

AGENDA
Alexandria Township Planning Commission
August 22, 2011
6:00 p.m. – Township Conference Room

Call to Order – Chairman Knowles

Adopt Agenda

Approve Minutes 07/25/2011

Public Hearing

- 1.
- 2.
- 3.

Zoning Administrator's Report

New Business:

1. Douglas County Comp Plan Draft
2. Douglas County Policy on Impervious Surfaces
3. Education/Training – Enforcement: Creating Effective, Legal and Consistent Enforcement Procedures

Old Business:

- 1.
- 2.
- 3.

Adjournment

Dates to Remember:

September 20, 2011 – Site Visit – 12:30 p.m.

September 26, 2011 – Regular Planning Commission Meeting – 6:00 p.m.

October 18, 2011 – Site Visit – 12:30 p.m.

October 24, 2011 – Regular Planning Commission Meeting – 6:00 p.m.

STAFF REPORT

Agenda Item: 7a - Douglas County Comprehensive Plan Draft

Background: Last month, Douglas County released its draft Comprehensive Plan update. A public hearing has been scheduled for August 23 at 6pm in the County Commissioners room.

Staff Comments: Staff has attached several maps from the draft Comprehensive Plan that may be of interest.

Overall, Staff does not feel that the draft Plan includes anything that would conflict with the Township's existing Comprehensive Plan. An update to the Township's Plan could easily include any elements of the County's Draft Plan that might be of interest.

Staff did e-mail County Land & Resource Director with a few comments. A copy of that e-mail is attached. The primary issue was that Staff felt the County Plan should mention its 2006 Memorandum of Understanding with the Township that formally started the Township's own zoning administration. There was a section listing out existing intergovernmental coordination and Staff commented that the mention of the MOU could be in this section. This would help to ensure that the MOU was recognized as a formal, existing agreement.

Staff has the following comments on the various sections of the draft Plan:

Natural Resources

1. There is a map of the County indicating where various natural resources are located. These include some areas in Alexandria Township that are noted as "Rare Natural Features" by the NDR and a significant "site of biodiversity" SE of Lake Jessie. This map could be used by the Township as one component of trying to protect certain areas.
2. There is a map of suggested "Conservation Corridors" for the county. In Alexandria Township, these corridors are centered along the lakes. Such a map could potentially be used in planning trails or other ways of preserving open space.

Land Use

1. Does not identify anything within Alexandria Township (planning for the Township is left to the Township)
2. The County's Future Land Use Map takes a much different approach than their current zoning map and regulations implies. It divides the county into two agricultural (1+ per 40 and 1+ per 20) and two residential categories (1+ per 10 and 2+ per 1), plus a commercial/light industrial class.

3. The (+) in these is if a conservation subdivision design is used; they are allowed some unspecified additional density if the landowner wants to subdivide in this way.

Intergovernmental Coordination

1. The County identifies a goal of being more involved with orderly annexation agreements. However, it specifically exempts Alexandria Township's current agreement with the City of Alexandria.
2. The County lists a number of "Existing Intergovernmental Cooperation" documents, but does not mention the Memo of Understanding between the Township and the County in 2006. Staff has e-mailed the County to inquire about whether this could be added, so that it is formally recognized.
3. The County identifies a number of action items, the following which directly affect the Township:
 - a. Initiate an annual planning coordination meeting with the staff from municipalities in the County and Alexandria Township.
 - b. Seek input and coordinate with cities and Alexandria Twp on proposed plats with over 20 housing units and all zoning and conditional use applications on land directly adjacent to cities and Alexandria Twp and within 2 miles of the City of Alexandria.

Transportation Plan

1. The draft Plan (p.28-29) discusses general guidelines for when the County may wish to transfer authority of County Roads to another level of government. The guidelines for transferring roads to Townships are not surprising (essentially those roads that serve local needs and have lower traffic volumes). There have been some informal discussions about whether County Road 85 (Crestwood Drive, primarily) should at some point be transferred to the Township and this section of the Draft Plan would be relevant to any discussion of that in the future.
2. There is a section outlining programmed or planned transportation improvements within the County. Those directly affecting Alexandria Township include:
 - a. (2011) Bike Trail (LeHomme Dieu Beach to CR 85)
 - b. (2013-2015) Various CSAH overlays, to be determined (may or may not impact Alexandria Township)
3. There is a section identifying recommended changes to the functional classification of several roads in Alexandria Township. The effect would be to accommodate more traffic – likely by widening roads. The roads proposed for changes are:
 - a. CR 81 – change to Minor Collector
 - b. Liberty Road – change to Minor Collector (TH 27 to CR 73)
 - c. CR 85 – change to Minor Collector (CSAH 42 to CSAH 9)

4. The Plan includes a map of traffic volume projections (5-year) that may be useful to the Township in its planning.
5. There is a goals section (beginning p. 135) that outlines draft goal statements. These are relatively general in nature and do not identify specific roads or transportation systems affecting the Township, but may impact the Township depending on how these goals would be implemented (i.e. when and if improvements are made to County Roads).
6. There is an implementation section (beginning p. 36) that identifies how the County intends to implement and achieve its goals. Again, these draft implementation steps are mostly general, so it will depend on the specific activities of the County to determine whether these implementation steps may impact the Township.
7. There are general statements throughout this section that seem to increase the emphasis on “active living” as a goal of transportation investments. In practice, this seems to be primarily implemented through an increased number of bike trails.

Demographics

1. This section is primarily a collection of basic demographic data.
2. Alexandria Township is noted as having the second highest rate of population growth between 1960 and 2000 (198.6% - from 1,594 to 4,760). Only Carlos Township had a higher rate of growth – 200.6% from 636 to 1,912). The Township’s population however, will decrease significantly once all phases of the orderly annexation agreement with the City of Alexandria are completed.

Parks, Recreation, Trails and Open Space

1. The draft expresses a goal to “expand or develop county-wide trail connections” and to “provide linkages between county parks and to Central Lakes Trail”. Such linkages – particularly to the Central Lakes Trail – could impact Alexandria Township.
2. The Township has had several meetings in an effort to develop its own Parks and Trails Plan. A Plan has not yet been finalized or developed in detail at this time.
3. The draft Plan identifies “Historic Structures” in the county. The only one listed in the Township is “Geneva” (presumably, this is referring to the cemetery)
4. The Plan mentions a grouping of 15 Native American burial mounds “approximately 2.5 miles east of Alexandria near Lake Geneva.”
5. Suggests adopting standard for county park acreage of 20 acres of parkland per 1,000 population
6. Suggests adding about 218 acres of additional land for parks and trails...in areas of high growth or demonstrated demand.

STAFF REPORT

Agenda Item: 7b - Douglas County Impervious Surface Policy

Background: Last month, Douglas County released its draft Comprehensive Plan update. A public hearing has been scheduled for August 23 at 6pm in the County Commissioners room.

Staff Comments: In 2006-2007 when the Township was developing its first Zoning Ordinance, we had some discussions about impervious surfaces. At the time, the County's Zoning Ordinance defined impervious surfaces as:

Douglas Co (2007) Definition:

IMPERVIOUS SURFACE - any surface that retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples of impervious surfaces include, but are not limited to, concrete, bituminous, tar, wood, plastic, compacted gravel, landscaping block and retaining walls, areas underlain with plastic or other liners (including semi-permeable landscaping fabric). Permeable or porous pavement systems or other materials designed to allow infiltration of water may be considered completely or partially pervious in certain cases as specified within this ordinance.

The Township had discussion about the last sentence, in particular. The discussion was whether to give "porous pavement systems or other materials designed to allow infiltration of water" any credit as being at least partly pervious. The Township decided, based on some DNR documents and other information indicating that there wasn't sufficient research to know for sure that such systems would allow water to infiltrate over the long-term, to not allow these surfaces to be considered pervious at all. The resulting Township definition was:

Alexandria Township Definition (since 2007):

IMPERVIOUS SURFACE - any surface that retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples of impervious surfaces include, but are not limited to, concrete, bituminous, tar, wood, plastic, compacted gravel, landscaping block and retaining walls, areas underlain with plastic or other liners (including semi-permeable landscaping fabric). Permeable or porous pavement systems or other materials designed to allow infiltration of water may not be considered pervious for the purposes of this ordinance.

Sometime between 2007 and Fall 2008, the County changed its definition of "impervious surface" to:

Douglas Co (Current) Definition:

IMPERVIOUS SURFACE - Any surface not able to absorb liquid. Examples of, but not limited to, concrete, bituminous, tar, roof top, wood decking and modular stone.

In the Fall of 2008, the County Land & Resource Director distributed a memo describing how the County would calculate impervious surfaces. The primary issue was apparently whether the County would count landscape fabric or other landscaped areas as impervious.

Staff either never received that memo or somehow missed it if it was sent to us. In any case, we had been operating under the understanding that the County considered all landscape fabric to be 100% impervious (it did not let water through sufficiently to be considered pervious).

Generally, the Township's policy has been to follow County protocols and interpretations as long as we don't strongly disagree and desire a stricter interpretation (we can't be less restrictive).

Staff would like the Commission to know about this new memo, and eventually decide whether we should change our ordinance to reflect the County's policy since 2008.

The key change from our current practice would be to consider non-woven landscape fabric to be 100% pervious (allows water through). Plastic or woven fabric would still be considered 100% impervious.

As long as we are discussing the issue, it may be useful to bring up the issue of whether we want to give any credit for the use of pervious pavers or similar materials. The City of Alexandria and Douglas County both have been giving credit if these systems are properly designed and installed.

Other issues that typically come up surrounding impervious surfaces include whether to count the eaves of roofs on buildings and whether directing water from roofs and other surfaces into designed infiltration areas should allow for any credit. These types of issues would likely require the County to change its ordinance before the Township could – as they are likely to be less restrictive than the County otherwise.

Question to the Planning Commission:

1. Should Staff begin drafting a proposed ordinance change that would bring our policy/interpretation on impervious surfaces into line with the 2008 County memo (specifically in relation to landscape fabrics – most everything else in that memo is consistent with how the Township has been administering the ordinance)?
2. Should Staff begin drafting new ordinance language that would give some credit to pervious paver systems if they are properly designed and installed?
3. All of these drafts could be done toward the end of the year, as is the Township's typical policy.



LAND AND RESOURCE MANAGEMENT
Environment, Planning, Water, Solid Waste & Zoning

MEMORANDUM

TO: Land & Resource Management staff, surveyors, landscapers, lake associations

FROM: David Rush

DR

DATE: September 16, 2008

RE: Policy regarding the definition/determination of “Impervious Surface”

The definition of “Impervious Surface”, or perhaps more importantly, the determination of what is an impervious surface has been a moving target for our office for some time. It seems likely that this has been the case since the introduction of this “idea” of impervious surface restriction, but has been a particular issue as of late. Due to frequent questioning and challenges of determinations, the Land & Resource Management office unfortunately has vacillated on what we consider impervious in an attempt to be fair and reasonable. The opposite has resulted. To hopefully rectify this situation, this memo establishes a policy that will be followed by the Land & Resource Management office to determine what are and are not impervious surfaces. This policy does not supersede the Zoning Ordinance, but only provides additional clarification to existing definition and rules.

The Ordinance defines “Impervious Surface” as *[a]ny surface not able to absorb liquid. Examples of, but not limited to, concrete, bituminous, tar, roof top, wood decking and modular stone.* These examples of surfaces would include the following features found residential and commercial lots:

- Eves or overhangs on structures (houses, garages, sheds, dog houses, pump houses) as they constitute a roof top
- Driveways, sidewalks, parking areas, dog kennels, patios, decks, balconies, steps, equipment pads, manhole covers, and swimming pools (above or below ground)
- Retaining walls (unless they are less than 4 inches in width)
- Recreational equipment such as swimming pools, playground equipment, sandbox, or playhouses

Features constructed from the above listed materials are somewhat obvious. Some less obvious impervious features found on lots include:

- Utility equipment (transformer boxes, irrigation equipment)
- Propane Tanks
- Exterior HVAC units, heat pumps, refrigeration units
- Any portable structure, vehicle, or recreational equipment, which is obviously being stored on the property for extended periods of time, including: RV's, fish-houses, portable garages, inoperable vehicles, or playhouses.

Beyond these structures and equipment found on properties, landscaping makes up the better part of impervious surfaces. The Land & Resource Management office was asked to review/revise their determination of the imperviousness of various types of landscaping. In our area, landscaping and gardens are typically completed by creating some kind of border (stone, block, timber), placing in plants and shrubs, and covering the ground with a fabric or weed barrier followed by rock (pea-rock to cobble size stones) or wood chip mulch. We have determined that these natural materials, with the exception of very large rock, do not increase imperviousness. In fact, rock and mulch can improve infiltration by preventing soil pore clogging from raindrop impact and slowing runoff. The main concern with landscaping is the weed barrier that is installed under the rock or mulch. The Land & Resource Management office had previously considered all landscaping with weed barrier or fabric under it to be impervious. This decision was based on the great variety of weed barriers in use and a lack of information on their specific properties.

Upon request of some landscapers and surveyors, our office researched the infiltration properties of as many types of landscape fabrics as we could find. Most, if not all, landscape fabrics undergo testing according to ASTM standards (American Society for Testing and Materials). ASTM test D-4491 measures permeability or water flow through the fabric. After reviewing test results from broad range of fabrics, we determined that the infiltration rates seemed to group by the type of material and construction of the fabric. Flow rates ranged from 0 to 300 gallons per minute per ft². Plastic and woven fabrics were barriers or near-barriers to water infiltration. Non-woven, felt-type fabrics allowed water to pass through at varying rates depending on the weight of the fabric.

Table 1. Average water flow rates of non-woven landscape fabrics.

Weight (oz./yd ²)	Flow rate (gpm/ft ²)
2	171
3	157
4	133
6	110
8	101
10	81
12	68
16	50

Comparing these flow rates to basic infiltration rates for various soil types, we

determined that most non-woven fabrics would allow water to pass through at rates faster than most soils would infiltrate water (Table 2).

Table 2. Basic infiltration rates for common soil textures.

Soil texture	Infiltration rate (gpm/ft ²)
sand	>0.0123
sandy loam	0.0082 – 0.0123
loam	0.0041 – 0.0082
clay loam	0.0021 – 0.0041
clay	0.0004 – 0.0021

Based on this information, the department has determined that plastic or woven fabrics with or without rock or mulch cover will be considered completely impervious (100%). Non-woven fabrics under rock or mulch will be considered completely pervious (100%).

The condition of the material will not matter, as the Land & Resource Management staff cannot make a determination on every lot with landscaping. Landscaping (rock, mulch) without any fabric under it will also be considered pervious, unless the area is compacted from walking or driving (pathways and parking spots are impervious).

How riprap is counted has also been an issued and was considered by the office. Riprap typically has woven landscape fabric installed under it, and as discussed above, this fabric is considered impervious. However, riprap is also very close to the lake, and the runoff created by it has little distance to travel and pick up sediment and pollutants. According to the County Zoning Ordinance, riprap may be permitted from the OHW mark to 3 ft above the OHW mark. Relative to this rule, riprap will be considered to be any rock placed between the OHW and 3 ft above the OHW. Any placement of rock (whether it be termed riprap or not) will be considered landscaping. Landscaping with woven fabric under it is considered to be impervious. Therefore, the department has determined that riprap between OHW and 3 ft above will be considered pervious. Riprap placed 3 ft above OHW and higher is landscaping and will be considered impervious.

Other features commonly included in landscaping and would be considered to be impervious could include:

- Water features (fountains, ponds, bird baths)
- Large landscape boulders (greater than 1 ft diameter)
- Wood, rock, stone, or block retaining walls
- Lawn ornaments

This memo hopefully provides greater guidance on how and what the County considers to be impervious surface and features. It is not intended to be exhaustive and absolute, as there may be other features not included or considered at this time. This memo is also subject to any changes in the County Zoning Ordinance or State Shoreland Rules in the future.

The following is a simplified list of surfaces and features typically found on lots and how the Land & Resource Management Office would classify them. This list includes some example, but determination of impervious surfaces and features is not limited to this list.

Impervious	Pervious
Eves or overhangs on structures (houses, garages, sheds, dog houses, pump houses) as they constitute a roof top	Non-woven landscape fabrics
Driveways, sidewalks, parking areas, dog kennels, patios, decks, balconies, steps, equipment pads, manhole covers, and swimming pools (above or below ground)	Riprap below 3ft above OHW mark
Retaining walls (unless they are less than 4 inches in width)	Landscaping less than 4 inches in width (retaining walls, fences)
Recreational equipment such as swimming pools, playground equipment, sandbox, or playhouses	
Utility equipment (transformer boxes, irrigation equipment)	
Propane Tanks	
Exterior HVAC units, heat pumps, refrigeration units	
RV's, fish-houses, portable garages, inoperable vehicles, or playhouses.	
Plastic weed barrier	
Woven landscape fabric	
Water features	
Landscape boulders	
Lawn ornaments	
Any compacted soil from walking or driving	
Riprap 3 ft or more above OHW	