

STREET STANDARDS SEPTEMBER 2021



STREET STANDARDS

TABLE OF CONTENTS

1.1 - GENERAL PROCEDURES
1.2 - STREET DESIGN STANDARDS
1.3 - INTERSECTIONS
1.4 - SIGHT DISTANCE
1.5 - STREET CONSTRUCTION REQUIREMENTS
1.6 - CONTROL JOINTS
1.7 - CURBS AND GUTTERS14
1.8 - PRIVATE STREETS
1.9 - SIDEWALKS, PATHS AND TRAILS
1.10 - STREET IDENTIFICATION SIGNS AND REGULATORY SIGNS
1.11 - ROADSIDE DITCHES
1.12 - STORM DRAINAGE AND CULVERTS
1.13 - BRIDGES
1.14 - MONUMENTS
1.15 - CONSTRUCTION WITHIN ROAD RIGHT-OF-WAY

FIGURES

1 - LOCAL STREET STANDARD SECTION
2 - COLLECTOR STREET STANDARD SECTION
3 - ARTERIAL COLLECTOR STANDARD SECTION
4 - ENTRANCE REQUIREMENTS
5 - RESIDENTIAL CUL-DE-SAC LAYOUT
6 - CONNECTION TO EXISTING STREETS
7 - TYPICAL TRAIL CROSS SECTION
8 - Commercial, Industrial & Local Street Details
9 - RESIDENTIAL LOCAL STREET DETAILS
10 - STORM SEWER LATERAL CONNECTION
11 - SIDEWALK & ADA RAMP DETAIL AND SECTION
12 - Concrete Curb and Gutter Details
13 - STREET SIGNAGE DETAILS
14 - Residential Driveway Approach Details
15 - General Utility Location – Plan and Section
16 - TYPICAL TRENCH REPAIR DETAIL IN PAVED AREAS

1.1 - General Procedures

1. All improvements intended for public use, to be constructed within the Town must conform to these standards. These standards are written to be applicable to new or improved streets that are constructed as part of a development within the Town and are to be dedicated to the Town for public use and maintenance. Road improvement projects to be completed by the Town or INDOT outside of such a development are not subject to these requirements.

2. It is the developer's responsibility to determine the most recent Standards that are required.

3. Construction within the right-of-way of the Indiana Department of Transportation (INDOT) shall be in strict accordance with the State of Indiana requirements. The Developer shall be responsible for obtaining the necessary permits.

4. DISCLAMER - The standards set forth in this document are intended to be minimum standards. Individual projects, particularly commercial and industrial subdivisions, may warrant additional requirements dictated by sound engineering design. Such additional requirements must be specified by the Plan Commission at primary plat approval. Variances from these standards may be considered by the Town upon written application citing unusual conditions justifying changes based upon sound engineering practices.

5. All improvements shall be constructed to conform to the current edition of the following Standards, except where deviations are hereinafter allowed, or a variance has been granted by the appropriate entity:

- A. Street Standards Town of Pendleton
- B. Unified Development Ordinance Town of Pendleton
- C. Access Management and Control Ordinance Town of Pendleton
- D. INDOT Design Manual
- E. INDOT Standard Drawings
- F. INDOT Standard Specifications
- G. Indiana Manual of Uniform Traffic Control Devices (IMUTCD)
- H. AASHTO Policy on Geometric Design of Highways and Streets
- 6. Construction Plans and Specifications review and acceptance.

A. All designs shall be in accordance with these Standards. When not specifically addressed by these standards, the design shall be in accordance with the current versions of the standards listed in item 5 above and other accepted design guides.

B. Prior to beginning construction of any roads or bridges that are to be dedicated to the Town, the plans and specifications for the roads and/or bridges shall be approved by the Town. All plans and specifications shall be certified by a Registered Professional Engineer in the State of Indiana. The design documents shall be submitted to the Town with the following copies for review:

- a. One full size (24"x36") hard copy of the plans
- b. One half size $(11^{"}x17^{"})$ hard copy of the plans

- c. One hard copy of the specifications.
- d. One digital (pdf) copy of the plans and specifications.

C. The Town shall either approve or reject the plans, specifying the reasons for rejection. Initial review of the plans and specifications will be completed within thirty (30) days. When the plans and specifications are approved, they shall be stamped 'approved' by the Town and a digital copy shall be returned to the Developer. Any amendments to the plans shall be approved by the certifying engineer, the Town, and any other appropriate agencies prior to the construction of any changes. The developer will be responsible for any inspection fees determined by the Town.

D. Upon completion of construction, or a portion of construction, the developer will certify to the Town whether the construction complies with all applicable standards, approved construction plans, and approved change orders. Where the Town determines it is necessary to confirm conformance with these standards, the pavement or sidewalk will be cored at the developer's expense as part of the inspection process. The average thickness of the cores must equal or exceed the minimum required thickness, and no single core can have a deficiency greater than one-half (1/2) inch. All deficient portions of pavement and sidewalks will be replaced at the developer's expense before the pavements or sidewalks are accepted by the Town.

1.2 - Street Design Standards

The arrangement, character, extent, width, grade, and location of all streets shall conform to all requirements of the Unified Development Ordinance (UDO), the Access Management and Control Ordinance, and these standards. Street functional classifications shall be determined by the Street Department in accordance with the Thoroughfare Plan.

1. Comply with all street layout requirements as described in Chapter 6 of the UDO.

2. Comply with all access point requirements as described in the Access Management and Control Ordinance.

3. A dead-end street shall not be permitted except where a street is proposed to be and should logically be extended but is not yet constructed. A temporary cul-de-sac shall be constructed for any dead-end street which exceeds three hundred (300) feet in length from the nearest intersection. Drainage details for the temporary cul-de-sac shall be specified by the applicant and approved by the Town. A dead-end street which does not require a temporary cul-de-sac shall have adequate drainage provisions as approved by the Town.

4. A temporary cul-de-sac shall have an easement radius of not less than fifty (50) feet and shall have a driving surface radius of not less than forty (40) feet. The cross section of a temporary cul-de-sac shall be at least nine (9) inches of compacted aggregate with two (2) inches of asphalt binder.

5. All new streets shall be constructed to "Urban" design standards as defined by the INDOT Design Manual. If "Rural" design elements are more appropriate for a specific project, the developer/designer must seek approval from the Town prior to design of the project.

6

6. Actual right-of-way width shall be based on engineering design and shall include the width of the through lanes, turn lane, parking lanes, curbs, planting strips, sidewalks, and trails. The street right-of-way shall be not less than the following:

Road Classification	Right-of-Way Width (Feet)
Arterial	100
Collector	80
Local	60
Cul-de-Sac	100 (Diameter)
Alley	20

Table 1 - Minimum R/W Width

7. The paved width of all streets shall be adequate to serve the existing and future estimated traffic load for the development. A new subdivision road shall be surfaced to a minimum width of thirty (30) feet measured back-to-back of curb. A cul-de-sac turn around shall be paved to a diameter of eighty (80) feet measured back-to-back of curb. All other roads and streets shall be surfaced to a minimum width as shown on Table 2: Minimum Pavement Width and the typical street cross sections in the exhibit drawings to this ordinance or as otherwise determined by sound engineering design and with the concurrence of the Town. Where a proposed street is an extension of an existing paved street that exceeds the minimum dimension set forth above, the Town may require the developer to match the width of the existing paved street.

Road Classification	Pavement Width (Feet) Back of Curb to Back of Curb
Arterial	2 x 28
Collector	42
Local	30
Cul-de-Sac	80 (Diameter)
Alley	10 (No Curbs Required)

Table 2 - Minimum Pavement Width

8. A proposed subdivision street shall be designed to minimize through-traffic movement. However, this does not waive the requirement to construct an access road to the adjacent property boundary or connect to such a road in an adjacent existing development as required by the Unified Development Ordinance.

7

9. Acceptable limits for visibility, curvature, and maximum grade depend on topography, functional classification, anticipated traffic volumes, number and nature of access points, etc. Road design specifications shall be based on sound engineering judgement using the design speeds outlined in Table 3: Design Speed. The Town must approve the design speeds selected for each project.

Road Classification	Terrain	МРН
Arterial		35-55
Collector		30-50
Local		30-50
Subdivision and Local w/ ADT < 250	Level	30
Subdivision and Local w/ AD1 < 250	Rolling	20-30

Table 3 - Design Speed

10. A proposed street shall be adjusted to the contour of the land to provide usable lots and a reasonable street grade. The maximum allowable street grade shall be as outlined in Table 4: Maximum Street Grade. The minimum allowable street grade shall not be less than five tenths percent (0.5%).

Road Classification	Design Speed (MPH)				
	20	30	40	50	55
Arterial			7%	6%	5.5%
Collector		8%	7%	6%	
Urban Local		8%	7%		
Subdivision and Local w/ ADT < 250	9%	8%			

Table 4 - Maximum Street Grade

11. Horizontal visibility of a curved street and the vertical visibility on all streets shall be maintained according to the minimum distances shown in Table 5: Sight Distance. Sight distances shall be measured in accordance with AASHTO guidelines.

Road Classification	Design Speed (MPH)				
	20	30	40	50	55
Stopping Sight Distance (Desirable) (Feet)	125	200	325	475	550
Stopping Sight Distance (Minimum) (Feet)	125	200	305	425	495
Intersection Sight Distance (Feet)	280	420	580	840	990

Table 5 - Sight Distance

A. The values for desirable stopping sight distance shall be met for all street construction and at all intersections. Minimum stopping sight distances shall only be used in those cases, which, in the opinion of the Town, would suffer undue hardship by use of the desirable stopping sight distance.

B. The values for intersection sight distance shall be used at the intersection of two (2) new streets. Intersection sight distance should be used at all other intersections. No new features such as signs, embankments, walls, or landscaping, shall be constructed which reduces the sight distance below the intersection sight distance.

C. Where unusual or complex situations exist, decision sight distance (per AASHTO Standards) may be required by the Town to provide an added margin of safety.

12. Horizontal curvature measured along the centerline shall comply with the following:

Maximum Degree of Curve (e=0.080)		Desigr	n Speed (I	MPH)	
	20	30	40	50	55
Radius (Feet)	150	255	470	765	955
Degree of Curve	38° 15'	22° 45'	12° 15'	7° 30'	6° 00'

Table 6 - Radii / Degree of Curve

13. A reverse curve on a subdivision street shall have a straight tangent between elements of said reverse curve of not less than one hundred (100) feet. A reverse curve on any other street shall allow for one of the following conditions:

A. The distance between the reverse curves shall achieve a normal tangent section for a minimum of two (2) seconds travel time, and the superelevation transition requirements shall be met for both curves; or

B. The pavement shall be continuously rotated in a plane about its axis. The minimum distance between the curves is that which will be needed to meet the superelevation transition requirements for the two (2) curves (e.g., distribution of superelevation runoff between the tangent and curve).

14. Access roads from a proposed development onto an existing or proposed Town road shall comply with the Access Management and Control Ordinance and may be denied or restricted. If, in the sole opinion of the Town, the proposed access road presents a potential hazard to the motoring public, the Town may require the applicant to make improvements to an existing or proposed Town road as a condition of allowing access. An applicant may be required to provide deceleration, acceleration, passing blisters, or other improvements to the road system based on the following criteria:

- A. Sight distance;
- B. Number of lots;
- C. Proposed use;
- D. Street classification;

- E. Traffic generation;
- F. Existing or proposed conditions; and/or
- G. Sound engineering design.

15. The number of access roads required into a subdivision will be based upon the number of lots, sound engineering design, and continuity of the Town street system. If the Town determines that an additional access road is necessary, the applicant will be advised at the time of primary plat consideration.

16. A cul-de-sac street shall not exceed one thousand (1,000) feet in length measured from the centerline of the nearest intersection to the center of the cul-de-sac. A cul-de-sac shall be provided with a turnaround radius of not less than fifty (50) feet at the right-of-way line and not less than forty (40) feet at the back of the curb line.

17. A half street shall be prohibited.

18. The applicant shall dedicate additional right-of-way width as required to meet these regulations in a subdivision that adjoins or includes an existing street that does not conform to the minimum right-of-way requirements.

19. Residential driveways shall be constructed at shown in attached Figure 14. Commercial and Industrial driveways shall be constructed to applicable INDOT standards and reviewed by the Town on a case-by-case basis.

1.3 - Intersections

1. Street curbs shall be rounded by radii of sufficient length to permit the smooth flow of traffic, but in no case shall the curb radii be less than twenty-five (25) feet for a minor street, or thirty (30) feet for a major street or a street in a commercial or industrial development.

2. Where a proposed street with curbs intersects an existing street without curbs, the curb radius shall be designed so there is a minimum of twelve (12) feet offset between the termination of the curb and edge of the existing street pavement.

3. Street right-of-way at intersections shall be designed to provide a minimum of ten (10) feet separation between the street right-of-way and curb.

4. Intersections shall be as nearly at right angles as is possible, and intersections shall be at an angle of no less than seventy degrees (70o).

5. Intersections of more than two (2) streets at one (1) point shall not be permitted.

6. When a street of lesser functional classification intersects with a street of greater functional classification the radii arcs at the intersection will comply with the standards for the street of greater functional classification.

7. Proposed new intersections along one side of an existing street shall, whenever practicable, coincide with any existing or proposed intersection on the opposite side of such street.

8. There shall be at least one hundred (100) feet of tangent alignment before entering an intersection.

9. The placement of a driveway that is located near a street intersection shall comply with the Access Management and Control Ordinance.

10. Street intersections shall not be closer than two hundred (200) feet centerline to centerline for minor streets and five hundred (500) feet centerline to centerline for a major street. This provision does not apply to a frontage road.

11. When a street of lesser functional classification intersects with a street of greater functional classification, the pavement thickness of all improvements within the right-of-way of the intersection shall comply with the standard for the greater street.

12. Roundabouts – If a developer plans a roundabout as part of a proposed development, it shall be designed per the requirements of Chapter 51 of the current version of the INDOT Indiana Design Manual. The roundabout design shall be certified by an Indiana Registered Professional Engineer and will be reviewed by the Town on a case-by-case basis.

1.4 - Sight Distance

1. Stopping Sight Distance shall be determined by measuring from a point three and one-half (3.5) feet above the roadway surface along a line of sight to a point six (6) inches above the roadway surface.

2. Intersection Sight Distance shall be determined by measuring from a point three and one-half (3.5) feet above the roadway surface along a line of sight to a point four and one quarter (4.25) feet above the roadway surface.

3. Sight distance values are included in Table 5: Sight Distance.

4. The following items shall be required and must be included on the final plat prior to recording:

A. "No fence, wall, sign, hedge, tree or shrub planting or other similar item which obstructs sight lines shall be placed or permitted to remain on any corner lot within the triangular area formed by the street right-of-way lines and a line connecting points twenty-five (25) feet from the intersection of minor street lines and fifty (50) feet from the intersection of major street lines, or in the case of a rounded property corner, from the intersection of the street right-of-way lines extended.

B. In the case of a driveway within ten (10) feet of an intersection of a street right-of-way or an alley, the same sight line limitation shall apply.

1.5 - Street Construction Requirements

1. In general, a street shall be completed to the grade shown on the plan and profile sheet. A plan and profile sheet for each street shall be provided by the developer and prepared by a registered professional engineer or registered land surveyor.

2. The minimum requirements for street construction shall be in accordance with the latest edition of "Standard Specifications" of INDOT, in effect at the time of approval (hereinafter referred to as the INDOT Standard Specifications).

A. The subgrade shall be prepared in compliance with Section 207 of the INDOT Standard

Specifications. The subgrade treatment shall either be Type IB (14" chemical soil modification) or Type IC (12" coarse aggregate No. 53). The subgrade shall be proofrolled in accordance with INDOT specification 203.26 prior to acceptance and placement of additional materials.

B. The street surface shall be of Portland Cement Concrete Pavement (PCCP) or Hot Mix Asphalt (HMA). Portland Cement Concrete materials and construction shall be in compliance with Section 502 of the INDOT Standard Specifications and these regulations. HMA materials and construction shall be in compliance with Section 402 of the INDOT Standard Specifications and these regulations.

3. All utility excavations under the pavement shall be backfilled with B Borrow or flowable mortar and construction shall conform to Section 211 or Section 213 of the INDOT Standard Specifications or compacted thoroughly to at least ninety five percent (95%) of the materials maximum dry density as determined by a Modified Proctor Test. Any other means must be approved by the Town prior to construction.

4. Subsurface drains shall be installed parallel to the street curb at a depth of at least two (2) feet below the top of subgrade. Subsurface drains shall be a minimum of six (6) inch diameter perforated Polyethylene pipe. No direct surface water discharges will be allowed to connect to the subsurface drain. The drains shall be discharged to storm inlet or manhole structures within the roadway or daylighted. A rodent screen shall be installed at the pipe outlet.

5. Stone aggregate base shall be placed under the curb and extended to six (6) inches beyond the outside edge of the curb. This aggregate base shall be continuous and shall match the bottom of pavement.

6. Wet spots or other unusual soil conditions may develop in streets. These areas must be stabilized prior to installing the street pavement utilizing one or more of the following methods as appropriate:

A. Four (4) inch Polyethylene lateral underdrains which extend under the subbase and connect directly to the subsurface drains shall be placed at regular intervals through the wet areas.

B. Four (4) inches of aggregate (#53 stone) shall be added to the street cross section in addition to the minimum base requirement.

C. Soft spots may be over excavated and backfilled with compacted aggregate as approved by the Town Engineer.

D. Geotextile filter fabric or lime stabilization may be used. Use of either of these methods shall not allow a reduction in street cross section.

E. The use of lime stabilization shall be certified by a Professional Engineer licensed in the State of Indiana. Complete design data shall be submitted for consideration. All subgrade compaction testing is to be done by a certified and Town approved soils testing engineering company. The copies of all test reports must be submitted directly to the Town.

7. The actual design for street construction shall be based upon estimated traffic loading with an adequate growth factor included even though the minimum requirements may be exceeded.

8. The cross sections of streets are to be based on a design equation for pavement according to AASHTO standards using a combination of soil support values, total equivalent 18 – kip single axle loads, terminal serviceability index, and regional factors. The pavement depths as shown below are minimum requirements:

Road Classification	Surface	Binder	Base	#53 Aggregate
Local Residential Street or Alley	1 1/2"	2 1/2"	3"	6"
Local Commercial or Industrial Street or Alley	1 1/2"	2 1/2"	8" (2-4" lifts)	6"
Collector or Arterial	Submit Pavement Design Certified by Engineer for Review			

Table 7 - Hot Mix Asphalt Pavement (Flexible Pavement)

Road Classification	Surface	Binder		
Local Residential Street or Alley	6"	6"		
Local Commercial or Industrial Street or Alley	8"	6"		
Collector or Arterial	Submit Pavement Design Certified by Engineer for Review			

 Table 8 - Portland Cement Concrete Pavement (Rigid Pavement)

9. Residential driveway aprons (located within the right of way) shall be portland cement concrete constructed to the thickness of a local street as required in Table 8: Portland Cement Concrete Pavement.

10. Commercial driveways (located within the right of way), alley and auxiliary lanes shall be constructed to the equivalent thickness of the pavements they are added to (as set out in Table 7: Hot Mix Asphalt Pavement and Table 8: Portland Cement Concrete Pavement) or the entrances they are constructed to serve, whichever is greater. Concrete drive aprons are required unless approved by the Town on a case-by-case basis.

11. Existing street pavements to be upgraded to applicable standards, as parts of improvements to be accepted by the Town, will be tested and evaluated by the design professional to determine the condition, quality, and amount of pavement and the condition of the subgrade. Existing pavements may be upgraded by augmenting the existing pavement structure if elevations and grades are compatible and if the resulting pavement meets the structural and geometric requirements of Table 7: Hot Mix Asphalt Pavement and Table 8: Portland Cement Concrete Pavement; or the existing pavement materials, if suitable, may be incorporated into a new pavement structure.

12. White membrane curing compound AASHTO Number 2-M-14B must be properly applied to PCCP to give complete coverage immediately after finishing.

13. Street repairs for utility cuts shall be made in accordance with Detail 16.

1.6 - Control Joints

1. Rigid pavement (PCCP) shall be jointed in order to control cracking. Joints shall be constructed in accordance with the type and dimensions and at the locations required by INDOT Standard Specifications, these regulations, or as directed by the Town.

2. Spacing of weakened plane, transverse, or contraction joints shall not exceed twenty (20) feet. Closer spacing to average fifteen (15) feet is encouraged. A transverse contraction joint may either be formed or sawed dummy groove, ribbon or pre-molded strip type, and shall be one-fourth (1/4) the thickness of the pavement.

3. When a transverse joint is to be formed by sawing, care must be taken to saw the grooves soon after placing the concrete to prevent the formation of cracks due to contraction of the slab.

4. One of the above-named joints shall be placed at every catch basin and manhole in the line of pavement. The location of manholes in the pavement shall determine the exact location of the joints.

5. All joints shall extend throughout the curb to the full width of the pavement.

6. A transverse expansion joint shall be placed at the intersections, tangent points of sharp curves, and wherever else shown on the plans.

7. Whenever the width between forms of the pavement under construction is greater than ten (10) feet, a longitudinal joint shall be constructed to divide the pavement into strips not to exceed ten (10) feet each. This may be accomplished by sawing or by installing a slot or groove as herein described for a contraction joint.

8. For proposed concrete streets, the contractor shall submit a detailed plan of the proposed joints for the Town's review prior to construction.

1.7 - Curbs and Gutters

1. A two (2) foot concrete curb and gutter shall be required for all streets. Mountable (roll) curbs may only be used on residential subdivision streets.

2. Materials, concrete specifications, and construction procedure shall comply with Section 605 of the INDOT Standard Specifications.

3. To prevent undermining by water, curbs shall be promptly and carefully backfilled after application of curing protection, which shall take place immediately after slip-forming or removal of forms. Backfill shall be compacted as soon as practical and maintained at an elevation slightly below the curb. As the backfill settles, it shall be re-graded as often as necessary to keep it slightly below the curbs.

4. Valley gutters which connect gutter drains across street intersections are strictly prohibited.

1.8 - Private Streets

1. Private Streets in new Residential Developments are prohibited. If a private street is to be constructed within a new Commercial or Industrial development, it shall be constructed to meet the Town Street Standards.

2. A private street shall meet or exceed the minimum geometrics, width, depth, and other construction standards and specifications for a similar street classification.

3. The right-of-way width of a private street shall not be less than sixty (60) feet.

4. Street classification standards and specifications greater than those in Items 1 and 2 above may be applied at the discretion of the Town if the street is of length or of design as to actually serve as a higher classified street.

5. The covenants of the final plat shall contain the following statement:

"The streets and public rights-of-way shown hereon are to be privately owned and maintained by the homeowners' association pursuant to the articles of incorporation of said association. The streets and rights-of-way shown hereon may become publicly owned and maintained streets only upon the express written consent by the governmental body having jurisdiction and after having been inspected and verified that they meet all current standards."

1.9 - Sidewalks, Paths and Trails

1. Sidewalks or multi-use paths are required along both sides of all proposed and existing streets and along the development side of all existing Town roads in all proposed subdivisions.

2. A plan for a sidewalk/path system shall be prepared that will provide every lot within a subdivision, or portion thereof, with reasonable access to a sidewalk or path connecting with all of the community facilities, commercial enterprises and other residential subdivisions located near or adjacent to the subdivision, and in a manner that will provide safe and convenient pedestrian circulation throughout the neighborhood or area in which the subdivision is located and which will avoid pedestrian and vehicular traffic conflict.

3. Sidewalk, trail, and path materials and construction requirements shall conform to the INDOT Standard Specifications, Section 604, and shall meet the following requirements:

A. Sidewalks are to be constructed only of Portland Cement Concrete unless otherwise expressly approved by the Town.

- Have a minimum thickness of four (4) inches.
- Have a minimum thickness of six (6) inches, or the thickness of the driveway being crossed whichever is greater, when built in an area of a proposed vehicular crossing.
- Have consistency, slump, and mixture specifications as established by the INDOT Standard Specifications.
- Be jointed every four (4) feet, with expansion joints every forty (40) feet to prevent cracking and heaving.

• Joints shall be made with a manual grooving tool with a $\frac{1}{4}$ " radius and at least $\frac{1}{2}$ " depth. No Saw Cutting is permitted.

B. Paths and trails are to be constructed of HMA per the minimum cross section as shown in the exhibits attached to these standards. The trail thickness shall be increased to match the drive thickness in an area of a proposed vehicular crossing.

C. Have a cross slope of no steeper than one-quarter (1/4) inch per foot (2%), laterally, toward the street. Any longitudinal slope greater than 1:20 shall be considered a ramp and must comply with Americans with Disabilities Act requirements.

D. Be located at least one (1) foot inside the right-of-way lines.

E. Allow for a planting strip at least four (4) feet in width between the curb (or pavement if there is no curb) and sidewalk.

F. Have curb ramps installed at all intersections and at all other locations where required for compliance with the Americans with Disabilities Act.

G. Have a minimum width as follows:

Location	Minimum Width (Feet)		
Single-family or Two-family Developments	5		
Multi-family Developments	5		
Commercial or Industrial Developments	5*		
Sidewalks Adjacent to Curb	6		
HMA Paths or Trails	10		
* Minimum, or as approved by the Town			

Table 9 - Minimum Sidewalk, Path and Trail Widths

4. In order to facilitate pedestrian access from the street to schools, parks, playgrounds, or other nearby streets, the Town may require a perpetual unobstructed access easement at least twenty (20) feet in width. This easement shall be indicated on both the preliminary and final plats. The construction details shall be shown on the construction plans and must be specifically approved by the Town.

5. When a sidewalk is removed for placement of a utility, the minimum repair length shall be two sections long (8 feet). All areas excavated under the sidewalk shall be backfilled with compacted granular material.

6. A 6" storm lateral stub (for each lot in the affected area) shall be placed under any new sidewalk sections that are installed. If no storm pipe connection point is present in the immediate area, the pipe shall be capped and marked for future connection. See Detail 10 for storm lateral requirements. Tracer wire to be included.

1.10 - Street Identification Signs and Regulatory Signs

1. The developer shall install street identification signs at each street intersection within and on the perimeter of the subdivision. The sign shall be located at the northeast corner of said intersection wherever possible. The developer shall also install all appropriate regulatory signs as required by the Town.

2. Street identification signs and regulatory signs shall comply with the current issue of Indiana Manual of Uniform Traffic Control Devices (IMUTCD) regarding size, material, reflectivity and location.

3. Street identification signs for public roads shall be black letters on a white background. Street identification signs for private roads shall be white letters on a blue background.

4. The size of letters and sign dimensions shall comply with the Street Department requirements.

5. Regulatory signs shall be placed in accordance with the current issue of the Indiana Manual of Uniform Traffic Control Devices (IMUTCD) and as directed by the Town.

6. Sign locations must be shown in the development plans and construction drawings. Sign requirements will be coordinated with the Town prior to completion of the construction plans. A separate sheet showing only traffic controls, including signs and pavement markings, shall be included in the construction drawings. This sheet may be submitted for initial review as soon as the primary plat is approved. One additional copy of this sheet shall be submitted to the Madison County Highway Department for transmittal to the County Sheriff's Department and to the Town Police Department for their review. The developer will be responsible for taking any official action required to authorize control sign installations.

7. The developer shall furnish the signs prior to the release of the performance bond.

1.11 - Roadside Ditches

1. Roadside ditches shall not be permitted on new streets. Existing roads with no curbs that are improved shall be evaluated for roadside ditches on a case-by-case basis.

2. Roadside ditches, where permitted, shall be constructed to the appropriate standards included in the INDOT Design Manual.

1.12 - Storm Drainage and Culverts

1. Within subdivision street rights-of-way, surface water, sump pump discharge, and geothermal heat pump water discharge shall be carried away by enclosed storm drainage systems. Storm drainage pipes or systems, subsurface drains or sump pump outlets shall not discharge into roadside ditches or over curbs. All pipes, culverts, inlets, cleanouts, and manholes shall be constructed in accordance with plans and specifications approved by all governmental agencies having jurisdiction over the project drainage.

2. Systems shall be designed to prevent flooding of roads by a storm in accordance with the following criteria:

A. Local Roads - Maintain one (1) lane at ten (10) foot minimum clear width for a ten (10)

year storm. For greater storm frequencies, no greater than six (6) inch depth of flooding shall be allowed in the road.

B. Collectors and Arterials – meet INDOT spread criteria.

3. Culverts under local streets and storm sewers shall be designed for a ten (10) year storm in accordance with the requirements of the Town and installed to the approved elevations shown on approved construction plans. Culverts for collector or arterial streets shall be designed such that the roadway shall not be overtopped by a twenty-five (25) year storm event. Minimum diameter for storm sewers and culverts shall be twelve (12) inches. End sections made of the same material as the pipe shall be used for culverts. All storm sewer pipes shall be designed to ensure a minimum flow velocity of three (3) feet per second.

4. Roadway storm systems shall also comply with the requirements of the Town's Storm Drainage Standards.

5. Six (6) inch lateral connections shall be provided for each lot, extended to the right-of-way line and capped per Detail 10. The ends shall be marked by extending a board or other suitable material to the surface and dimensioned on the as-built plans.

6. In locations where no storm sewer is included on a street segment, a parallel six (6) inch drain shall be provided above the curb underdrain for connection of sump pump laterals. The parallel drain shall discharge to the closest available storm structure. A rodent screen shall be provided at the outlet.

1.13 - Bridges

1. Plans, specifications and design calculations for bridges or culverts having clear or combined spans greater than twenty (20) feet shall be reviewed separately from those of other improvements.

2. All bridge structures shall be designed and constructed in accordance with AASHTO Standard Specifications for Highway Bridges, Current Edition. All structures shall be designed to accommodate a one hundred (100) year flood with freeboard as determined by the County Engineer and other governing agencies.

3. All bridges shall be designed to incorporate a crash-tested barrier rail per Indiana Department of Transportation (INDOT) specifications and adequate lengths of a crash-tested approach rail. The length of approach rail shall meet current INDOT requirements or better.

4. Bridges and large culverts shall be designed and constructed with materials, features and finishes approved by the County Engineer and other applicable agencies, prior to the beginning of construction, in order to minimize governing body's maintenance requirements and liability exposure. Aesthetic features commensurate with the proposed development are encouraged and may be required by the Town. An Engineer registered in the State of Indiana shall certify all bridge plans.

5. The County Engineer and other Governing Agencies must be provided with copies of current letters of approval for waterway openings and structure elevations from all other agencies having jurisdiction over the stream crossings. These may include, but are not limited to, the County Surveyor, the Indiana Department of Natural Resources, and the Army Corps of Engineers.

1.14 - Monuments

1. Monuments shall be installed by the developer and certified by a Professional Land Surveyor in conformance with applicable ordinances and statues.

2. Monuments and recoverable benchmarks shall be indicated and described on the construction plans.

1.15 - Construction Within Road Right-of-Way

1. Whenever any construction activities occur within a public road right-of-way, traffic control devices shall be placed in accordance with INDOT Standards and the Manual on Uniform Traffic Control Devices, Part VI. The devices shall be installed prior to any construction and shall be maintained during the entire time that the special conditions exist. They shall be removed immediately thereafter.

2. Any excavations within the right of way require permit from the Town. All street and drive apron repairs shall be made per the attached Detail No. 16. Sidewalk repairs shall be made per the requirements of Section 1.9 of these standards

3. If a street tree is removed as part of construction work, it shall be replaced with a new tree of a minimum two (2) inch DBH in size. The contractor shall consult the Town for a list of acceptable tree species to be used. The tree shall be planted and maintained per the recommendations in the Pendleton Tree Care Manual for a full growing season from the time of planting.



















LOCAL STREET MINIMUM PAVEMENT AND UNDERDRAIN DETAIL: RESIDENTIAL DEVELOPMENTS

NOT TO SCALE

NOTES:

- 1. DEVELOPER'S ENGINEER SHALL VERIFY PAVEMENT DESIGN BASED ON SOILS INVESTIGATION IN THE AREA OF CONSTRUCTION.
- 2. FOR STREETS WITH HIGHER CLASSIFICATIONS THAN LOCAL, DEVELOPER'S ENGINEER SHALL SUBMIT PROPOSED PAVEMENT DESIGN FOR TOWN'S APPROVAL.
- 3. UNDERDRAINS TO BE CONNECTED TO STORM INLET/MANHOLE OR DAYLIGHTED. A RODENT SCREEN SHALL BE PROVIDED AT THE OUTLET POINT.
- 4. WHERE NO STORM SEWER IS PRESENT ALONG STREET, A 6" ADS N-12 DUAL WALL PIPE SHALL BE INSTALLED ABOVE UNDERDRAIN FOR STORM LATERAL CONNECTIONS. CONNECT TO CLOSEST STORM STRUCTURE PER NOTE 3.

NO.	REVISIONS	DATE	BY			DATE: MARCH, 2021
F				STREET DETAILS		SCALE: NTS
					i TENULEIUN-i	FIGURE NO.
SC/	LE CHECK:	TED		TOWN OF PENDLETON, INDIANA		9









NOTE: STREET NAME SIGNS TO BE LOCATED AT ALL STREETS.

STREET NAME SIGN

STOP SIGN

TRAFFIC CONTROL AND SIGNAGE NOTES:

- 1. THE CONTRACTOR/DEVELOPER SHALL PROVIDE AND INSTALL ALL STREET NAME AND ROAD SIGNS PER CURRENT INDOT STANDARDS AND TOWN OF PENDLETON DETAILS. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE CURRENT INDIANA MUTCD.
- 2. MATERIALS SHALL BE FREE OF BURRS, PITS AND BLEMISHES, AND SHALL PRESENT A SMOOTH CLEAN SURFACE.
- 3. SIGN BLANKS SHALL MEET INDOT SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.
- 4. ALL STREET SIGNS FOR PUBLIC ROADS SHALL HAVE WHITE BACKGROUND WITH BLACK LETTERS, NUMBERS AND BORDERS ON EXTRUDED ALUMINUM BLADES.Z E
- 5. THE STREET NAME LETTERS TO BE ENGINEER GRADE: 9" BLADES WITH 6" NUMBERS, 6" CAPITAL LETTERS AND 4.5" LOWER-CASE LETTERS ON ALL STREETS.
- 6. STOP SIGNS SHALL BE MIN. 30" HIGH INTENSITY.
- 7. SIGN BOLTS TO BE PER INDOT SPECIFICATIONS. BOLTS SHALL BE THEFT PROOF.
- 8. SPEED LIMIT SIGNS SHALL BE 24"X30" HIGH INTENSITY OR ENGINEER GRADE.
- 9. SIGN POST SHALL BE GALVANIZED U-CHANNEL (3LBS/FT), DRIVEN INTO THE GROUND. NO EXCAVATION SHALL BE DONE TO PLACE SIGNS.
- 10. LARGER SIGNS MAY BE NEEDED FOR ROAD CLASSIFICATIONS GREATER THAN LOCAL PER INDIANA MUTCD REQUIREMENTS.

	REVISIONS					DATE:
NC	. DESCRIPTION	DATE	BY	STREET SIGNAGE	TOWN OF	MARCH, 2021
				DETAILS	!₽FNNLFTNN-!	SCALE:
						NTS
						FIGURE NO.
						4.0
				TOWN OF PENDI ETON, INDIANA		13
SC	ALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1/2" WHEN PLOTT	ED				







NOTES:

- 1. EXISTING PAVEMENT IS TO BE SAW CUT FOR A CLEAN BREAK.
- 2. TRENCH SPOIL IS TO BE REMOVED FROM THE WORK SITE.
- 3. NEW SURFACE TO BE SLOPED AT SAME RATE AS THE EXISTING SURFACE.
- 4. GRANULAR FILL SHALL BE PROVIDED WITHIN 5' OF PAVED SURFACE

NO. DESCRIPTION DAT	ATE BY	TYPICAL TRENCH REPAIR DETAIL TOWN OF PENDLETON, INDIANA	PENDLETON	DATE: MARCH, 2021 SCALE: NTS
SCALE CHECK				FIGURE NO.