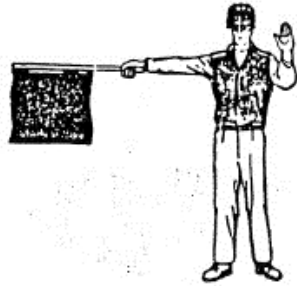
1. To Stop Traffic. The flagger shall face traffic and extend the flag horizontally across the traffic lane in a stationary position so that the full area of the flag is visible hanging below the staff. For greater emphasis, the free arm may be raised with the palm toward approaching traffic.
  2. When it is Safe for Traffic to Proceed. The flagger shall stand parallel to the traffic movement, and with flag and arm lowered from view of the driver, motion traffic ahead with the free arm. Flags shall be used to signal traffic to proceed.
  3. Where it is Desired to Alert or Slow Traffic. Where it is desired to alert or slow traffic by means of flagging, the flagger shall face traffic and slowly wave the flag in a sweeping motion of the extended arm from the shoulder level to straight down without raising the arm above the horizontal position.
- J. Control of Traffic Through Work Areas. The primary function of traffic control procedures is to move traffic safely and expeditiously through or around the work areas. The control of traffic through work areas is an essential part of right-of-way construction and maintenance operations.

Maintaining good public relations is necessary. The various news media in publicizing the existence of reasons for work sites, should be utilized to assist in keeping the motoring public well informed.

### **Flagging Procedures**

The following methods of signaling with a flag or paddle should be used: Paddle message and color to conform to current Indiana Manual On Uniform Traffic Control Devices.

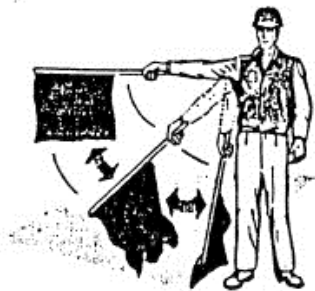
### FLAG



TO STOP  
TRAFFIC



TRAFFIC  
PROCEED



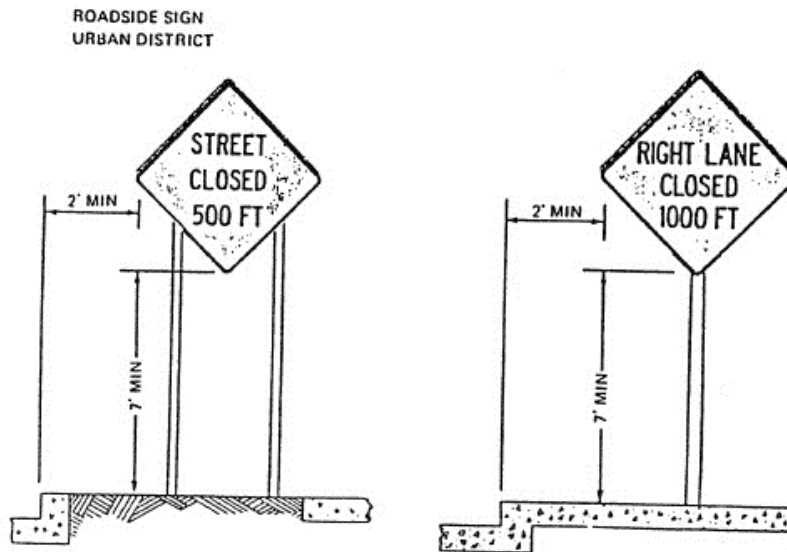
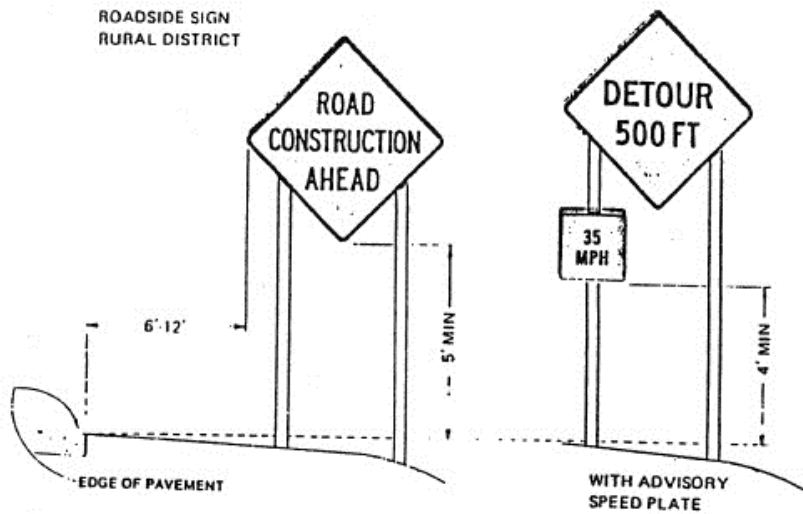
TO ALERT  
AND SLOW  
TRAFFIC

### PADDLE



Whenever practicable, flagman should advise the motorist of the reason for the delay and the approximate period that traffic will be halted. Flagmen and operators of construction machinery or trucks should be made to understand that every reasonable effort must be made to allow the driving public the right-of-way and prevent excessive delays.

Standards for height and lateral clearance of roadside signs are shown below. Signs mounted on barricades, or temporary supports, may be at lower heights but the bottom of the sign shall be not less than one foot above the pavement elevation. Higher mounting heights are, however, desirable.



(Ord. 90-3 § 8)

## Chapter 12.08 DRAINAGE REGULATIONS

### Sections:

[12.08.010 Drain tile water discharge.](#)

[12.08.020 Violation—Penalty.](#)



### **12.08.010 Drain tile water discharge.**

- A. Written approval from Porter County highway department shall be obtained prior to any drain tile water being drained into county right-of-way.
- B. A sump pump shall be required if road ditch is higher in elevation than proposed drain tile.
- C. The existing road ditch shall be cleaned (excavated if deemed necessary by highway department) and free of debris and brush a sufficient distance to provide adequate grade for water to flow. All work to be in accordance to county standard.
- D. In those instances where road ditches are available, the drain tile connection shall be directly into the ditch and rip-rap (generally five by ninety (90) rock) placed on each side of the tile two feet by four feet by eight-inch depth.
- E. In subdivisions where curbs exist, the property owner shall discharge various residential drain tile water on top of the ground and let the water flow on ground surface a minimum travel distance of forty (40) feet from the road right-of-way line.
- F. Known drainage problem areas shall not be compounded, nor shall any new obvious drainage problems be created.
- G. Roof, basement, septic field perimeter drains are prohibited from draining directly onto county road pavement.

(Ord. 85-8 §§ 2—8)

### **12.08.020 Violation—Penalty.**

Violators to any of the above shall be subject to a three hundred dollars (\$300.00) fine for each day of violation after legal notice has been served.

(Ord. 85-8 (part))

## **Chapter 12.12 DRIVEWAY ENTRANCE CULVERTS (Reserved)**

## **Chapter 12.16 UNDERGROUND UTILITY LINES (Reserved)**