

## Subdivision Rules & Regulations Update

### DPW, Engineering, Staff, and Board Member Comments & Responses

#### DEPARTMENT OF PUBLIC WORKS

1. References to “Mass Highway should be changed to “MassDOT Highway Division” to remain consistent with modern nomenclature.

⇒ **Concur: all references are updated.**

2. Specific reference should be made to, "SECTION 400: SUB-BASE, BASE COURSES, SHOULDERS, PAVEMENTS AND BERMS, and all applicable Subsections" of the Standard Specifications for Highways and Bridges (2020 edition) for roadway construction, as this changes the type of Hot Mix Asphalt (HMA) they can use from “recipe mix” to “Superpave” which is the type DPW currently uses/recommends. This change also requires *QA/QC* on their part.

⇒ **Concur: § 5.2.2.1 explicitly references MHD section 460, which is exactly what the comment refers to.**

#### GRAVES ENGINEERING (PEER REVIEW)

3. §3.3.3.16.d - Current engineering practice is to use the newer North American Vertical Datum of 1988 (NAVD88) in lieu of NGVD29. The difference between the two datums varies by location; in the central Massachusetts area the difference is roughly 0.75 feet (I don't recall which is higher). Anyway, I recommend that the SR&R adopt NAVD88.

⇒ **Concur: Revised accordingly.**

4. §4.1.3.5 - As written, the revisions provided the flexibility that I understand the Board desired to allow intersection curb radii of greater than 30 feet. As such, the regulation is fine. However, using The Ridings as an example, I am still concerned that the larger radii could do more harm than good at intersections of two minor streets. The larger radii provide wider pavement where turning movements occur and drivers turning left often encroach into opposing lanes. In my opinion, consideration should be given to requiring 30-foot curb radii at intersections that only consist of minor streets and using the new language of §4.1.3.5 for intersections that have one or more major streets. My thinking is that at minor street intersections, better-defined travel lanes will minimize the potential for day-to-day passenger vehicle conflicts where emergency vehicle traffic will seldom occur and at intersections with major streets the emergency vehicles will have less of a chance of encroachment. If the Board concurs, then I suggest that the regulation could offer further guidance to designers by having two subsections, one for each type of intersection. For reference, I checked other subdivisions: Highfields: 40-foot curb radii; Bull Meadow: 25- foot curb radii; Gristmill Village: 30' curb radii; The Ridings: 45-foot curb radii.

⇒ **Concur: Requirement revised to specify the radius at the edge of pavement to be exactly 30 feet on intersections involving only minor streets, and 30 feet or more when a major street is involved.**

5. §4.1.5.3 - Consideration could be given to allowing a vertical curve within a required leveling zone provided that anywhere within the required leveling zone a tangent to the vertical curve does not exceed the requirements of §4.1.5.6. For example, if a new street is to go downhill

away from an existing street, to keep runoff in the existing street an engineer could design a short section of constant grade uphill away from the existing street then start a vertical curve to create the downhill grade. One can calculate the tangent at any point along the vertical curve; the important tangent being that at the end of the required leveling zone. This type of situation would likely require less filling than creating a 100- foot long leveling zone of constant uphill grade then starting a vertical curve to establish a downhill grade.

⇒ **Concur: Board agreed with the idea, but expressed a concern with the possible adverse impact of a vertical curve crest within the leveling area. Requirement revised to allow a vertical curve within a leveling area provided that no tangent exceed the grade limit for that area and that the curve not adversely impact intersection sight lines.**

6. §4.2 and §5.7 – If not already done, I recommend that the Grafton DPW be solicited specifically about curb/edging/berm materials, profiles and their required locations; many of the subdivision streets will eventually become public ways. My experience in Grafton is that vertical granite curb has typically been installed at intersection radii. It is also my experience in Grafton that sloped granite edging (SGE) has often been used in subdivisions (with a waiver). The SGE is a durable material, is less “urban” than vertical granite curb, keeps water in the gutter and allows vehicles to drive onto the shoulder (which can be useful on narrow roads in emergency situations). Where bituminous concrete (aka hot mix asphalt) has been used, to the best of my knowledge the profile has been modified Cape Cod berm (i.e. 12” wide). Modified Cape Cod berm is unlikely to be displaced by snow removal equipment (snow removal equipment sometimes creates a shallow gouge in the berm, but the berm stays in place). Vertical hot mix curb can be displaced by snow removal equipment and has not customarily been used at subdivisions in Grafton. I recommend that the SR&R allow three types of materials/profiles: vertical granite curb, sloped granite edging and modified Cape Cod berm and that the SR&R refrain from allowing other profiles of hot mix asphalt curbs or berms unless other profiles are allowed by Grafton DPW. The materials and profiles referenced in these two sections will need to be coordinated for consistency.

⇒ **Concur: Revised to allow HMA curbs only in the modified Cape Cod configuration. The references to other HMA configurations was implicit in the current regulations’ reference to Construction Standard Detail drawings showing those other configurations. The Board agrees that modified Cape Code is the only acceptable HMA curb configuration.**

7. §4.7.8.2 – 1 recommend that the design storm for “... other drainage facilities ..” be revised from a 10-year frequency to a 25-year frequency to be consistent with §6.B.3.a of the Conservation Commission’s Regulations Governing Stormwater Management.

⇒ **Concur: Revised accordingly.**

8. The Major Street and Minor Street cross sections have a dimension of 2.5 feet for the depth of a catch basin sump. I recommend that the dimension be deleted. MassDEP Stormwater Handbook requires a four-foot deep sump and the sump depth is specified at SR&R §5.4.1.1. Also, the graphic of the water main location shows the water main to be under the pavement but the dimensions show that the water main will be under the shoulder. I understand that the Grafton Water District and the South Grafton Water District require water mains to be located under the shoulder. I recommend that the graphic be revised to show the water main under the shoulder.

⇒ **Concur: Revised accordingly. The sump dimension and water main location were carried over from the diagrams in the current regulations; updating and correcting the diagrams is one goal of the current revision effort.**

#### PLANNING DEPARTMENT

9. §3.2.1 – We suggest the following minor changes (marked in bold), “Any person who wishes to **propose** a residential subdivision may, and any person who wishes to **propose** a non-residential subdivision must, submit a Preliminary Plan ...”. The Board might also consider splitting the sentence into two parts to more clearly emphasize the distinction that a non-residential subdivision “shall be required to submit” a Preliminary Plan.

⇒ **Concur: Revised accordingly.**

10. §3.2.5.4 – It is our understanding that the Decision deadline is set via the date filed with the Town Clerk. This section may not be accurate/enforceable. We suggest Town Counsel review and input.

⇒ **The regulations state that the clock starts with the date a “complete” application was filed with the Board and the Town Clerk. The intent is to avoid starting the clock with the filing of a seriously deficient application. Language in §§ 3.2.4.3, 3.2.5.1, 3.2.5.4, 3.3.4.2, 3.3.5.1, and 3.3.5.2 has been revised to make this more clear.**

11. §3.3.4.7(d.6) – Staff is unsure of the reasoning for the proposed reduction of the “inventory of the roadway characteristics” from 1000’ to 500’. Further clarification would be useful.

⇒ **This change is to make the SRR consistent with the ZBL.**

12. §3.3.5.3(a.1) – We suggest specifying the Board of Health rather than “that Board” for additional clarity.

⇒ **Concur: Revised accordingly.**

13. §3.3.7.l(d) – Staff recommends the phrase “he shall” be adjusted to “they shall” or “Applicant(s) shall”.

⇒ **Concur: Revised accordingly.**

14. §3.3.7.5 – Staff recommends removing “as the case may be”.

⇒ **Concur: Revised accordingly.**

15. §3.3.11.2(a) Staff recommends the following, “Name and address of the Applicant and/or Owner, if different.

⇒ **Concur: Revised accordingly, except that “developer” is the appropriate term to use in this context, because the developer of the subdivision may be a different entity than the applicant. We made a number of changes to use the terms “applicant” and “developer” consistently, to reflect the distinction.**

16. §4.1.4.3 – The Board may wish to consider adding language which encourages rain gardens, or other modern streetscape solutions which treat and recharge water on-site. Language requiring appropriate easements and a maintenance agreement should be included in such a case.

⇒ **This is a topic related to Low Impact Development, and the Board would prefer to consider the broader topic of how LID should affect the SRR after this round of SRR revision has been completed.**

17. §4.1.6.5 – Staff recommends adding language requiring documentation establishing the easement be recorded at the Worcester District Registry of Deeds.

⇒ **Concur: Revised accordingly.**

18. §4.7.1.5 – Staff recommends adding the language, “... but not under a sidewalk or other paved or impervious surface ...”. The Board may also wish to consider language that placement of underground utilities shall consider the locations of proposed street trees where possible to minimize impacts of future maintenance activities on the root system. Above ground utilities should not be in conflict with the anticipated tree cover of the proposed species.

⇒ **Revised to include the impacts on street trees. However, a prohibition on placing utilities under “other paved surfaces” would prohibit utilities underneath driveways, which just might prove to be problematic. The Board will leave this alone, although future consideration might be given to a variation of the rule that would not be adversely impacted by driveways.**

19. §4.7.7.1 – Staff recommends adding the language, “or as specified by the Fire Department”.

⇒ **Concur: Revised accordingly.**

20. §4.7.8 – Staff recommends adding the language, “... most recent version of ...”.

⇒ **Concur: Revised accordingly.**

21. Schedule D: Staff recommends removing all species of pear tree from the list as they are especially susceptible to winter damage and are frequently discouraged by the Tree Warden.

⇒ **Concur: Revised accordingly.**

#### PLANNING BOARD MEMBERS

- 2.1.1.6 Cul-de-sac - do we need to mention the turnaround at the end? Not having it would reduce the chance of ambiguity - around what “turnaround” is - a dead-end or a Y rather than a circle should be clearly within the intent.

⇒ **Revised definition to explicitly mention various styles of turnaround. A key characteristic of a cul-de-sac, as opposed to any other dead-end configuration, is an intersection at one end, a turnaround of some sort at the other end, and no intersections in between.**

- 3.2.5.1 rejection of incomplete plans - the procedure does not consider the very common case of a submission that lacks certain elements, but requests waivers for them. This has been an issue for me for a really long time. (See 3.3.5.2 for inyrtaction on this)

⇒ **Concur: Revised to make it clearer that an application is required to include only material that is applicable to that application, and that waiver requests are expected for material that is not included. The completeness review is expected to judge the appropriateness of the submitted material and waiver requests. It is not practical for the Board to review and approve the waiver requests in order for the application to be considered complete.**

- 3.3.6 - notices - is there also a constraint on the time between the two publications. Say they are 14 days and 13 days before. The 14 is ok, and the 13 is “not less than seven (7)”

⇒ **The only constraint between the two publications is that they be in two consecutive weeks. If publication is in a weekly newspaper, the obvious consequence is that the two publications be seven days apart. If publication is in a daily newspaper, then it is possible for the first**

**publication to be on a Saturday and the next to be the very next day, Sunday being considered the beginning of the next week.**

- 3.3.7.1 d - Note reference to “dead end” & relate to comment above - so what is the logic in having both “cut-de-sac” and “dead end”. Is there subtlety that could be clarified across the usages?

⇒ **The definitions of “dead end” and “cul-de-sac” have been expanded a bit to try to make it clear the distinction, where cul-de-sac is one of several possibly shapes of a dead end. In section 3.3.7.1.d, we are addressing a temporary dead end as part of a phasing plan. Unless we think it’s important that such a dead end specifically be a cul-de-sac turnaround, the term “dead end” is probably appropriate here.**

- - Extension beyond cul-de-sac - note that in the cases I recall doing that and transferring the land to the abutter will usually reduce their frontage (longer around the curve than along the straight line replacement).

⇒ **This is an interesting topic, meriting further discussion.**

- 4.7.1.1 - utilities - small nit - FiOS and cable TV also do data which is neither of those. (We get money for cable TV, but not for data or phone illustrating they can be separate. In fact our FMAN data network, and I am sure other data services carry neither.

⇒ **Concur: Revised 4.7.1.1 to include “data service”, and revised 5.3.7.1 to use “data service” as a more generic alternative to “Internet service.”**

- 4.7.2.3 - gravity flow - I am not quite clear about what cases this covers other than the other sections re 200 feet, etc.

⇒ **This covers the case where a sewer pump station would be required. The idea seems to be that the SRR will not require a sewer connection in such cases, leaving it up to the applicant and the sewer department to decide whether to connect.**

- A little more thinking about the extension over a cul-de-sac. How do frontage requirements come into play? We have cases where the required frontage on a cul-de-sac is less than on a straight through road. That is in the ZBL. When such a change happens is the fact the required frontage ignored? Should they go to the ZBA?
- I am interested in general how this works out. Who actually owns what in a cul-de-sac and how do changes get made.

⇒ **As noted above, this is an interesting topic, meriting further discussion.**