

Appendix 12-A

Natural Resource Recommendations

Because natural resources cross municipal boundaries, they are most effectively protected when coordinated on a regional basis. Consistency between municipal resource protection measures ensures that the Region's resources are protected at the same level. This consistency is key to establishing comprehensive resource protection. To determine the current level of protection provided by the six municipalities of the Oxford Region, a detailed inventory of each municipal zoning ordinance and subdivision and land development ordinance was undertaken in 2008 and was updated as necessary. The critique was based on the minimum recommended protection standards included in Chapter 12: Natural Resources Inventory and Plan and a summary of the results is provided in Figure 12-S on pg. 12-29. These protection standards were considered the most important for the protection of resources on a regionally consistent basis. It is recognized that some municipalities have protection standards in place that go beyond the minimum recommended protection standards. This plan supports the continuation of those extra measures.

The detailed inventory of municipal ordinances along with specific recommendations for addressing identified issues is located in this appendix and should be used in conjunction with the summary provided in Figure 12-S. This appendix includes an inventory of standards that address the protection of the following resources: floodplains, wetlands, steep slopes, agriculture soils, riparian buffers, woodlands (including timber harvesting), and specimen vegetation (PNDI Sites) each of the six municipalities.

While most of the municipalities in the Region have a fairly wide array of basic resource protection standards in place, there are some obvious gaps as shown in Figure 12-S. The municipalities with more **red** than **green** in their column(s) are in particular need of expanded resource protection standards. The recommendations in this appendix should be used by each municipality to make specific improvements and additions to their resource protection standards through the amendment of their zoning and subdivision and land development ordinances.

Overall Recommendation: The natural resources addressed in this appendix should be added to the plan requirements section (natural resources plan, if applicable) of the individual municipal subdivision and land development ordinances.

<i>East Nottingham Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Water Resources		
Floodplains	ZO, Article IV, § 402	<ul style="list-style-type: none"> ▪ Floodplain Conservation District defined as 100 year flood elevation. ▪ Floodplain zones defined, permitted and prohibited uses established, and development and construction requirements established.
	SLDO, Article V, § 508.07	References Ordinance No. 1 -1996.
<p>■ Recommendation: No need to take action.</p>		
Wetlands and Wetlands Margin	ZO, Article IV, § 404	<ul style="list-style-type: none"> ▪ Requires a wetland delineation for determination of net tract or net lot area or when required by other applicable permit or plan review process, if the existence of wetlands is indicated by NWI mapping, Soil Survey mapping of hydric soils, or an on-site investigation. ▪ References Section 508.08 of the SLDO.
	SLDO, Article IV, § 402.05.I	Preliminary plans must include a wetlands jurisdictional determination from the ACOE if wetlands exist on the site.
	SLDO, Article V, § 508.08	SLDO applications shall include a wetland delineation report (or note on plan stating that wetlands are not present), wetland locations shall be shown on plans, applicant shall obtain a jurisdictional determination from the ACOE, and copies of all encroachment permits will be provided to the Township.
	ZO, Article IV, § 403	Wetlands greater than 10,000 SF subject to the riparian buffer regulations (which identifies a 25' buffer for wetlands).
<p>■ Recommendation: Apply riparian buffer regulations to all wetlands, regardless of size, and increase riparian buffer width to a 50' minimum (or reduce 10,000 SF threshold).</p>		
Land Resources		
Steep Slopes (15-25%, 25%+)	ZO, Article IV, § 405	<ul style="list-style-type: none"> ▪ Limits uses for slopes over 25% to parks, recreation, selective cutting of trees, grading for a driveway if no other feasible location exists, and accessory uses related to the other permitted uses. ▪ Requires mapping identifying 15% and 25% slope areas. ▪ Requires earthmoving plans and other conditions for construction/land disturbance activity permits if slope exceeds 15%.
<p>■ Recommendation: No need to take action.</p>		
Agricultural soils	ZO, Article V, § 504	Building and facilities siting within a cluster development shall minimize disturbance to Class I, II and/or III soils if proposed open space use is agricultural.
<p>■ Recommendation: Net out a percentage (at least 25%) of Class I, II, or III soils for density calculations in any district within the Agricultural land use category.</p>		

<i>East Nottingham Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Biotic Resources		
Riparian Buffers	ZO, Article IV, § 403	<ul style="list-style-type: none"> ▪ Establishes a Riparian Corridor Conservation District as an overlay, permitted and prohibited uses within the District, and conditions under which the District is applied. ▪ Defines regulated waters as perennial and intermittent waterways mapped on the Chester County Soil Survey and USGS mapping, ponds greater than 5,000 SF, and wetlands greater than 10,000 SF. ▪ Waterways have a 75' buffer; ponds and wetlands a 25' buffer. Where the 100 year floodplain extends beyond 75', the riparian buffer will extend to the edge of the floodplain. ▪ District applies when a subdivision or land development plan is submitted, a building permit is requested, a change/resumption of a nonconforming use is proposed, or when unauthorized activity is brought to the attention of Township officials.
■ Recommendation: No need to take action		
Woodlands	SLDO, Article V, § 507.02	Existing wooded areas shall be protected to prevent unnecessary destruction. At least 15% of the number of trees (minimum caliper 5" at 6" above ground) that exist at the time of plan submission shall be maintained or replaced immediately following construction.
■ Recommendation: Increase the percentage of trees to be protected to at least of 25% of existing woodlands.		
Timber Harvesting Plan	ZO, Article IV, § 406	<ul style="list-style-type: none"> ▪ Required for logging more than one acre of land, with exceptions for removal of diseased trees, normal property maintenance, orchard operations, etc. ▪ Forestry/logging plan minimums are established.
■ Recommendation: No need to take action		
Specimen Trees/PNDI Sites	ZO and/or SLDO	Not addressed
■ Recommendation: Require the protection of native specimen trees with a caliper of at least 12" in accordance with the list of native species set forth in Appendix 12-B.		
Hedgerows	ZO and/or SLDO	Not addressed
■ Recommendation: Protect hedgerows in accordance with woodland protection standards.		
Tree Replacement Required	SLDO, Article V, § 507.02	Replacement trees (to maintain 15% of trees) shall be a minimum caliper of 2" and located within unbuildable sections of the site.
■ Recommendation: No need to take action.		
Tree Protection during Construction	ZO and/or SLDO	Not addressed
■ Recommendation: Require a zone of protection be used during construction to ensure the tree or group of trees is protected to the extent of the tree drip line(s). See Elk Township's current standards.		

<i>East Nottingham Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Administration		
Plan Requirements for Natural Resources	SLDO, Article II, § 202 <i>(Definitions – not addressed elsewhere)</i>	Conservation plans (natural resources inventory, impact assessment, and mitigation and maintenance proposals) are to accompany preliminary and final plan submissions.
	SLDO, Article IV, § 403.03.C	Final plans shall show existing significant environmental features including floodplains, wetlands, quarry sites, historic features, archeological sites, areas with highly erosive soils, and woodlands. Proposed disturbance to such features shall also be shown.
■ Recommendation: No need to take action.		
Protection Standards Centrally Located	ZO, Article IV	Article IV of the ZO addresses floodplains, riparian corridors, wetlands, steep slopes, and forestry and logging.
■ Recommendation: No need to take action.		
Provisions for Continued Protection	SLDO, Article III, § 304.05.B7.d	Requires a permanent easement when an applicant is providing open space as part of a development.
	SLDO, Article IV, § 402.05.H; SLDO, Article IV, § 403.05.P	Land subject to an agricultural, woodland, or natural resource easement that is part of a subdivision application shall include information on easement conditions with submission of the preliminary plan and the final plan.

Sources/Dates: East Nottingham Township Zoning Ordinance (2006, as amended); East Nottingham Township Subdivision and Land Development Ordinance (1997, as amended)

<i>Elk Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Water Resources		
Floodplains	ZO, Article XI, § 1101	<ul style="list-style-type: none"> ▪ Establishes a Floodplain Conservation District as the 100 year floodplain as defined by FEMA. ▪ Floodplain zones defined, permitted and prohibited uses established, and development and construction requirements established. ▪ All new construction or substantial improvement of residential structures shall be elevated up to or above the regulatory flood elevation. ▪ All new construction or substantial improvement of non-residential structures shall be elevated up to or above the regulatory flood elevation or be designed and constructed to remain completely or essentially dry during flooding. ▪ Regulates existing structures within the floodplain if modified.
	ZO, Article XI, § 1101.G	50' setback from top of bank of any watercourse for any new construction or development.
	ZO, Article VI, § 604	Nets out floodplain for density calculations in R-2.
	SLDO, Article V, § 527.P	Establishes that mobile homes are prohibited within the Floodplain Conservation Overlay District. Establishes strict conditions which existing nonconforming structures within the District must follow if modifications are proposed.
<p>■ Recommendation: No need to take action.</p>		
Wetlands	ZO, Article XI, § 1103.E.3	Requires following federal and state regulations.
<p>■ Recommendation: Apply riparian buffer regulations to all wetlands, regardless of size.</p>		
Land Resources		
Steep Slopes (15-25%, 25%+)	ZO, Article VI, § 604	Nets out prohibitive slopes (> 25%) for density calculations in R-2.
	ZO, Article XI, § 1102	<ul style="list-style-type: none"> ▪ Identifies Precautionary Slopes (steep) as 15 – 25% and Prohibitive Slopes (very steep) as >25%. ▪ Permits by right residential development on precautionary slopes (with a maximum 15% impervious lot coverage). ▪ Permits by right (with restrictions) driveways on prohibitive slopes.
<p>■ Recommendation: No need to take action.</p>		

<i>Elk Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Agricultural Soils	ZO, Article VI, § 604	Nets out 25% of Class I, II, or III soils for density calculations in R-2.
■ Recommendation: No need to take action.		
Biotic Resources		
Riparian Buffers	ZO, Article II	Identifies two riparian buffer zones and defines Zone 1 as 25' (extended to include very steep slopes if present) and Zone 2 as 50' beyond Zone 1 to a maximum of 75'.
	ZO, Article XI, § 1101.G	50' setback from top of bank of any watercourse for any new construction or development.
	ZO, Article XI, § 1103.E.1	Defines watercourse (bed and banks/perennial or intermittent/on USGS mapping) and prohibits any structure or impervious surface within 50' of top of bank.
	ZO, Article XI, § 1103.E.2	<ul style="list-style-type: none"> ▪ Defines riparian buffer zones, with Zone 1 as 25' (extended to include very steep slopes if present) and Zone 2 as 50' beyond Zone 1 to a maximum of 75' ▪ Mandates a 50' buffer (from a wetland or watercourse top of bank) shall consist of grass, shrubs, or trees and shall not be disturbed, cleared, graded, filled, built upon or otherwise altered (except for restoration purposes).
	SLDO, Article V, § 523.B	Requires establishment of a 100' riparian buffer when a subdivision or land development is proposed in an area with no buffer. References Section 1103.E.2 of the ZO and requires plant selection and planting to be consistent with CCCD, PADEP, or USDA guidance. Recommended plants are included in an appendix.
■ Recommendation: No need to take action.		
Woodlands	ZO, Article XI, § 1103.E.5	<ul style="list-style-type: none"> ▪ Defines woodlands as a ¼ acre or more of continuous wooded land where the largest trees measure at least 6" DBH, or a grove of trees forming one canopy when 10 or more trees measure at least 6" DBH. ▪ With an approved subdivision and land development plan and woodland management plan, no more than 50% of woodlands shall be regraded, cleared, built upon, or otherwise altered for the purpose of construction (or in compliance with the woodland management plan). Percentage applies on a per lot basis.
■ Recommendation: No need to take action.		
Timber Harvesting Plan Required	ZO, Article XI, § 1103.E.5	<ul style="list-style-type: none"> ▪ Defines a tree harvesting operation as the removal of more than 4 trees per acre on lots greater than 3 acres for the purposes of regeneration or preservation and requires an approved woodland management plan. ▪ Mandates that no trees shall be removed and no clear cutting of woodlands unless in compliance with zoning provisions and with an approved woodlands management plan.
■ Recommendation: No need to take action.		

<i>Elk Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Specimen Trees/PNDI Sites	ZO, Article XIII, § 1303.C.6	PNDI sites are to be included within an Environmental Impact Study.
<p>■ Recommendation: Require the protection of native specimen trees with a caliper of at least 12” in accordance with the list of native species set forth in Appendix 12-B.</p>		
Hedgerows	ZO and/or SLDO	Not addressed
<p>■ Recommendation: Protect hedgerows in coordination with woodland protection standards.</p>		
Tree Replacement Required	ZO or SLDO	Not addressed
<p>■ Recommendation: Replacement trees (to maintain 15% of trees) shall be a minimum caliper of 2” at 6” above grade and located within unbuildable sections of the site. See East Nottingham’s current standards.</p>		
Tree Protection during Construction	ZO, Article XI, § 1103.E.6	<ul style="list-style-type: none"> ▪ Defines a tree protection zone as an area radial to the tree trunk in which no construction activity can occur, consisting of 15’ from the tree trunk or 2’ beyond the dripline, whichever is greater. ▪ Tree protection zones will be clearly identified on site during construction.
<p>■ Recommendation: No need to take action.</p>		
Administrative		
Plan Requirements for Natural Resources	ZO, Article VII, § 702.B.6	Sketch plan submissions are encouraged.
	ZO, Article XI, § 1103.F.1	Site plan required to identify limits of all natural resources, including tree protection zones. Plan will include calculation of proposed disturbance of natural resource areas.
	SLDO, Article IV, § 400	Sketch plans strongly recommended. Features recommended to be shown include steep slopes, floodplains, wetlands, and soils.
	SLDO, Article IV, § 401.C; SLDO, Article IV, § 402.C	<ul style="list-style-type: none"> ▪ As part of the preliminary plan, a single plan map of existing features is required, and shall include floodplain conservation overlay district, wetlands and wetland margins, soils, existing vegetation, PNDI sites, and cultural and historic resources identified in the Elk Township Open Space Plan. Features are to be shown for the site and areas within 200’ of the property boundary. ▪ Identical information is required for the final plan.
	SLDO, Article IV, § 401.F; SLDO, Article IV, § 402.F	<ul style="list-style-type: none"> ▪ As part of the preliminary plan, a Natural Resource Protection Plan is required, and shall include information required by 401.C and a preliminary grading plan illustrating proposed disturbance. Plan shall also include the table of calculations required by Section 1103.F of the ZO. The plan shall indicate location of the Tree Protection Zone for retained trees and how Section 1103.E.5 of the ZO (woodland protection requirements) are being met. ▪ Identical information is required for the final plan.
<p>■ Recommendation: No need to take action.</p>		

<i>Elk Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Protection Standards Centrally-located	ZO, Article XI	Natural Resource Overlay District article contains information on floodplain conservation (amended), steep slope, and resource conservation overlay districts.
<p>■ Recommendation: No need to take action.</p>		
Provisions for Continued Protection	ZO, Article XI, § 1103.F.3	<ul style="list-style-type: none"> ▪ Requires maintenance responsibilities associated with natural resources to be stated on individual deeds, with restrictions to provide for continuance of resource protection areas. ▪ Common open space provisions shall apply to resource protection areas held in common, and additional restrictions may be required by the Township as necessary. The responsible party shall be identified in the deed and maintenance shall occur in accordance with an approved management plan.

Sources/Dates: Elk Township Zoning Ordinance (2002, as amended); Elk Township Subdivision and Land Development Ordinance (2007, as amended):

<i>Lower Oxford Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Water Resources		
Floodplains	ZO, Part 13, § 1301	<ul style="list-style-type: none"> ▪ Establishes regulated floodplain as areas subject to the 100 year flood. ▪ Prohibits any new construction or development that would cause any increase in the 100 year flood heights. ▪ Permitted uses include agriculture, recreation, permeable parking areas and roads to serve permitted uses. ▪ Special exception uses include transient amusement enterprises, railroads, roads, water pipelines, etc, as well as single family residences “where the property will not otherwise yield a reasonable return because of specific circumstances of topography, lot size, or lot shape, in any part of the District not having alluvial soils”. ▪ Existing structures are subject to regulation when proposing modifications.
	SLDO, Article V, § 511.F	Establishes regulated floodplain as areas subject to the 100 year flood and references Part 13 of the ZO.
■ Recommendation: No need to take action.		
Wetlands and Wetlands Margin	SLDO, Article V, § 511.G	Requires wetland delineation report or note on the plan stating that no wetlands exist, wetland locations to be shown on plans, jurisdictional determination from the ACOE, copies of all encroachment permits, and mandates that state and federal regulations be followed.
■ Recommendation: See Elk Township’s current standards and recommendations.		
Land Resources		
Steep Slopes (15-25%, 25%+)	ZO, Part 14, § 1405	<ul style="list-style-type: none"> ▪ Regulates uses on slopes exceeding 25%. ▪ Permitted uses are limited to parks, outdoor recreation uses, tree farming, forestry, and agriculture with conditions, and to a single-family dwelling as a special exception, with conditions.
■ Recommendation: No need to take action.		
Agricultural Soils	ZO and/or SLDO	Not addressed
■ Recommendation: Net out a percentage (at least 25%) of Class I, II, or III soils for density calculations in any district within the Agricultural land use category. See Elk Township’s current standards.		
Biotic Resources		
Riparian Buffers	ZO and/or SLDO	Not addressed
■ Recommendation: See Elk and East Nottingham Township’s current standards.		
Woodlands	SLDO, Article V, § 520.B	Existing wooded areas shall be protected. At least 15% of the number of trees (minimum trunk caliper of 5” at 6” above the ground) that exist at the time of the plan submission shall be maintained or replaced immediately following construction.
■ Recommendation: Increase the percentage of trees to be protected to at least of 25% of existing woodlands.		

<i>Lower Oxford Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Timber Harvesting Plan Required	ZO and/or SLDO	Not Addressed
■ Recommendation: See East Nottingham Township Current Standards.		
Specimen Vegetation PNDI Sites	ZO and/or SLDO	Not Addressed
■ Recommendation: See Elk Township's current standards and recommendations		
Hedgerows	ZO and/or SLDO	Not Addressed
■ Recommendation: Protect in accordance with woodland protection standards.		
Tree Replacement Required	SLDO, Article V, § 520.B	At least 15% of the number of trees (minimum trunk caliper of 5" at 6" above the ground) that exist at the time of the plan submission shall be maintained or replaced immediately following construction. Replacement trees shall be a minimum caliper of 2" at a height of 6" above finished grade and located in unbuildable sections of the site.
■ Recommendation: No need to take action.		
Tree Protection during Construction	ZO and/or SLDO	Not Addressed
■ Recommendation: Require a zone of protection be used during construction to ensure the tree or group of trees is protected to the extent of the tree drip line(s). See Elk Township's current regulations.		
Administrative		
Plan Requirements for Natural Resources	SLDO, Article IV, § 401.2.C; SLDO, Article IV, § 402.2.C	<ul style="list-style-type: none"> ▪ Preliminary plans required to show existing tree masses and streams. ▪ Final plans required to show existing tree masses and streams; contours may be required.
■ Recommendation: Expand the list of preliminary plan requirements to include other resources listed in this table including, but not limited to, agricultural soils, steep slopes, and wetlands.		
Protection Standards Centrally Located	ZO and SLDO	Not addressed
■ Recommendation: Re-organize all natural resource regulations into a single Article called, Natural Resource Protection.		

Sources/Dates: Lower Oxford Township Zoning Ordinance (1999, as amended); Lower Oxford Township Subdivision and Land Development Ordinance (2002, as amended):

<i>Oxford Borough</i> ¹		
Resource	Ordinance/Section	Description of Protection Standard
Water Resources		
Floodplains	ZO, Article XVI	No structures or development permitted in the floodplain
■ Recommendation: No need to take action.		
Wetlands and Wetlands Margins	ZO and SLDO	Not addressed
■ Recommendation: See Elk Township’s current standards.		
Land Resources		
Steep Slopes (15-25%, 25%+)	ZO and SLDO	Not addressed
■ Recommendation: See East Nottingham Township’s current standards.		
Agricultural Soils	ZO and SLDO	Not addressed
■ Recommendation: Not Applicable.		
Biotic Resources		
Riparian Buffers	ZO and SLDO	Not addressed
■ Recommendation: See East Nottingham Township’s current standards.		
Woodlands	ZO, § 178-66	<ul style="list-style-type: none"> Existing trees 6 inches and greater shall be preserved unless clearly impractical. Where existing trees can be retained, no original grade change shall occur within a minimum radius of 10 feet measured from the tree trunk. Any portion of a site which is not used for development shall be planted and continuously maintained with landscaping or shall be left in a natural vegetative state of woodland or meadow.
■ Recommendation: No need to take action.		
Timber Harvesting Plan Required	ZO and SLDO	Not addressed
■ Recommendation: See Elk Township’s current regulations.		
Specimen Vegetation/PNDI Sites	ZO and SLDO	Not addressed
■ Recommendation: See East Nottingham Township’s current standards.		
Hedgerows	ZO and SLDO	Not addressed
■ Recommendation: Protect in accordance with woodland protection standards.		
Tree Replacement Required	ZO and SLDO	Not addressed
■ Recommendation: See East Nottingham Township’s current standards.		

¹ The protection of natural resources is essential to maintain a healthy and safe environment, even in communities where the amount of natural resources may be limited, such as Oxford Borough.

Tree Protection During Construction	ZO and SLDO	Not addressed
<p>■ Recommendation: See Elk Township’s current standards.</p>		
<p>Administrative</p>		
Plan Requirements for Natural Resources	SLDO, § 151-19, 20, and 21	<ul style="list-style-type: none"> • Sketch Plan – Include general location of wooded areas. • Preliminary Plan – Include the location of watercourses. • Final Plan – Include watercourses, floodplain areas, and slopes in excess of 15%, tree masses and individual trees of a tree mass over 24 inch dbh and other significant natural features with the proposed sldo; Locations of all soil types; Notations indicating all trees or portions of tree masses proposed to be cleared as part of the proposed SLDO, together with reasons for such clearing.
<p>■ Recommendation: See Elk Township’s current regulations.</p>		
Protection Standards Centrally Located	ZO and SLDO	Not addressed
<p>■ Recommendation: See Elk and East Nottingham Township’s current standards.</p>		

Sources/Dates: Oxford Borough Zoning Ordinance (2004, as amended); Oxford Borough Subdivision and Land Development Ordinance (1998, as amended)

<i>Upper Oxford Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Water Resources		
Floodplains	ZO, Article XI	<ul style="list-style-type: none"> ▪ Establishes regulated floodplain as areas subject to the 100 year flood as part of the flood hazard district. ▪ Prohibits any new construction or development that would cause any increase in the 100 year flood heights. ▪ Permitted uses include agriculture, recreation, residential accessory uses, and permeable parking areas and roads to serve permitted uses. ▪ Special exception uses include railroads, roads, water pipelines, etc, storm sewer outlets, storage yards, water-related activities, facilities approved by the PaDEP, temporary uses, and expansion or alteration of existing structures. ▪ Existing structures are subject to regulation when proposing modifications.
■ Recommendation: No need to take action.		
Wetlands and Wetlands Margins	ZO or SLDO	Not addressed
■ Recommendation: See Elk Township’s current regulations.		
Land Resources		
Steep Slopes	ZO, Article XI	<ul style="list-style-type: none"> ▪ Identifies Moderate Steep Slopes (15 – 25%) and Severe Steep Slopes (25%+). ▪ Permits single-family development on Moderate slopes (with a maximum 10% impervious lot coverage). ▪ Significantly restricts uses on severe slopes. ▪ Permits forestry on any steep slopes in conformance with conservation practices. ▪ Prohibits earth disturbance of any kind unless it is associated with a permitted use.
■ Recommendation: No need to take action.		
Agricultural Soils	ZO or SLDO	Not addressed
■ Recommendation: Net out a percentage (at least 25%) of Class I, II, or III soils for density calculations in any district within the Agricultural land use category.		
Biotic Resources		
Riparian Buffers	ZO or SLDO	Not addressed
■ Recommendation: See Elk Township’s current standards.		
Woodlands	SLDO, Article V, § 151-22	Erosion and Sedimentation plan required to show tree masses and individual trees with greater than 24” DBH. Plan also needs to note which trees will be cleared and why.
	SLDO, Article VII, § 151-41.C	Regarding public use areas, trees shall be preserved wherever possible, and consideration shall be shown for large trees.
■ Recommendation: See Lower Oxford’s current regulations and recommendations		

<i>Upper Oxford Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Timber Harvesting Plan Required	ZO or SLDO	Not addressed
■ Recommendation: See East Nottingham’s current regulations.		
Specimen Vegetation/PNDI Sites	SLDO, Article V, § 151-22	E&S plan required to show individual trees with greater than 24” DBH. Plan also needs to note which trees will be cleared and why.
	SLDO, Article VII, § 151-41.C	Regarding public use areas, trees shall be preserved wherever possible, and consideration shall be shown for large trees.
■ Recommendation: See Elk Township’s current regulations and recommendations.		
Hedgerows	ZO or SLDO	Not addressed
■ Recommendation: Protect in accordance with woodland protection standards.		
Tree Replacement Required	ZO or SLDO	Not addressed
■ Recommendation: See East Nottingham’s current regulations.		
Tree Protection During Construction	ZO or SLDO	Not addressed
■ Recommendation: Require a zone of protection be used during construction to ensure the tree or group of trees is protected to the extent of the tree drip line(s). See Elk Township’s current regulations.		
Administrative		
Plan Requirements for Natural Resources	SLDO, Article IV, § 151-8; SLDO, Article V, § 151-19	<ul style="list-style-type: none"> ▪ Sketch plans are encouraged. ▪ Sketch plans are encouraged to show significant topographical and physical features, including contours and the general location of wooded areas.
■ Recommendation: Expand the list of preliminary plan requirements to include other resources listed in this table including, but not limited to, agricultural soils, steep slopes, and wetlands.		
Protection Standards Centrally Located	ZO or SLDO	Not addressed
■ Recommendation: Re-organize all natural resource regulations into a single Article called, Natural Resource Protection.		

Sources/Dates: Upper Oxford Township Zoning Ordinance and Subdivision and Land Development Ordinance (2010, as amended)

<i>West Nottingham Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Water Resources		
Floodplains	ZO, Section 903	<ul style="list-style-type: none"> ▪ Establishes regulated floodplain as area subject to the 100 year flood as part of the flood hazard district. ▪ Floodplain zones defined (Floodway, Flood Fringe, General Floodplain), permitted and prohibited uses established, and development and construction requirements established. ▪ Within an identified floodplain, no new construction is permitted within 50 feet of top-of-bank of any watercourse without a permit from DEP. ▪ All new construction or substantial improvement of residential structures shall be elevated up to or above the regulatory flood elevation. ▪ All new construction or substantial improvement of non-residential structures shall be elevated up to or above the regulatory flood elevation or be designed and constructed to remain completely or essentially dry during flooding. ▪ Accessory structures, mobile homes, trailers, and recreational vehicles are prohibited within identified floodplain areas. ▪ Prohibits any new construction or development that would cause any increase in the 100 year flood heights.
<p>■ Recommendation: No need to take action</p>		
Wetlands and Wetlands Margins	ZO, Section 905	<ul style="list-style-type: none"> ▪ Requires delineation of the limits of wetlands on a site or within 100 feet of a site. ▪ Requires a full wetland report conducted by a qualified wetland biologist or other professional, approved by the Township. If no wetlands are found a note shall be added to preliminary and final plans stating such. ▪ Any use, activity, or improvement which would entail regarding or fill in wetlands shall require proof to the Township that applicable DEP or Army Corp permits have been obtained.
<p>■ Recommendation: See Elk Township's current regulations</p>		
Land Resources		
Steep Slopes	ZO, Section 904	<ul style="list-style-type: none"> ▪ Steep slopes 25% or greater shall be identified and disturbance shall be limited to 15%, unless permitted by CU in areas within EV or HQ watersheds.
<p>■ Recommendation: No need to take action</p>		
Agricultural Soils	ZO or SLDO	Not addressed
<p>■ Recommendation: Net out a percentage (at least 25%) of Class I, II, or III soils for density calculations in any district within the Agricultural land use category.</p>		

<i>West Nottingham Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Agricultural Soils	ZO or SLDO	Not addressed
<p>■ Recommendation: Net out a percentage (at least 25%) of Class I, II, or III soils for density calculations in any district within the Agricultural land use category.</p>		
Biotic Resources		
Riparian Buffers	SLDO Section 625	<ul style="list-style-type: none"> ▪ Establishes 35 foot riparian buffer from top-of-bank, unless in an EV or HQ watershed or designated as an impaired stream in which case the minimum buffer shall be 50 feet. ▪ Limited uses permitted within buffers, mainly conservation. ▪ Buffer is required where there is a subdivision or land development, buffer may be accomplished either through natural succession or via planting through a planting plan.
<p>■ Recommendation: No need to take action</p>		
Woodlands	ZO, Section 906	<ul style="list-style-type: none"> ▪ Applies to any parcel in the Township two (2) acres or greater. ▪ In the R-1(2 acre), R-2 (1 acre), and Industrial Districts: Residential Uses – not more than 35% of woodlands shall be regraded, cleared, built on, or disturbed; Non-Residential Uses – 50%; Agricultural Uses – 75%. ▪ In the Village District: Residential Uses – not more than 50% of woodlands shall be regraded, cleared, built on, or disturbed; Non-Residential Uses – 75%. ▪ Where disturbance or removal occurs on any lot, woodlands replacement shall be required in accordance with SLDO Section 624. ▪ Sets up guidelines for woodland disturbance. ▪ If any tree designated for preservation dies within one year from the of end of construction it shall be replaced in accordance with SLDO Section 624.
Woodlands	SLDO Section 624.1.B	<ul style="list-style-type: none"> ▪ Where disturbance occurs on any lot in accordance with ZO Section 906: On lots less than one acre – 15% of existing woodlands that are disturbed shall be replaced; on lots greater than one acre and smaller than five acres – 10% of woodlands shall be replaced; on lots greater than five acres – 5% of woodlands shall be replaced. ▪ Establishes a tree protection zone for trees to remain on site designated to be protected in addition to protection standards that apply to the tree protection zone. ▪ Definition of woodland (abbreviated): Woodlands consist of a contiguous ¼ acre or greater having more than 1 viable tree with a DBH of 10 inches or greater per 1,000 square feet.

<i>West Nottingham Township</i>		
Resource	Ordinance/Section	Description of Protection Standard
Timber Harvesting Plan	ZO 1118	<ul style="list-style-type: none"> ▪ Where a timber harvesting operation/forestry operation requires a permit from CCCD or other State or Federal Agency, a copy of the approved plan and agency approval shall be submitted to the Township prior to the initiation of the approved activity.
<p>■ Recommendation: Additional timber harvesting requirement should be considered, potentially protecting steep slopes, floodplains, and soil erosion, and effects on Township roads and visibility from adjacent properties. See</p>		
Specimen Vegetation/PNDI Sites	ZO or SLDO	Not addressed
<p>■ Recommendation: See Elk Township’s current regulations and recommendations.</p>		
Hedgerows	ZO or SLDO	Not addressed
<p>■ Recommendation: Protect in accordance with woodland protection standards.</p>		
Tree Replacement Required	SLDO Section 624.1.B.1.	<ul style="list-style-type: none"> ▪ The replacement of woodlands is based on tract size: <1 acre, ▪ 1 – 5 acres, and 5+ acres. ▪ The diameter of replacement trees is based on the size of the tree that is being replaced. ▪ Requirements are included to ensure that the replacement trees are of the highest quality and that they are maintained.
<p>■ Recommendation: No need to take action</p>		
Tree Protection During Construction	SLDO Section 624.1.B.3.	<ul style="list-style-type: none"> ▪ Defines a tree protection zone as an area radial to the tree trunk in which no construction activity can occur, consisting of 15’ from the tree trunk or 2’ beyond the dripline, whichever is greater. ▪ Tree protection zones will be clearly identified during construction.
<p>■ Recommendation: No need to take action</p>		
Administrative		
Plan requirements for natural resources	ZO, Section 907	Where a subdivision or land development review is required, a site plan is required showing floodplain, steep slopes, riparian buffers, wetlands, EV and/or HQ watersheds and woodlands. Limits of all encroachments and disturbances shall be shown.
	SLDO, Part 4	<ul style="list-style-type: none"> ▪ Preliminary Plan shall include but not be limited to: contours, steep slopes, soil types, streams, wetlands, ponds or other bodies of water, 100 year floodplain, wetlands NWI, high groundwater areas (Chesco Soil Survey). ▪ Every subdivision of 15 or more lots that has public improvements and any land development of 2 acres or more shall be accompanied by a Neighborhood Impact Study that shall include but not be limited to: impact on existing floodplains, wooded areas, steep slopes and other sensitive natural features, surficial geologic and geotechnical characteristics including geomorphic surfaces, bedrock outcrops, soils, and quaternary deposits.
<p>■ Recommendation: No need to take action.</p>		

<p>Protection Standards Centrally Located</p>	<p>ZO, Article 9. SLDO Section 624, 625</p>	<p>Article 9 of the ZO addresses floodplains, steep slopes, wetlands, and woodlands. SLDO Section 624 covers Woodlands, Tree Protection and Replacement and Street Trees. SLDO Section 625 covers Riparian Buffers.</p>
<p>■ Recommendation: No need to take action</p>		

Sources/Dates: West Nottingham Zoning Ordinance (2012, as amended); West Nottingham Subdivision and Land Development Ordinance (1995, as amended)