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October 18, 2016

Ms. Kate Newhall-Smith, Planner
Office of Planning and Development
City Hall
60 Pleasant Street
Newburyport, MA 01950

Subject: **Evergreen OSRD
ENGINEERING REVIEW COMMENTS**

Dear Kate and Members of the Planning Board:

We have reviewed the following information on the subject project and provide our comments below:

- Plans –Sheet 1 titled *Existing Conditions Plan to Accompany ANRAD, 18 Boyd Drive Evergreen Golf Course, Plan of Land in Newburyport, Massachusetts*, by Design Consultants, Inc., Revision 3 dated September 14, 2016; and, Sheet 2 titled *OSRD Sketch Plan, 18 Boyd Drive, Newburyport, MA*, for Evergreen Commons, LLC, by Design Consultants, Inc., Revision 2 dated September 14, 2016.
- *Water Resources Impact Evaluation Report, Evergreen Commons, LLC, Newburyport, Massachusetts*, by NGI, dated September, 2016, and supplemental information letter from NGI to Planning Board, dated October 12, 2016.
- Letter from AECOM to Andrew Port, Director of Planning & Development, *Review of Water Resources Impact Evaluation Report, Evergreen Commons, LLC, Newburyport, Massachusetts, 2016*, dated October 13, 2016.
- *Traffic Impact & Access Study*, by DCI, Revised September 15, 2016.
- Letter from Vanasse & Associates, Inc., to Andrew Port, Director of Planning & Development, *Traffic Engineering Peer Review, Evergreen Commons Open Space Development – 18 Boyd Drive and 15 Laurel Road*, dated September 30, 2016.
- Letter from Jonathan Eichman, Esq. of KP|Law, dated September 21, 2016, providing legal opinions re: *Evergreen Valley OSRD Application*.

Traffic

- 1) I agree with KP|Law's interpretation of the Zoning that the proposed roadways will result in dead end streets being longer than the maximum 600-feet in length. This results in a public safety issue, as he noted, and should not be accepted. A connection to Laurel Road is advised.

- 2) I agree with the Applicant's traffic study and with VAI's proposed recommendations. I have no additional comments or concerns.

Water Supply Impacts

- 1) I agree with AECOM's review of the Applicant's *Water Resources Impact Evaluation Report* and feel it is critical to repeat their concerns herein. As stated in the Report, it's been confirmed that nitrogen reaches Well 2, which is proof that runoff from lawns enters the aquifer and makes it into our water supply. In addition, glyphosate (main pesticide ingredient in Roundup®) and other toxins have reached the *monitoring* wells, as stated in the NGI letter. And these are from the existing homes on Boyd Drive and we do not want to exacerbate the problem with more homes. These toxins likely have reached Well 2 but, unfortunately, the testing protocol by DEP is limited and many of these chemicals are not regulated.

My biggest concern is that the EPA is grossly negligent in protecting us from toxins manufactured and sold at hardware stores. It is not just an issue of a carcinogen being introduced into our water supply but these chemicals affect us in many ways that we're just beginning to understand¹ (see attached).

There are no assurances that homeowners will *not* use toxic chemicals which will end up running off their properties and into our water supply – regardless of any restrictions or conditions that could be imposed by the Board. Unfortunately, many of us don't even realize how deadly these household chemicals are. Chemical manufacturers market their products as safe when, in fact, they are toxic.

I believe that in our current society, we need to redefine what is an acceptable 'use' within the WRPD. The average home has dozens of untested chemicals that can be purchased at grocery and hardware stores that end up in the yard and driveways and, ultimately, in our environment and ultimately our bodies. New chemicals are sold before any federal review for consumer safety. Under current law, around 64,000 chemicals are not subject to environmental testing or regulation.²

I provide the aforementioned comments to shed some light on the issue. Unfortunately, this topic is beyond my expertise so I urge the Board to seek experts in this field to help keep our water supply safe.

- 2) Contrary to the NGI Report, there is no solid evidence that a bedrock high exists as they claim. I also question their claim that as much as 50% of the groundwater heads northwesterly towards the river and bypasses Well 2. This essentially means that this groundwater is not within Zone II of Well 2. A more thorough subsurface investigation to map (horizontally and vertically) the bedrock must be performed to prove this claim.
- 3) Even if a bedrock high exists and 50% of the groundwater bypasses Well 2, this same '50%' is within the Zone II of Well 1. So whatever contamination bypasses Well 2 will theoretically end up in Well 1 and this is equally unacceptable.
- 4) Prior studies for both this site (i.e. the 1985 "Lally Report") and elsewhere make the assertion that providing a thick layer of topsoil will greatly reduce the potential that contaminants applied to the

surface (fertilizers and pesticides, etc.) will be filtered-out before entering the aquifer. This is a dangerous assertion and I request that the Board not assume it to be accurate. There are many reasons that chemicals may *not* get filtered out by topsoil and many chemicals are so toxic that only a small amount will be harmful:

- a. Chemicals transport through soils differently and their ability to attach to soil particles will vary greatly depending on how water-soluble they are and their ability to be attracted to other particles.
 - b. Some chemicals are more water soluble and have a much higher transmissivity rate than others. EPA allowed MTBE to be added to gasoline which was a huge mistake because it is higher solubility in water and spreads quite rapidly and over long distances. Hundreds of water supplies have been contaminated by this additive.
 - c. Heavy sudden rainfall will carry contaminants over the surface before it has time to penetrate the soils resulting in high concentrations of chemicals found at low points in surface topography and along riverbanks before being discharged into the rivers. Stockpiling a buildup of fertilizers and pesticides in the stormwater ponds on this Project site will greatly increase the potential for contamination of Well 2.
- 5) In the event that this Project is approved by the Board, then the Applicant must provide a stormwater management system that protects our water supply from contamination. The Project site sits in a 'bowl' and does not have a drainage outlet. This makes the stormwater management system a challenge, if not impossible, because virtually all runoff will enter the aquifer and I am not aware of any treatment system that removes the types of chemicals we're talking about.

If you have any questions regarding these comments, please contact me.

Sincerely,

NEWBURYPORT DEPARTMENT OF PUBLIC SERVICES



Jon-Eric White, P.E.
City Engineer

CC: Tony Furnari, DPS Director
Wayne Amaral, DPS Deputy Director

¹Entropy 2013, 15(4), 1416-1463; doi:10.3390/e15041416 (excerpt attached)

²Lawmakers Reach Deal to Expand Regulation of Toxic Chemicals, by Coral Davenport and Emmarie Huetteman, NY Times, dated May 19, 2016. (attached)

Review

Glyphosate's Suppression of Cytochrome P450 Enzymes and Amino Acid Biosynthesis by the Gut Microbiome: Pathways to Modern Diseases

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Abstract: Glyphosate, the active ingredient in Roundup[®], is the most popular herbicide used worldwide. The industry asserts it is minimally toxic to humans, but here we argue otherwise. Residues are found in the main foods of the Western diet, comprised primarily of sugar, corn, soy and wheat. Glyphosate's inhibition of cytochrome P450 (CYP) enzymes is an overlooked component of its toxicity to mammals. CYP enzymes play crucial roles in biology, one of which is to detoxify xenobiotics. Thus, glyphosate enhances the damaging effects of other food borne chemical residues and environmental toxins. Negative impact on the body is insidious and manifests slowly over time as inflammation damages cellular systems throughout the body. Here, we show how interference with CYP enzymes acts synergistically with disruption of the biosynthesis of aromatic amino acids by gut bacteria, as well as impairment in serum sulfate transport. Consequences are most of the diseases and conditions associated with a Western diet, which include gastrointestinal disorders, obesity, diabetes, heart disease, depression, autism, infertility, cancer and Alzheimer's disease. We explain the documented effects of glyphosate and its ability to induce disease, and we show that glyphosate is the "textbook example" of exogenous semiotic entropy: the disruption of homeostasis by environmental toxins.

Keywords: glyphosate; cytochrome P450; eNOS; obesity; cardiovascular disease; cancer; colitis; shikimate pathway; gut microbiome; tryptophan; tyrosine; phenylalanine; methionine; serotonin; Alzheimer's disease; Parkinson's disease; autism; depression

POLITICS

Lawmakers Reach Deal to Expand Regulation of Toxic Chemicals

By CORAL DAVENPORT and EMMARIE HUETTEMAN MAY 19, 2016

House and Senate negotiators reached agreement on Thursday on far-reaching legislation to overhaul the nation's 40-year-old law governing toxic chemicals, a compromise that would subject thousands of household chemicals to regulation for the first time.

Public health advocates and environmentalists have complained for decades that the 1976 Toxic Substances Control Act is outdated and riddled with gaps that leave Americans exposed to harmful chemicals. Under current law, around 64,000 chemicals are not subject to environmental testing or regulation.

But efforts to tighten the law have stalled for years, in part because of opposition from the chemical industry. The bipartisan authors of the new bill say their breakthrough represents a pragmatic, politically viable compromise between better environmental standards and the demands of industry.

"Anytime you have the Chamber of Commerce and you have the manufacturers and the Environmental Defense Fund all together on this thing, then that gets people's attention," said Senator James M. Inhofe of Oklahoma, the chairman of the Senate Environment and Public Works Committee, who helped negotiate the agreement.

Senator Tom Udall of New Mexico, one of its Democratic authors, said current law “has been broken for nearly 40 years.”

Some House Democrats and environmental advocates have criticized the compromise as a capitulation to the chemical industry that weakens existing law. Representatives Frank Pallone Jr. of New Jersey and Paul D. Tonko of New York said Tuesday in a joint statement, “Unfortunately, at this point, it would be better for us to not act at all.”

Aides said Thursday that conversations were continuing with House Democrats on some changes to the agreement in the hope of bringing them on board in the next 24 hours.

Senator Barbara Boxer of California, the ranking Democrat on the Environment and Public Works Committee, said Thursday that she opposed the first version of the bill — until she helped improve it. The final version is better than current law, she said.

The bill is expected to reach the House and Senate floors for final votes early next week. Mr. Inhofe said Thursday that it could reach President Obama’s desk before the Memorial Day recess.

Mr. Obama appears poised to sign the measure. An Environmental Protection Agency spokeswoman, Liz Purchia, called the final draft “a clear improvement over current law.”

Under the new bill, E.P.A. regulations would pre-empt most new state regulations, although states could still enact measures such as monitoring and labeling of chemicals. State chemical restrictions passed before April 22 would be allowed to stand. Environmental groups failed in their push to allow states to enact laws stronger than federal rules.

Daniel Rosenberg of the Natural Resources Defense Council said Thursday that the new bill was still too weak, citing its pre-emption of states’ authority, its failure to provide the E.P.A. with enough authority to check imported products, and its restrictions on citizens’ abilities to petition the E.P.A.

But the authors of the bill say it would strengthen the law in other ways. Under the 1976 law, the E.P.A. is required to evaluate the safety of new chemicals introduced in the marketplace but not the roughly 64,000 chemicals that were already being used in American commerce. Since then, about 22,000 new chemicals have been introduced and evaluated, and those the agency designates as toxic and hazardous are subject to regulation.

The new measure would require the E.P.A. to begin evaluating those untested chemicals. The E.P.A. would be required to prioritize high-risk chemicals and to test at least 20 chemicals at any given moment, with each test limited to seven years. User fees of as much as \$25 million a year would be levied on companies to help pay for the testing.

Those mandates still fall far short of what environmental advocates had once envisioned, a law requiring the E.P.A. to test up to 300 existing chemicals a year.

The new legislation would also require the E.P.A. to take only the health and environmental effects of a chemical into account when devising new rules, not the financial effect of those regulations. The existing law requires new chemical regulations to consider compliance costs.

Chemical reviews would have to consider exposure impact on vulnerable people, such as pregnant women, children, poor communities and industrial workers.

Andy Igrejas of Safer Chemicals, Healthy Families, said that although the pending deal would bolster the E.P.A.'s authority, some issues remained.

"We don't get opportunities for big reforms often, and we want to get it right," he said.

The chemical industry backed the bill. Cal Dooley, the president of the American Chemistry Council, said, "This legislation balances the priorities and interests of multiple stakeholders."

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