

Staff Report

Devens
Enterprise
Commission

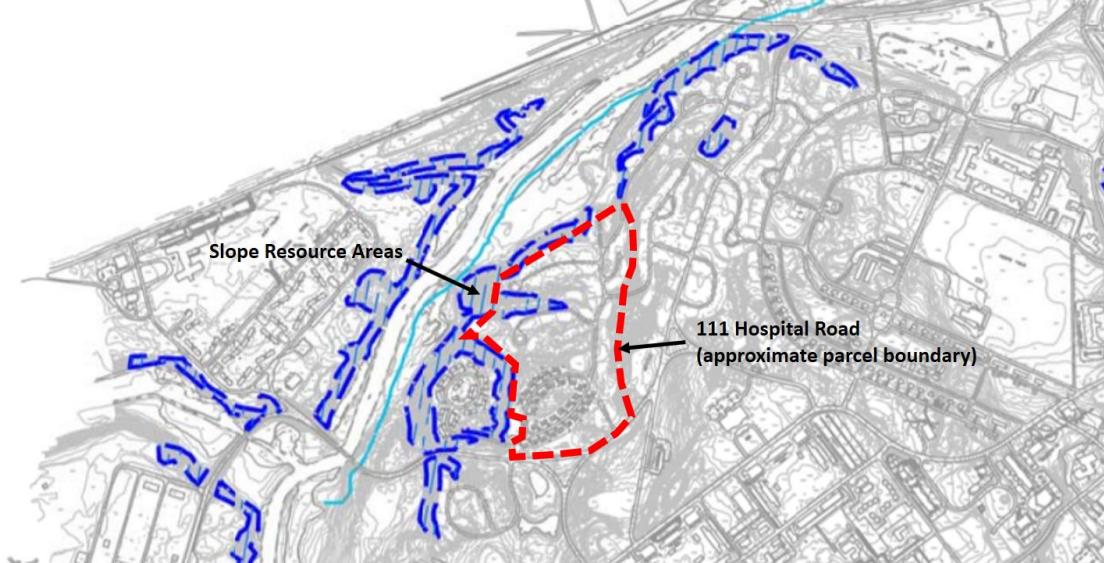
Date: September 25, 2020

To: Devens Enterprise Commission

From: Neil Angus, Environmental Planner

RE: Request for Determination of Slope Resource Area 111 Hospital Road

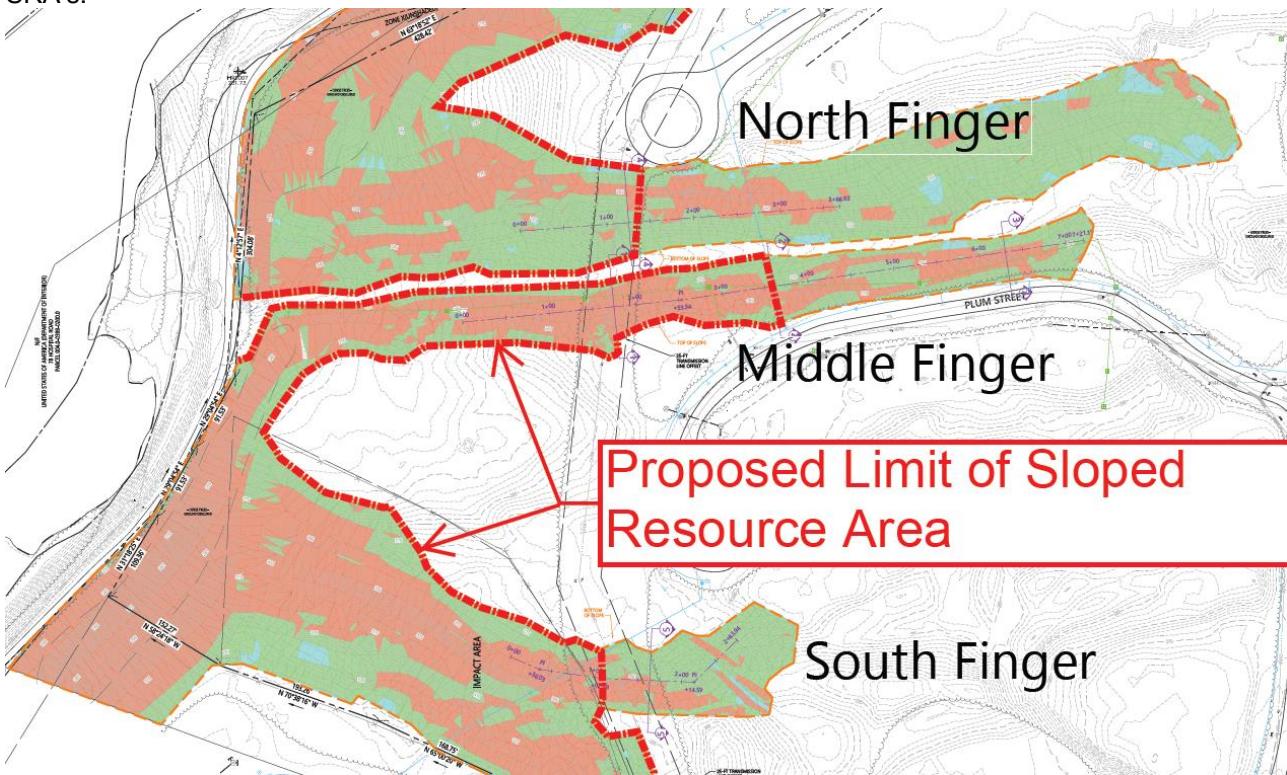
Commonwealth Fusion Systems (CFS) is in the process of designing a campus to accommodate their fusion energy project at 111 Hospital Road in the Innovation and Technology Business Zoning District. CFS came before the Commission in January earlier this year for a Determination of Use to ensure that the planned uses were consistent with the development goals of this district. The DEC determined that the primary uses (Research and Development, light manufacturing, office) are allowed in the Innovation and Technology Business Zoning District. Since then, CFS has been working to refine the design and layout of their proposed facilities in anticipation of coming before the DEC for a Unified Permit later this year. As part of their site investigations, they have reviewed the existing topography and Slope Resource Areas (SRA) throughout portions of the site as identified on the DEC's SRA map in 974 CMR 3.08:



The DEC's SRA map provides a general high-level overview of where slopes in excess of 35% are located based on topographic mapping that was originally interpreted from aerial photos. These SRA's were added to the DEC Rules and Regulations in 2011 as an additional land and resource protection strategy, consistent with the Devens Open Space and Recreation Plan, because they are sensitive to any disturbance and are typically close to or connected with sensitive natural resource areas. Slope Resource Areas (SRA's) are defined in 974 CMR 3.06 as "Naturally formed, undisturbed slopes with a contiguous areas of a 1/2 acre or more. These areas are identified on the Devens Slope Resource Area Map in 974 CMR 3.06 Appendix B Figures (13) Figure M. Such slopes are generally in excess of 35%, with mature vegetative cover and in close proximity to sensitive resource areas and/or unique geological formations."

To advance their site planning and facility design, VHB, Inc. and Highpoint Engineering, on behalf of CFS, has conducted more detailed on-site topographic surveys and a series of geotechnical investigations which has given them a more accurate layout of existing conditions. Their analysis of the site using this updated information argues that the actual areas with slopes in excess of 35% extend more in some areas and less in others as shown on the DEC SRA map. In addition, CFS has taken their slope analysis a step further

and identified what they believe to be the actual SRA areas based on the specific criteria in the definition of SRA's:



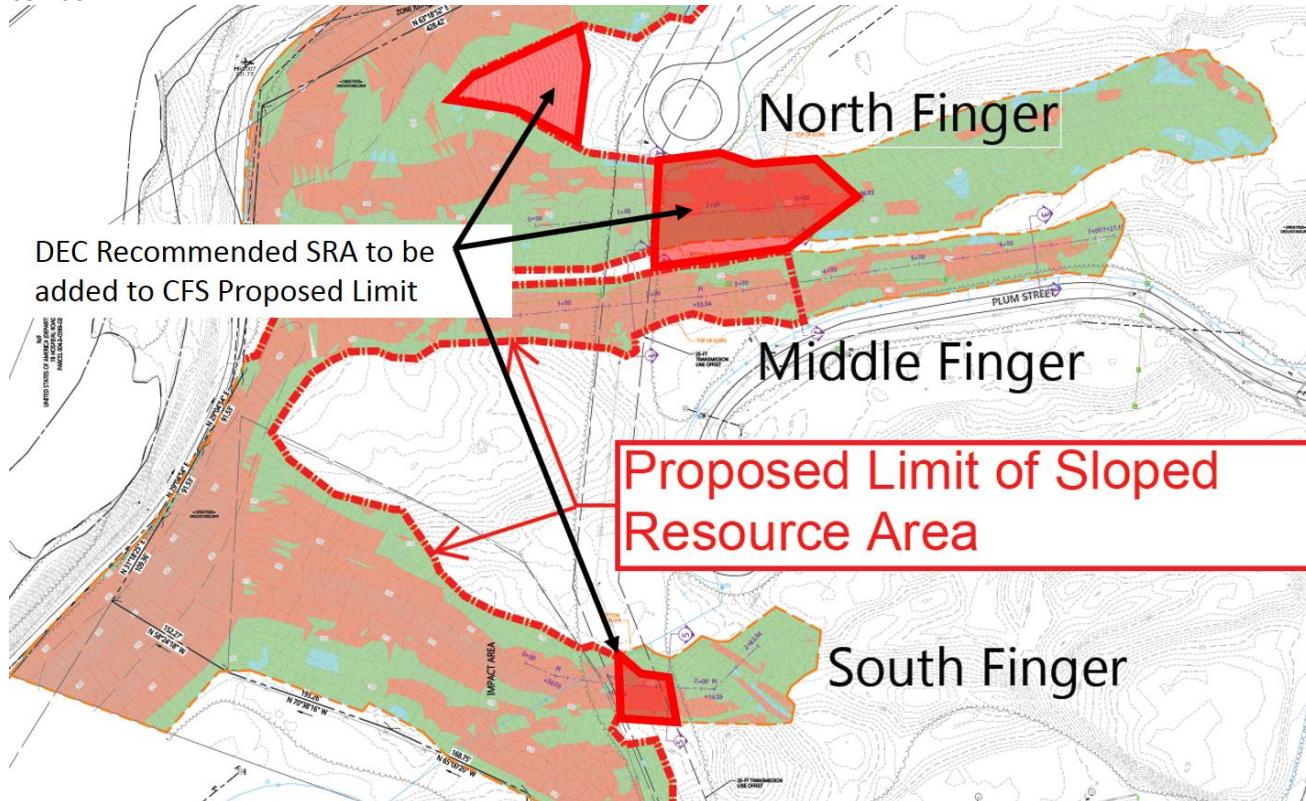
Staff has walked the site and reviewed CFS's slope analysis and supporting materials. Based on this information and the specific attributes of Steep Slopes as defined in the DEC Regulations, Staff would note the following with respect to the existing slopes on this parcel and whether or not they meet the definition of SRA:

1. **Naturally formed** – Yes – as evident from the geotechnical study and review of USGS topographical mapping dating back to 1929.
2. **Undisturbed** – Partially. Some SRA's like the middle finger area are dissected by utilities installed previously by the Army (water and drainage lines). MassDevelopment's 69kV above-ground powerline).
3. **Identified on the Devens Slope Resource Area Map** – Majority. CFS's more detailed analysis identified a small sliver of steep slopes that extend slightly out of the mapped area (the "South Finger").
4. **Slopes generally in excess of 35%** - Majority – some exceptions. CFS has analyzed the slopes based on ground surveys which are much more accurate than the mapping that the SRA map is based on.
5. **Contiguous areas of a ½ acre or more**. Majority – some exceptions. Some of the steeper areas are disconnected from the contiguous SRA's area that lead ultimately to the Nashua River and associated wetlands.
6. **Mature vegetative cover** – Yes – with the exception of the 69kv transmission line corridor dissecting the site.
7. **In close proximity to sensitive resource areas and/or unique geological formations** – while these slopes themselves can be considered unique geological formations, they do not appear to be in close proximity to any wetland or watercourse resource areas. They do ultimately drain into the Nashua River and associated wetland areas. This is a key issue since any instability/impacts to any steep slope areas within close proximity to wetland or watercourses could result in altered hydrology, erosion, and sedimentation that could significantly impact these resource areas. This

will be a key consideration when reviewing the site plan and stormwater management for this project.

Overall, the green and red areas on CFS's Slope Analysis generally follow the SRA boundaries shown on the DEC's SRA map. The biggest discrepancy is the small south finger that area extends a little beyond what the DEC SRA map shows. Based on this information, CFS's proposed SRA boundary for this parcel is logical with a few minor tweaks (see below).

Recommendation: CFS is requesting that the DEC confirm the specific boundaries of the SRA's on-site as presented in the September 18, 2020 letter from VHB to help better inform their planning and design of their project. DEC Staff generally agrees with CFS specific delineation with a few recommended adjustments based on the existing grades and connectivity to other steep slope areas that link all the way to the Nashua River corridor:



If the DEC is in agreement, a motion could be made to agree with the Applicant's specific delineation of the Slope Resource Area as presented in the 9/18/20 letter and supporting documentation provided by VHB., Inc., and as modified by DEC Staff's 9-25-20 memo.