

**TOWNSHIP OF EAST WHITELAND
CHESTER COUNTY, PENNSYLVANIA**

ORDINANCE NO. _____

**AN ORDINANCE AMENDING THE EAST WHITELAND TOWNSHIP SUBDIVISION
AND LAND DEVELOPMENT ORDINANCE, CHAPTER 175, TO PROVIDE FOR
COMPREHENSIVE CHANGES TO STREETS AND INTERSECTION REQUIREMENTS,
WIDTHS, DESIGN, AND CONSTRUCTION STANDARDS, AND TO PROVIDE FOR
NEW SIDEWALK, CROSSWALK, PATH, TRAIL, BICYCLE LANE, AND SHOULDER
REQUIREMENTS, DESIGN AND CONSTRUCTION STANDARDS,
AND RELATED DEFINITIONS.**

WHEREAS, the Board of Supervisors have met the procedural requirements of 53 P.S. § 10101, *et seq.*, of the Pennsylvania Municipalities Planning Code, and of the Pennsylvania Second Class Township Code, 53 P.S. §65101, *et seq.*, for the adoption of the proposed Ordinance, including advertising and holding a public hearing;

WHEREAS, the Board of Supervisors desires to amend the Township Code to provide for comprehensive changes to the requirements and standards regulating streets, sidewalks, crosswalks, paths, trails, bicycle lanes, intersections, and shoulders throughout the Township.

WHEREAS, the Second Class Township Code authorizes the Board of Supervisors to make, amend, and adopt Ordinances that are consistent with the Constitution and the laws of the Commonwealth that it deems necessary for the proper management and control of the Township and the health, safety, and welfare of its citizens;

WHEREAS, the Board of Supervisors has determined that amending the Township Code pursuant to the terms of this ordinance is necessary for the proper management and control of the Township and supports the health, safety, and welfare of its citizens;

NOW, THEREFORE, BE IT ORDAINED AND ENACTED by the Board of Supervisors for East Whiteland Township, and it is hereby ordained and enacted, by the authority of the same, to wit:

SECTION 1. CODE AMENDMENT.

A. CHAPTER 175, ARTICLE II, Terminology, §175-6, Definitions, is hereby amended as follows:

1. The following definitions are hereby added to §175-6:

Bicycle Lane. A portion of the street that has been designated by striping, signage, and pavement markings for the preferential or exclusive public use by bicyclists.

Bicycle Infrastructure. Any infrastructure that facilitates bicycling, including striped shoulders, shared lanes, bicycle lanes, and multi-use trails. On-road bicycle infrastructure

includes striped shoulders, shared lanes, and bicycle lanes, which are located between the edge of pavement or curbs along a roadway.

Bus Stop Loading Pad. A level loading area where the front, side, or rear door of a bus open to receive and discharge passengers.

Curb. Stone or concrete edging along a street for the purposes of controlling drainage and providing protection and separation between abutting land and vehicular traffic.

Multi-use Trail. A designated corridor designed for use by both bicyclists and pedestrians of all abilities for transportation and recreation purposes. Multi-use trails located along or adjacent to a street are physically separated from motor vehicle traffic by a verge area, open space, fencing, or other barrier.

On-Street Parking Lane. A paved area adjacent to the travel lane or shoulder to accommodate parked vehicles.

Pedestrian Infrastructure. Any infrastructure that facilitates movement by pedestrians of all abilities, including striped shoulders, sidewalks, paths, multi-use trails, and crosswalks.

Path. A designated corridor designed for use by pedestrians of all abilities. Paths located along or adjacent to a street are physically separated from motor vehicle traffic by a verge area or open space.

Residential Street. An existing or proposed street, whether public or private, which is intended to service residential properties.

Shared Lane. Signage and pavement markings on a street used to indicate shared use of a travel lane by bicycles and other vehicles. Pavement markings may include a “sharrow,” which is a bicycle symbol with two chevron arrows denoting the direction of travel.

Shoulder. The portion of the roadway adjacent to a travel lane which is not intended for vehicular movement or parked vehicles.

Sidewalk. Paved right-of-way, adjacent to but separated from a street or driveway that is accessible and designed for use by all pedestrians.

Single Access Street. A cul-de-sac street, loop street, or internal street network which has one point of access with no other outlet for use by regular traffic.

Striped Shoulder with Buffer. A portion of the overall street adjacent to the travel lane that has been striped to provide a clear area for use by bicyclists and/or pedestrians, with an identified striped buffer area separating the vehicular travel lane and the shoulder.

Travel Lane. The portion of a roadway for movement of vehicles in one direction, not including shoulders, on-street parking lane, or bicycle lanes.

Verge (Verge Area). A strip of grass, vegetation, or pavers, sometimes containing trees, located between a street and a sidewalk, path, or multi-use trail.

2. The following definitions are hereby amended:

Crosswalk. An improved right-of-way for pedestrian travel across a street, often connecting sidewalks, paths, or multi-use trails.

B. CHAPTER 175, ARTICLE VI, Development and Design Standards, is hereby amended as follows:

1. Section 175-29 through Section 175-34 are hereby amended to provide as follows:

§ 175-29 Single access streets (including cul-de-sac and loop streets).

- A. Single access streets shall not be approved wherever a through street connecting with other surrounding streets is feasible, unless such a connection is impractical or undesirable per the considerations outlined in § 175-29.F.
- B. Measurement of length. The length of a single access street shall be measured along the center line of the street beginning at the center line of the intersecting street and ending at the center of the cul-de-sac bulb or the point at which a loop street connects back to itself.
- C. A single access street, permanently designed as such, shall not exceed one thousand (1,000') feet in length, unless an emergency access is provided. Any required emergency access or fire apparatus access road shall be constructed in accordance with Chapter 90 of the Township Code (Fire Prevention).
- D. An emergency access may also be required for a single access street that will not exceed one thousand (1,000') feet in length, whether permanently designed as such or as part of a phased development, if so required by International Fire Code. Any required emergency access or fire apparatus access road shall be constructed in accordance with Chapter 90 of the Township Code (Fire Prevention).
- E. Radius. Where permitted, a cul-de-sac shall be provided at the closed end with a paved turnaround having a minimum radius to the outer pavement edge or curb line of fifty (50') feet with a minimum right-of-way radius of sixty (60') feet.
- F. Design and connection. The Board shall consider the existing or proposed uses of adjoining lands, topography, drainage and other relevant site characteristics affecting the design of a single access street or through street. Unless a through street or future extension of a single access street is impractical or undesirable based on the foregoing considerations, or is precluded by the Board, which they shall have the discretion to do, the right-of-way of a single access street shall extend to the property line of the development tract and a right-of-way for the same width as the street shall be carried to the property line in such a way as to permit

future extension of the street into the adjoining tract. The future street extension shall be clearly identified with signage.

- G. Drainage. Drainage of a single access street shall be directed towards the open end of the cul-de-sac or loop end of the street, subject to the other design criteria specified in this Chapter. All stormwater management and street drainage shall be in accordance with Chapter 170 of the Township Code (Stormwater Management).
- H. Design. The design of single access streets shall be designed to Local or Residential Street standards, except that the centerline grade shall not exceed 8% and the grade of the diameter of the turnaround area shall not exceed 4%.
- I. Temporary cul-de-sac. Where streets are temporarily terminated at a property line or phase line with a temporary vehicular turnaround, thus forming a cul-de-sac until such time as the street is extended, all regulations pertaining to single access streets shall apply, except that the temporary cartway turnaround need not be curbed unless so directed by the Township Engineer. At such a time that the temporary cul-de-sac has been extended and is no longer needed for the purposes of a turnaround, the additional pavement from its radius shall be removed and the ground restored to a vegetation condition.

§ 175-30. General street requirements.

- A. Streets in floodplains. Streets within a subdivision or land development located entirely or partially within a designated Flood Hazard District shall be prohibited unless the proposed street is intended to traverse the floodplain area as part of an approved stream crossing by the Pennsylvania Department of Environmental Protection or an appropriate agency.
- B. Obstructions. No fences, hedges, freestanding walls, plantings (except approved street trees), or other obstructions shall be located or remain within the right-of-way of a street.
- C. Curbing is required for all new streets, regardless of roadway functional classification.
- D. Streetlights. Poles and standards for streetlights with appropriate shielding and underground "parkway" cable service lines shall be furnished and installed by the developer, spaced not more than five hundred (500') feet apart and each providing with 0.2 footcandles of illumination. The Township Engineer shall direct the type and location of streetlights to be installed within the right-of-way areas.
- E. Street trees. Deciduous street trees shall be planted by the developer within general alignment along the edge of the roadway, staggered along both sides, and spaced according to the type of tree. Street tree planting shall be required along all new or existing streets. Such trees must be properly balled and burlapped in accordance with accepted horticultural practice. This requirement is in addition to the landscaping requirements specified in § 175-41 and Chapter 200 of the Township Code (Zoning, Article XI regarding Buffers) for the zoning district in which the property is located.

1. Size. Tree caliper at time of planting shall be no less than two and a half (2.5") inches (one foot above ground level) in both residential and nonresidential developments.
2. Approved street trees. The following tree varieties are approved for use within street rights-of-way:
 - a. *Celtis occidentalis* (Hackberry).
 - b. *Diospyros virginiana* (Common Persimmon).
 - c. *Quercus imbricaria* (Laurel or Shingle Oak).
 - d. *Quercus phellos* (Willow Oak).
 - e. *Quercus rubra* (Red Oak).
 - f. *Tilia cordata* (Liftieleaf Linden).
 - g. *Ulmus parviflora* (Chinese Elm).
 - h. *Zelkova serrata* (Japanese Zelkova).
 - i. *Acer Rubrum* (Red Maple).
 - j. *Gleditsia Tricanthos Inermis* Shademaster (Shademaster Locust).
 - k. *Prunus Yedoensis* (Yoshino Cherry).
 - l. *Ginkgo biloba* (Ginko - Male only).
 - m. *Quercus acutissima* (Sawtooth Oak).
 - n. *Acer saccharum* (Sugar Maple).

F. Screening. An effective buffer screen in compliance with § 175-41 and Chapter 200 of the Township Code (Zoning, Article XI regarding Buffers) shall be required whenever a development abuts a different zoning use or zoning district. For example, where a residential development abuts a commercial or industrial use or district, or where a commercial or industrial development abuts a residential use or district.

G. Fire hydrants. Where a public water system is reasonably accessible or will serve a proposed development, the developer shall install fire hydrants in accordance with Chapter 90 of the Township Code (Fire Prevention). Unless otherwise dictated therein, fire hydrants shall be located within a six hundred (600') foot radius of any house or building within the subdivision or land development. Fire hydrants shall each provide the number of gallons of water per minute at the number of pounds per square inch pressure sufficient, in both cases, to meet the minimum fire flow requirements or standards of the Chapter 90 of the Township Code (Fire Prevention).

H. Street names and signs. Street name signs shall be installed at the intersection of each street with another street, whether public or private, and shall at a minimum comply with the following specifications:

1. The sign shall be made of extruded aluminum, white in color, with four (4") inch reflectorized black letters, shall measure a minimum of twenty four (24") inches in length, and shall be equipped with vandal-proof mounting hardware.
2. The post on which the sign shall be mounted shall be galvanized steel, measuring two and a half (2.5') inches in outside diameter, and shall be a minimum of ten (10') feet in length.

3. The sign shall be installed two (2') feet from the edge of the pavement or curb, measured from the edge of pavement or face of the curb to the nearest edge of the sign.
 4. The sign shall be connected to the top of the post, and shall have an installed minimum height of seven (7') feet measured from ground line to the bottom of the sign.
 5. Street names shall be approved by the Board and duplication shall be avoided unless as a continuation of an existing street or projection of same. With respect to a cul-de-sac, the developer shall install at each street intersection nearest the bulb of the cul-de-sac a "dead end" or "no outlet" sign, unless a future extension is envisioned in accordance with § 175-29.F
- I. Street dedication. The Board may require the dedication of new streets within any subdivision or land development as a condition to the approval of a subdivision or land development plan, however, the Board is not required to accept new subdivision or land development roadways which are offered for dedication.
- J. Private Streets. All private streets shall meet the appropriate East Whiteland Township public street design and construction standards based on street type as set forth in the applicable ordinances.
- K. Addressing. All street names and street numbering shall be reviewed and approved by the Township in coordination with Chester County Emergency Services. Proposed street names shall be labeled on the plans and all street numbering shall be correlated to lot numbers in a table shown on the plans. All addressing information shall be contained on the final plan prior to recording.

§ 175-31. Street widths.

- A. Minimum widths. The minimum widths of street rights-of-way, travel lanes, shoulders, and parking lanes shall not be less than those widths of an existing street of which a new street is to be a continuation or the following designated minimum widths, whichever is greater. Where a development is proposed along an existing roadway, the applicant shall be required to improve the existing street to the minimum standards outlined in this Chapter.
1. Street Right-of-Way. Minimum street right-of-way shall be based on the roadway functional classification as designated in the Township's Roadway Functional Classification Map for existing public and private streets, or as designated by the Township Engineer for new streets not included therein, according to the following:

Street Type	Minimum Right-of-Way Width (Feet)
Major Arterial	120
Minor Arterial	90
Major or Minor Collector	70
Distributor	60
Local or Residential Street (with on-street parking on both sides)	60
Local or Residential Street (without on-street parking)	50

2. Travel lanes. The minimum width of each travel lane shall be based on the roadway functional classification as designated in the Township’s Roadway Functional Classification Map for existing streets, or as designated by the Township Engineer for new streets not included therein. Travel lane widths are dependent on the design of curb and/or on-street parking adjacent to the travel lane, according to the following:

Street Type	Minimum Travel Lane Width (Feet)		
	Curb without On-Street Parking	Curb with On-Street Parking	No Curb
Major or Minor Arterial Major or Minor Collector Distributor	14	11	11
Local	14	11	10
Residential Streets <i>With Average Daily Traffic (ADT) between 1,000 and 2,000 vehicles/day</i>	13	11	11
Residential Streets <i>With Average Daily Traffic (ADT) between 400 and 1,000 vehicles/day</i>	13	10	10
Residential Streets <i>With Average Daily Traffic (ADT) < 400 vehicles/day</i>	13	9	9

3. Shoulders, on-street parking lane, on-road bicycle infrastructure. The minimum width of a shoulder or parking lane shall be based on the roadway functional classification as designated in the Township’s Roadway Functional Classification Map for existing streets, or as designated by the Township Engineer for new streets not included therein. Widths are

dependent on the design of on-street parking and on-road bicycle infrastructure adjacent to the travel lane, according to the following:

- a. For existing or proposed streets without a curb, either a shoulder, on-street parking lane, or on-road bicycle infrastructure shall be provided adjacent to the outside travel lanes.
- b. Where on-street parking lanes are not provided, parking restriction signs shall be required and such restrictions shall be noted on the plan.
- c. For existing or proposed streets with a curb, a shoulder is not necessary unless needed to accommodate stormwater drainage or if otherwise required by the Township Engineer for a demonstrable purpose. See § 175-41.2 of this Chapter for requirements and provisions related to on-road bicycle infrastructure. The width of a shoulder, on-street parking lane, or on-road bicycle infrastructure shall be designed according to the following:

Street Type	Minimum Shoulder, On-Street Parking Lane, On-Road Bicycle Infrastructure Width (Feet)		
	Shoulder	On-street Parking	On-Road Bicycle Infrastructure
Major Arterial	8	Not Permitted	See § 175-41.2
Minor Arterial Major or Minor Collector	4	8	
Distributor Local <i>With Average Daily Traffic (ADT) > 2,000 vehicles/day</i>	3	8	
Distributor Local Residential Streets <i>With Average Daily Traffic (ADT) < 2,000 vehicles/day</i>	2	8	

- B. Additional widths. Additional width for street rights-of-way, travel lanes, shoulders, and on-street parking lanes widths shall be required if determined necessary by the Township Engineer due to any of the following factors:
1. To promote public safety and convenience or to avoid an otherwise hazardous condition.
 2. To meet PennDOT requirements for state-owned roadways.
 3. To provide on-street parking or on-road bicycle infrastructure.

4. To provide off-road bicycle infrastructure, pedestrian infrastructure, or bus stop infrastructure.
 5. To provide for acceptable turning movements and vehicular circulation.
 6. To accommodate stormwater drainage facilities.
 7. To accommodate special topographic conditions or circumstances which may result in cut and fill slopes extending beyond the standard right-of-way so as to assure safety and accessibility for maintenance, snow removal and similar needs.
- C. Street construction. Construction of all streets and accessory installations thereto, including but not limited to curbs, shoulders, bicycle infrastructure, pedestrian infrastructure, and storm drainage structures, shall conform to the minimum specifications of this Chapter.
- D. Exception to minimum widths. Short extensions (not exceeding 100 feet) of existing streets with lesser rights-of-way, travel lanes, shoulders, and/or parking lane widths than prescribed by Subsection A may be permitted at the sole discretion of the Board; provided, however, that no section of the new right-of-way shall be less than fifty (50') feet in width.
- E. Improving existing streets. Where a subdivision or land development abuts or contains an existing street with a right-of-way, travel lanes, shoulders, parking lanes, and/or alignment which are insufficient relative to the anticipated traffic demands of the development and/or does not otherwise comply with the provisions of this Chapter, the Board shall require that the street be modified to comply with the applicable Sections of the East Whiteland Township Ordinances.

§ 175-32. Street design.

- A. Sight distance. The minimum sight distance, measured along an unobstructed line of sight within the paved area along all sections of the street surface, with the height of the driver and the object at three and a half (3.5') feet above the pavement surface, shall be provided in accordance with the American Association of State Highway and Transportation Officials standards and not less than two hundred (200') feet for Distributor, Local, and Residential Streets.
- B. Horizontal curves. Whenever street centerlines are deflected in excess of five degrees for Local streets, and one degree for all other streets, connection shall be made by horizontal curves. Horizontal curves shall have a minimum centerline radius and superelevation in accordance the American Association of State Highway and Transportation Officials standards and not less than one hundred fifty (150') feet for Local streets with a posted speed limit of 25 miles per hour.
- C. Tangents. Tangents with a maximum difference in bearing of five (5) degrees may intersect at the center line of intersections with cross streets; otherwise such intersections shall not be permitted. Reverse curves on local streets, and horizontal curves on all other streets shall be separated by tangents of not less than one hundred (100') feet. Superelevation shall be

provided as required by the American Association of State Highway and Transportation Officials design criteria. Sweeping curves of comparatively long radius shall be required rather than tangents connecting curves leading in the same direction.

- D. Preclusion. A combination of minimum radius horizontal curve and maximum grade is not permitted.
- E. Vertical curves. Vertical curves shall be used in all changes in gradient of more than one (1%) percent, and the length at such changes shall be twenty five (25') feet for each one (1%) percent change in grade or not less than that required for a 25 mile per hour design speed for all Local and Residential Streets. All other streets shall be designed and constructed in accordance with the American Association of State Highway and Transportation Officials standards.
- F. Street grades.

- 1. Center-line grades shall not be not less than one (1%) percent, and shall not exceed the following:

Street Type	Maximum Grade of Center-Line
Major or Minor Arterial	6%
Major Collector	8%
Minor Collector	9%
Distributor Local Residential Streets	10%

- 2. Where the grade of any proposed or modified street at the approach to an existing or newly created intersection exceeds 2%, a leveling area shall be provided having a grade not greater than 2% for a distance of sixty (60') feet. The length of the required leveling area shall be measured from the nearest edge of pavement or right-of-way line of the intersecting street, whichever is greater.
- 3. The grades between the curblines or edge of pavement and the street right-of-way line shall not exceed 2%.
- 4. Grades beyond the right-of-way line where cut or fill is necessary shall be at a maximum of three to one.
- 5. All streets shall be graded subject to the criteria of this Chapter. All grades shall be shown on the profile and cross-section plan submitted and approved with the final plan.

G. Roadway Drainage. All roadway stormwater facilities shall be designed in accordance with PennDOT Publication 13M “Design Manual Part 2 – Highway Design” and PennDOT

Publication 584 “Drainage Manual” and shall be consistent with Chapter 170 (Stormwater Management). This includes inlet spacing, pipe capacity, and all other roadway and roadside drainage requirements.

§ 175-33. Street intersections.

- A. Right angles. Streets shall be laid out to intersect as nearly as possible at right angles (90°). No street intersection shall be created with an angle of less than 75° or more than 105°. Right-of-way lines shall intersect at 90°, but in no case less than 75°, and shall be rounded by a tangential arc having a minimum radius of thirty (30') feet.
- B. Multiple intersections prohibited. Multiple intersections involving the junction of more than two streets shall be prohibited. No waiver for this provision shall be granted unless acceptable proof is provided by the developer that natural land features, such as steep slopes, mature healthy trees, wetlands and similar features will be preserved and public safety will not be affected by allowance of the waiver.
- C. Intersections. Intersections of streets, whether public or private, with major arterial and minor arterial traffic streets shall be located not less than one thousand (1,000') feet apart, measured from center line to center line.
- D. Opposing streets. Streets entering from the opposite sides of another street shall either be directly across from each other or offset by at least one hundred fifty (150') feet for major collector, minor collector, distributor, and local streets and three hundred (300') feet on major arterial and minor arterial streets, measured from center line to center line.
- E. Corner radius. Minimum corner radii at street intersections shall be thirty (30') feet for intersections involving distributor and local streets, forty (40') feet for all other intersections, or such greater radius as is suitable to the specific intersection as usually determined by truck turning movements, and as determined by the Township Engineer. Public street right-of-way lines shall be parallel to (concentric with) corner arcs at intersections. If the corner is curbed, then all curbs and ramps shall comply with minimum ADA requirements.
- F. Grade. The intersection area and corresponding approach areas shall be designed with a level grade not to exceed 2% in any direction. Intersection approach areas shall be designed consistent with § 175-32.F(2).
- G. Street name signs. Street name signs shall be installed at all street intersections prior to the issuance of the first use and occupancy permit by the designated Township Building Official. The design and placement of such signs and the names of the streets shall be subject to the provisions of § 175-30.H.
- H. Sight distance at street and driveway intersections.
 - 1. On any lot, no wall, fence or other obstruction shall be erected, allowed or maintained; and no hedge, tree, shrub or other growth shall be planted or exist which dangerously obscures the view of approaching traffic along streets, driveways, or at intersections.

2. On a corner lot, nothing shall be erected, placed, or allowed to grow which obscures the view within a clear sight triangle defined by the following:
 - a. Above the height of two and a half (2.5) feet and below the height of twelve (12') feet measured from the center line grades of the intersecting streets.
 - b. Within the area bounded by the center line of intersecting streets and a line joining points on these center lines seventy five (75) feet from an intersection of center lines of such streets.
3. All driveway and street intersections shall be designed and maintained in such a manner that a clear view is obtained for vehicles entering and exiting the intersection, according to the following:
 - a. The measurement and calculation of required sight distances shall be in accordance with Pennsylvania Code Title 67, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads.
 - b. The PennDOT desirable sight distance requirements are typically based on the posted speed limit. However, where the speed of traffic may create a situation with unsafe sight distance, it may be necessary to verify the 85th percentile speed of traffic at the recommendation of the Township Engineer. If it is impossible to achieve the desirable sight distances, then the minimum safe stopping sight distance values may be used based on the 85th percentile speed of traffic, if necessary, and subject to review by the Township Engineer.
 - c. If recommended by the Township Engineer, a sight distance profile plan shall be prepared by a licensed professional engineer in Pennsylvania to show at least the following for verification of adequate sight distance and all associated improvements: existing roadway profile (spot elevations at fifty (50') foot increments and twenty-five (25') foot increments along vertical curves), proposed roadway profile, all sight line profiles (six inches or more of sight line clearance above the finished grade), proposed site grading and temporary grading easements.

§ 175-34. Street construction.

All materials entering into the construction of public and private streets and/or roads as hereinbefore defined and the method of construction and installation shall be in strict accordance with the requirements of PennDOT Publication 408 "Specifications", and PennDOT Bulletin 15 "Approved Construction Materials".

- A. Drainage. All drainage and utility structures, including, but not limited to, manholes, inlets, pipes, water and electric lines, shall be installed prior to the final grading and paving of the cartway.

- B. Grading. Grading shall be completed to the full width of the right-of-way. The grading of all banks beyond the road right-of-way shall be sloped not less than 1 1/2 horizontal to one vertical with top of slopes rounded.
- C. Subgrade. The subgrade within the limits of the proposed cartway shall be shaped to conform to the line, grade and cross-section of the proposed cartway and shall be thoroughly compacted as per PennDOT Publication 408. Before placing the base course, the subgrade shall be dressed with one (1") inch of fine aggregate.
- D. Paving. All streets, public or private, shall be paved in accordance with this Section, or as otherwise specified by the Township regulations, and when all required improvements have been properly installed.
1. Subgrade. Whenever possible, the subgrade shall be in cut or undisturbed subsoil. In no case shall the subgrade consist of filled or undisturbed topsoil or frozen soils. All deleterious material such as tree roots, leaves, branches, trash, stones exceeding six (6") inches in diameter and miscellaneous construction debris shall be removed from the subgrade. Compaction shall be accomplished by a sheep's-foot, smooth-wheel or rubber-tired roller, as directed by the Township Engineer. The subgrade shall be compacted tight and dry and shall not be soft and spongy when check rolled. Compaction of the subgrade shall extend the full width of the cartway, including the width to be occupied by shoulders where applicable. The required road crown shall be built into the shaped subgrade. No unsuitable material is to be used in any portion of the roadway construction. Remove any subgrade that cannot be properly compacted and that is unsuitable material. Undercutting and/or subgrade stabilization may be required. The subgrade must be approved by a Township representative prior to placement of subbase. If directed by the Township Engineer, soil testing or review by a qualified third party geotechnical professional engineer with experience in road subgrade remediation shall be required.
 2. Base course. The base course shall be constructed of:
 - a. Coarse material: The coarse material shall be No. 2A, or better stone, compacted to a depth of no less than six (6") inches, meeting the requirements of PennDOT Publication 408, Section 703.2 and Table C.
 - b. Superpave asphalt mixture design: WMA base course, PG 64-22, 3.0 to 10.0 million ESALs, 25.0 mm mix, five (5") inch depth in accordance with PennDOT Publication 408, Section 409.
 - c. All streets shall be laid out and the base course installed subsequent to the commencement of construction of any structure, building or facility.
 3. Binder course. A Superpave asphalt mixture design, WMA binder course, PG 64-22, 3.0 to 10.0 million ESALs, 25.0 mm mix, three (3") inch depth meeting the requirements of PennDOT Publication 408, Section 409, latest edition, shall be applied over the base course. In no case shall the binder course be applied over a frozen, saturated or excessively

dirt-laden base course. The binder course shall be applied only when the temperature is at least 45° F and rising.

4. Wearing course. After proper cleaning, repairing and preparation of the binder course as directed by the Township Engineer, a Superpave asphalt mixture design, WMA wearing course, PG 64-22, 3.0 to 10.0 million ESALs, 9.5 mm mix, one-and-five-tenths-inch depth, SRL-H shall be placed over the binder course. The wearing course shall be applied only when the temperature is at least 45° F and rising.
5. The wearing course shall be applied with a paving machine of sufficient width to create only one center seam (e.g., a 32-foot-wide cartway shall be paved with a minimum 16-foot-wide paver). The wearing course shall be compacted with an eight-to-ten ton vibratory roller.
6. After application of the wearing course, all curb, inlet, manhole, etc., joints shall be sealed with PG 64-22 joint seal, applied in neat lines with a minimum width of six (6") inches in accordance with PennDOT Publication 408, Section 702.
7. All Township streets shall have a crown with a cross slope of 2%, sloping away from the center line, unless otherwise directed by the Township Engineer.

2. Section 175-39, Alleys; driveways; easements; transmission lines, is hereby amended to provide as follows:

§175-39. Alleys; driveways; easements; transmission lines

- A. Alleys. Alleys may be permitted in residential developments along the rear of the property to provide an additional means of circulation and access.
- B. Driveways. Driveways intersecting with street rights-of-way shall be subject to the following requirements:
 1. Private driveways in residential developments shall be located at least sixty (60') feet from the point of intersection of the nearest street right-of-way lines and at least ten (10') feet from a property line.
 2. Private driveways in all other developments shall be located at least one hundred (100') feet from the point of intersection of the nearest street right-of-way lines and at least twenty (20') feet from a property line.
 3. Where driveways are used jointly by more than one property owner, they may straddle the property line. The appropriate easement restrictions shall be noted on the final plan, and cross easements for each lot shall be recorded.
 4. Construction.

- a. Grades and paving. In order to provide a safe and convenient means of access, grades on private driveways shall not exceed 4% for the first twenty (20') feet from the curbline and for the balance shall not exceed 10%. Driveways shall be paved for their entire length.
- b. Material. Residential driveways shall be constructed with the following pavement section: 1.5" of SAMD wearing course over 4" SAMD base course over 6" subbase No. 2A. Commercial driveways shall be constructed with the following pavement section: 1.5" of SAMD wearing course over 2.5" SAMD binder course over 6" SAMD base course over 6" subbase No. 2A.
- c. Minimum radius. In order to provide safe and convenient ingress and egress, private residence driveway entrances shall be rounded at a minimum radius of five (5') feet or shall have a flare constructed at the point of intersection with the cartway edge (curbline) that is equivalent to this radius. The corner radii for all other driveways shall be in accordance with § 175-33.E.
- d. Minimum width. The minimum width for private residence driveways shall be ten (10') feet, unless additional width is required to accommodate the traffic anticipated.
- e. Minimum Length. The minimum length for private residence driveways shall be twenty (20') feet as measured from the roadway edge, if no sidewalk is present. If sidewalk is present, the driveway length shall be measured twenty (20') feet from the nearest sidewalk edge.
- f. Sight distance. Sight distance shall be provided in accordance with § 175-33.

CHAPTER 175, ARTICLE VI, Development and Design Standards, is hereby amended to provide for a new Section 175-41.2 entitled "Sidewalks, Paths, Multi-Use Trails, and On-Road Bicycle Infrastructure" to provide as follows:

§175-41.2. Sidewalks, Paths, Multi-Use Trails, and On-Road Bicycle Infrastructure

A. General Requirements.

- 1. Sidewalks, verge areas, and curbs shall be installed along both sides of all existing and proposed public and private streets in accordance with the design standards set forth in this Chapter as part of a proposed subdivision or land development.
 - a. Sidewalks, verge areas, and curbs shall be installed along common driveways and common parking areas in order to connect buildings, parking areas, common spaces, and pedestrian infrastructure along adjacent streets.
 - b. Sidewalks shall be installed to connect streets and/or driveways to the primary entrances of buildings.

- c. Installation of sidewalks and curbs shall be in accordance with minimum construction standards in this Chapter.
2. Paths, multi-use trails, shared lanes, striped shoulders, or bicycle lanes shall be installed or improved in accordance with the design standards set forth in this Chapter whenever a subdivision or land development contains or abuts any bicycle infrastructure and/or pedestrian infrastructure shown on the East Whiteland Township Multimodal Transportation Map. The improvements shall be designed to the specific site conditions and constraints of the property provided that:
 - a. The general alignment and connectivity of the proposed improvements are consistent with the facilities shown on the Multimodal Transportation Map.
 - b. For improvements to existing pedestrian infrastructure, points at which a sidewalk, path, or multi-use trail enters and exits the tract shall remain unchanged.
 - c. Any proposed alteration will not diminish the design and function of the existing or proposed improvements.
3. Verge Area.
 - a. A verge area shall be provided between the curb or edge of street and any off-road pedestrian infrastructure or bicycle infrastructure.
 - b. Verge areas between pedestrian infrastructure and/or bicycle infrastructure and the curb may contain street lights, trees, benches, trash cans, mailboxes, or newspaper boxes. No obstacle in the verge area may reduce the required width of any pedestrian infrastructure or bicycle infrastructure, nor shall any object obstruct access to bus stop infrastructure or prevent access to the front, side, or rear door for the purposes of loading and unloading.
 - c. Verge areas shall be maintained as a grass strip between the pedestrian infrastructure and curb. If grass is determined to be impractical by the Township Engineer, then brick pavers, landscaped vegetation, or similar surface may be used. If a grass strip is not utilized, a wider sidewalk may be necessary in place of a verge area to create a safe pedestrian environment.
 - d. Verge areas may be utilized for stormwater management in accordance with Chapter 170 of the Township Code (Stormwater Management).
 - e. Portions of verge areas may be converted to concrete in areas designated for curbside pick-up/drop-off or for loading pads associated with designated bus stops on fixed route public transit services.

4. Bicycle Infrastructure. All bicycle infrastructure shall be designed and constructed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities – 4th Edition, 2012.
5. Barriers. A safety barrier may be required adjacent to a sidewalk, path, or multi-use trail to protect users from steep slopes or other hazards upon recommendation by the Township Engineer. For the purposes of this Section, a steep slope shall be considered any surface with greater than 6:1 slope.
6. The Board of Supervisors may require, as a condition of Final Plan approval, the guarantee of public access and improvement of sidewalks, paths, and multi-use trails when the site is traversed by or abuts an existing sidewalk, path, or multi-use trail or when such infrastructure is proposed in an adopted open space or trail plan of Chester County, East Whiteland Township, or an adjacent municipality.

B. Sidewalks.

1. Minimum Design Standards.

- a. Sidewalks shall be a minimum of five (5') feet wide. However, wider sidewalks may be required if determined necessary by the Township Engineer for accessibility or pedestrian safety purposes.
- b. Verge areas along a sidewalk shall be a minimum of four (4') feet wide.

2. Minimum Construction Standards.

- a. All sidewalks located at street intersections shall be designated and constructed in accordance with the Americans with Disabilities Act of 1990, 42 U.S.C. § 12101, *et seq.* If determined necessary by the Township Engineer for accessibility or pedestrian safety purposes, additional curb ramps may be required.
- b. Sidewalks shall be constructed of concrete having a minimum twenty-eight-day strength of 3,500 psi.
- c. The sidewalk shall be constructed on a minimum six (6") inch depth of AASHTO No. 57 (PennDOT 2B) coarse aggregate, and shall have a minimum width of five (5') feet and a thickness of four inches, except at driveway crossings, where the sidewalk thickness shall be increased to six (6") inches and reinforced with six-by-six (6" x 6") inch wire mesh.
- d. Where a sidewalk abuts the curb, a building, a wall or other permanent structure, a remolded expansion joint one half (0.5") inch in thickness shall be placed between the curb and the sidewalk for the full length of such permanent structure.

e. Sidewalks shall be constructed in separate slabs twenty four (24') feet or thirty (30') feet in length, except for closures, and the slab between expansion joints shall be divided into blocks five (5') feet in length by scoring transversely.

f. All sidewalks shall receive a broom finish.

C. Crosswalks.

1. General Provisions.

a. Crosswalks shall be clearly delineated at all intersections.

2. Minimum Design Standards.

a. The minimum width of crosswalks shall match the width of the largest contributing sidewalk, path, multi-use trail, or striped shoulder. However, in no case shall a crosswalk width be less than six (6') feet.

b. Crosswalks shall be placed in a safe location approved by the Township Engineer or Traffic Engineer as near as possible to the intersection and on the opposite side of the stop bar for the associated approach.

c. Crosswalks and their transition to adjacent sidewalks, paths, or multi-use trails shall be designed to facilitate access and use by persons that are physically disabled. Crosswalks shall be designated and constructed in accordance with the Americans with Disabilities Act of 1990, 42 U.S.C. § 12101 et seq.

d. Countdown pedestrian signalization and pushbuttons shall be provided at intersections where traffic signals exist or are proposed, in accordance with East Whiteland Township's Technical Specifications for Traffic Control Signalization.

e. Optional Design Considerations. Traffic calming or other pedestrian safety measures may be required at crosswalk locations if determined to be necessary by the Township Engineer or Traffic Engineer. The design of such measures shall be approved by the Township Engineer or Traffic Engineer.

3. Minimum Construction Standards.

a. Crosswalks shall be delineated by two parallel six (6") inch wide white lines. For locations where greater pedestrian activity exists or is anticipated, a continental crosswalk, delineated by twenty four (24") inch wide perpendicular lines, shall be required.

- b. Reflective thermoplastic pavement markings shall be utilized for all marked crosswalks where sidewalks, paths, or multi-use trails intersect with roads.

D. Paths.

1. General Provisions.

- a. When existing developed parcels adjacent to a proposed subdivision or land development allow for dedicated access through a defined area for the purpose of connecting to an existing or proposed public use path, a connection shall be constructed and continued through a dedicated access way through the proposed subdivision or development.
- b. All paths shall be constructed before occupancy of residences and other buildings adjoining the accessible path.
- c. All paths shall provide adequate access for use by the general public.
- d. All shall be protected by a permanent access easement on the properties on which they are located. The width of the protected area in which the path is located shall be a minimum of five (5') feet on either side of the path. The Township Solicitor shall draft any necessary easement agreements.
- e. No paths shall be designed with the intent to accommodate motorized vehicles except for emergency or maintenance access.
- f. The path should be laid out in such a manner that facility users are visible to other facility users and vehicles on intersecting roads. Sharp curves and excessive grade change should also be avoided.

2. Minimum Design Standards. The minimum width for accessible paths shall be six (6') feet.

- a. If necessary due to the connectivity or anticipated use of the infrastructure, wider paths or multi-use trails shall be constructed.
- b. Verge areas along a path shall be a minimum of (4') feet wide.

3. Minimum Construction Standards. All paths shall be bituminous pavement and constructed in accordance with the following standards:

- a. Superpave asphalt mixture design, WMA wearing course, PG 64-22, < 0.3 million ESALS, 9.5 mm mix, one and a half (1.5") inch depth, SRL-L.

- b. Superpave asphalt mixture design, WMA base course, PG 64-22, < 0.3 million ESALS, 25 mm mix, three (3.0”) inch depth.
- c. Four (4”) inches of PennDOT 2A stone.
- d. Where the edge of the paths is above surrounding grade, bituminous pavement shall be feathered.

E. Multi-use Trails.

1. General Provisions.

- a. When existing developed parcels adjacent to a proposed subdivision or land development allow for dedicated access through a defined area for the purpose of connecting to an existing or proposed public use multi-use trail, a connection shall be constructed and continued through a dedicated access way through the proposed development.
- b. All multi-use trails shall be constructed before occupancy of residences and other buildings adjoining the multi-use trail.
- c. When multi-use trails are intended for public use, they shall be protected by a permanent access easement on the properties on which they are located. The width of the protected area in which the shared use path or accessible trail is located shall be a minimum of twenty (20’) feet. The Township Solicitor shall draft any necessary easement agreements. The land area permanently designated for multi-use trails for public use may be credited toward any open space requirement as described in the Township Code of Ordinances.
- d. Multi-use trails shall have adequate access for use by all the general public.
- e. Landscaping, fencing, or other barriers shall be used to delineate the route of the multi-use trail and screen surrounding properties from users.
- f. No multi-use trail shall be designed with the intent to accommodate motorized vehicles except for emergency or maintenance access.
- g. The multi-use trail should be laid out in such a manner that facility users are visible to other facility users and vehicles on intersecting roads. Sharp curves and excessive grade change should also be avoided.

2. Minimum Design Standards

a. Width.

- i) Minimum width for multi-use trails shall be eight (8') feet. If such trails are intended to, or otherwise capable of, providing regional connections to other multi-use trails, then the minimum width for such multi-use trails shall be ten (10') feet to twelve (12') feet.
- ii) A two (2') foot wide "shoulder" area shall be provided on each side of the multi-use trail. The shoulder area for the multi-use trail may be grass, crushed stone, or bituminous pavement, but must be level and kept clear of vertical elements or obstructions.
- iii) Verge areas between a curb or street edge and a multi-use trail shall be a minimum of five (5') feet.

3. Minimum Construction Standards.

- a. All multi-use trails shall be bituminous pavement and constructed in accordance with the following standards.
 - i) Superpave asphalt mixture design, WMA wearing course, PG 64-22, < 0.3 million ESALS, 9.5 mm mix, one and a half (1.5") inch depth, SRL-L.
 - ii) Superpave asphalt mixture design, WMA base course, PG 64-22, < 0.3 million ESALS, 25 mm mix, three (3.0") inch depth.
 - iii) Four (4") inches of PennDOT 2A stone.
 - iv) Where the edge of the multi-use trail is above surrounding grade, bituminous pavement shall be feathered.

F. Bicycle Lane.

1. Minimum Design Standards

- a. Width.
 - i) The minimum width of a bicycle lane shall be five (5') feet. In cases where on-street parking is present, the minimum width of a bicycle lane shall be six (6') feet.
- b. Optional design considerations.
 - i) Green colored bituminous pavement in bicycle lanes may be required in situations where increased visibility is needed, as determined by the Township Engineer or Traffic Engineer. The green colored pavement may be installed for the entire length of the bicycle lane or for only a portion (or portions) of the bicycle lane.

2. Minimum Construction Standards.

- a. The edge of the travel lane adjacent to a bicycle lane shall be striped by a six (6") inch reflective thermoplastic solid white line.
 - i) A dashed white lane may be used to carry bicycle lanes through intersections, turning lanes, and across driveways.
 - ii) When a parking lane is present, the outside edge of the bicycle lane shall be striped with a four (4") inch wide solid white line.
- b. Bicycle lane symbol and arrow markings (MUTCD 9C-3) shall be used to define the bike lane and designate that portion of the street for preferential use by bicyclists. Bicycle lane symbol and arrow markings shall be placed within a bicycle lane at the beginning of each block. Bicycle lane symbol and arrow markings shall be placed within a bicycle lane approximately every five-hundred (500') feet.
 - i) Bicycle lane symbol or arrow markings shall not be placed within an intersection, turning lane, driveway access, or any such location that the symbol or arrow would be within a motor vehicle tread path.
- c. "Bike Lane" signs (MUTCD R3-17) shall be installed at the beginning of every block adjacent to bicycle lane. Additional signs may be spaced evenly on blocks that are longer than one thousand (1,000') linear feet.
- d. The installation of green pavement shall follow PennDOT Construction Specifications, Publication 408, Section 962 and MUTCD guidelines. Before installation, the surface must be clean and free from all loose material, dirt, grease, and oil. The daytime chromaticity coordinates for the color used for green colored pavement shall be as follows:

1	2	3	4				
x	y	x	y	x	y	x	y
0.230	0.754	0.266	0.500	0.367	0.500	0.444	0.555

The daytime luminance factor (Y) shall be at least 7, but no more than 35.

The nighttime chromaticity coordinates for the color used for green colored pavement shall be as follows:

1	2	3	4				
x	y	x	y	x	y	x	y
0.230	0.754	0.336	0.540	0.450	0.500	0.479	0.520

G. Shared Lane.

1. Minimum design standards.

- a. Shared lane marker symbols (MUTCD 9C-9) shall be placed within street travel lanes as follows:
 - i) On streets with speed limit of 25 mph or slower, shared lane marker symbols shall be placed in the center of the travel lane.
 - ii) On streets with speed limit higher than 25 mph:
 - (1) Shared lane marker symbols shall be placed a minimum of eleven (11') feet from the curb face.
 - (2) On streets with on-street parking lanes, shared lane marker symbols shall be placed within the travel lane three (3') feet from the inside edge of the parking lane.
 - (3) Shared lane marker symbols shall not be placed on roads where the speed limit is higher than 35 mph.

2. Minimum construction standards.

- a. Shared lane marker symbols (MUTCD 9C-9) shall be applied to the street via high-visibility reflective white thermoplastic.
- b. Shared lane marker symbols (MUTCD 9C-9) shall be placed at the beginning and end of each block.
- c. Shared lane marker symbols (MUTCD 9C-9) shall be placed evenly at a maximum distance of five-hundred (500') feet.
- d. "Bicycle May Use Full Lane" signs (MUTCD R4-11) may be posted.

H. Striped Shoulders with Buffers.

1. Minimum design standards.

- a. Width.
 - i) The minimum width of a striped shoulder shall be five (5') feet.

- ii) The minimum width of a striped buffer shall be two (2') feet.
 - iii) If directed by the Township Engineer or Traffic Engineer due to safety or accessibility concerns, a wider striped shoulder or buffer area shall be provided.
- b. Optional design considerations.
- i) If directed by the Township Engineer or Traffic Engineer due to safety or accessibility concerns, the following optional design treatments shall be required:
 - (1) Bicycle route and or other wayfinding signage
 - (2) Green colored bituminous pavement to increase visibility
2. Minimum construction standards.
- a. Paved shoulders shall be delineated from the travel lane by a high-visibility, reflective, solid, white line measuring a minimum of six (6") inches in width.
 - b. The buffer shall consist of two parallel white lines each measuring four (4") inches in width. The buffer area may contain optional crosshatch markings.
 - c. If present, Bicycle Route Guide sign (MUTCD D11-1c) shall be placed alongside the street, unobstructed from motor vehicle operators' view.
- I. Designated School Bus and Fixed Route Bus Boarding and Alighting Areas.
1. General provisions.
- a. In the case of a residential subdivision or land development, the plan shall provide for adequate school bus stop facilities, including bus shelters and safe gathering areas for students. Upon request of the Township, such facilities shall be reviewed by the Great Valley School District.
 - b. When a proposed subdivision or land development abuts an existing designated stop along fixed route public transit service, a level loading pad shall be installed in coordination with SEPTA or the appropriate transit provider
 - c. When a proposed subdivision or land development is located within five hundred feet (500') of an existing designated stop along fixed route public transit service, SEPTA or the appropriate transit provider shall be notified.

- d. A level loading pad shall be provided at a minimum where the front doors of a fixed route bus service open to receive and discharge passengers at a designated bus stop. A second loading pad located at the rear door of the bus may be required.
- e. The level loading pad must be connected via an ADA accessible route to adjacent pedestrian infrastructure, such as a sidewalk, path, or multi-use trail.
- f. The location and design of the loading pad shall be coordinated with SEPTA or the appropriate transit provider and approved by the Township Engineer or Traffic Engineer.
- g. Boarding and alighting areas for fixed route bus stops shall be designed and constructed in accordance with the Section 810 of the United States Department of Transportation's ADA Standards for Transportation Facilities, 2006 and SEPTA Bus Stop Design Guidelines, 2012.

2. Minimum design standards.

a. Dimensions.

- i) The minimum clear width of five (5') feet shall be provided for the loading pad, measured parallel to the roadway.
- ii) The minimum clear length of eight (8') feet shall be provided for the loading pad, measured perpendicular to the curb or roadway edge.
- iii) If directed by the Township Engineer or Traffic Engineer due to safety or accessibility concerns, a wider loading pad or separate bus waiting area shall be provided.

b. Slope.

- i) Parallel to the roadway, the slope of the loading pad shall be the same as the roadway, to the maximum extent practicable. Perpendicular to the roadway, the slope of the loading pad shall not be steeper than 1:48.

3. Minimum construction standards.

- a. Bus stop boarding and alighting areas shall have a firm, stable, and slip resistant surface, preferably concrete built consistent with the minimum construction standards for sidewalks contained in this Chapter or asphalt consistent with the minimum construction standards for paths and multi-use trails contained in this Chapter.

SECTION 2. REPEALER. All Ordinances or parts of Ordinances inconsistent herewith or in conflict with any of the specific terms enacted hereby, to the extent of said inconsistencies or conflicts, are hereby specifically repealed.

SECTION 3. REVISIONS. The East Whiteland Township Board of Supervisors does hereby reserve the right, from time to time, to adopt modifications of, supplements to, or amendments of its Ordinance, including this provision.

SECTION 4. SEVERABILITY. In the event that any Section, sentence, clause, phrase or word of this Ordinance shall be declared illegal, invalid or unconstitutional by any Court of competent jurisdiction, such declaration shall not prevent, preclude or otherwise foreclose enforcement of any of the remaining portions of this Ordinance.

SECTION 5. EFFECTIVE DATE. This amendment shall become effective five (5) days after date of adoption.

SECTION 6. FAILURE TO ENFORCE NOT A WAIVER. The failure of East Whiteland Township to enforce any provision of this Ordinance shall not constitute a waiver by the Township of its rights of future enforcement hereunder.

ENACTED AND ORDAINED this _____ day of _____, **2019** by the Board of Supervisors of East Whiteland Township.

**BOARD OF SUPERVISORS
EAST WHITELAND TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA**

ATTEST:

By: _____
Township Secretary

By: _____
Susan Drummond

By: _____
Scott Lambert

By: _____
Richard Orlow