

## TOWN PLANNER REPORT

Quarry North PRD  
48Y Fitchburg Turnpike

**Revised** Report Date: September 23, 2022  
Prepared by: Elizabeth Hughes, Town Planner

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### GENERAL INFORMATION

- Owner/Applicant: Quarry North Road, LLC  
2134 Sevilla Way  
Naples, FL 34109
- Requested Action: **Recommendation to the Board of Appeals** for a Special Permit to develop a 6-unit Planned Residential Development pursuant to ZBL Section 10 (PRD), Section 11.6 (Special Permit) and Section 11.8 (Site Plan Review)
- Location/Zoning/  
Existing  
Conditions &  
Land  
Use/Utilities: The Project Site (Site) within the Town of Concord is approximately 15.99 acres. The Site is located on the north side of Fitchburg Turnpike (Rt. 117), but has no frontage on Fitchburg Turnpike, and is in the Residence AA Zoning District with the north and east side of the Site within the Wetland Conservancy District. The entire Site is located within the Groundwater Conservancy District. There are no Town utility services available.
- The Site has significant variations in topography from a flatter area on the south side due to it being an abandoned earth quarry to very steep wooded slopes on the west, north and east down to wetlands.
- Surrounding Land  
Uses/Zoning: Surrounding the Site to the north, west and east is undeveloped land and wetlands. (Res. AA). To the south, the land is in Sudbury and was part of the abandoned earth quarry, which is currently under construction with a dense residential development (Formerly Melone Gravel Pit).

### **I. Proposed Project**

The application is to allow the construction of 4 single-family dwellings and one duplex. The dwellings will gain access to the site from the extension of an existing roadway system in the adjacent residential development in Sudbury, which has access off Fitchburg Turnpike (Rt. 117). The Applicant is proposing that electric service by Concord Municipal Light Plant and water service from the Sudbury Water District. Each dwelling will have an individual on-site sewage disposal system. Stormwater drainage will be handled using catch basins and a subsurface infiltration system that ties into a drainage system in Sudbury.

### **II. Zoning Bylaw Review - Section 10 Planned Residential Development**

*10.1 Purpose - The Planned Residential Development allows by special permit from the Board an alternative pattern of residential land development. It is intended to encourage the conservation of open space, while at the same time providing for a mixture and diversity of housing types in the Town at somewhat greater dwelling unit densities than is otherwise permitted without a significant increase in Town-wide population density. In a PRD, dwelling units should be constructed in appropriate clusters that are harmonious with neighborhood development and will not detract from the ecological and visual qualities of the area. The overall site design and amenities should enhance the quality of living for the residents of the development, the immediate neighborhood and the Town generally. Attention, however, shall be given by the Board as to whether the proposed site design, development layout, number, type and design of housing constitute a suitable development for the neighborhood within which it is to be located.*

The Planning Board is required to prepare a recommendation to the ZBA on the issues raised in the purpose of the PRD section above. The Planning Board should focus its review on the proposed design and the requirements of the PRD Zoning Bylaw, which are delineated below. The Planning Board should determine whether the proposed development is “harmonious with neighborhood development and will not detract from the ecological and visual qualities of the area” and “is suitable development for the neighborhood” or in what ways the design might be modified to better meet the purpose and criteria for a PRD.

## 10.2 Standards

**10.2.1 Minimum Tract Size:** *Planned Residential Developments shall be permitted upon a single tract, in one ownership with definite boundaries ascertainable from a recorded deed or recorded plan, which has an area of not less than four (4) times the minimum lot area of the zoning district within which it is situated (Residence C: Forty thousand (40,000) square feet; Residence B: Eighty thousand (80,000) square feet; Residence A: One hundred sixty thousand (160,000) square feet; Residence AA: Three hundred twenty thousand (320,000) square feet; Business: Forty thousand (40,000 square feet), or which has an area of not less than the minimum lot area in a Limited Industrial Park #1 zoning district: 5 acres. Existing public or private ways need not constitute boundaries of the tract but the area within any such ways shall not be counted in determining minimum tract size.*

The Site is 696,897± square feet and meets the requirements of the Residence AA Zoning District.

**10.2.2 Maximum Permissible Density:** *Maximum permissible density within a PRD tract shall not exceed two times the total number of dwelling units obtained through application of subsection 10.2.2.1 (basic density) in all residential districts and in the Business district. In the Limited Industrial Park #1 district the maximum permissible density shall not exceed three times the total amount allowed by application of Section 10.2.2.1. In no case shall that portion of a PRD which lies outside the Flood Plain and Wetlands Conservancy districts contain less than five thousand (5,000) square feet of upland area for each dwelling unit.*

Two times the basic density is  $2 \times 6 = 12$  units maximum. The Applicant is proposing 6 units.

**10.2.2.1 Basic density:** *The basic density of the PRD shall not exceed the number of units obtained by applying the following calculation:*

*The number of dwelling units obtained by dividing the sum of (1) the area of the tract exclusive of land situated within the Flood Plain Conservancy districts or Federal, State or local regulated wetlands, and (2) twenty-five percent (25%) of the area of land situated within the Flood Plain Conservancy districts or Federal, State or local regulated wetlands by the minimum lot size permitted in the zoning district(s) within which the tract is located. In the Limited Industrial Park #1 district the maximum permissible density shall be obtained by dividing the aforesaid sum by 40,000 square feet.*

Zone AA: Total Tract: 696,867± square feet

Wetlands and Flood Plain Conservancy District: 119,690± square feet

$$\frac{(696,867 - 277,357) + [(.25)(277,357)]}{80,000} = 6.1 = 6 \text{ Units (rounds down per 10.2.2.2)}$$

*10.2.3 Diversity of Dwelling Units:* A mix of diverse housing opportunities shall be provided in all Planned Residential Developments. Such diversity shall consist of the following mix:

- (a) the number of bedrooms available;
- (b) the price or rental rates of the units; and
- (c) two of the three styles of units: single-family, two-family or multi-family.

The Applicant is proposing 4 single family dwellings and one duplex. The four single family dwellings and one of the duplex units will have four bedrooms. The second duplex unit will have 3 bedrooms and an open loft area. The Applicant expects the duplex units to be priced between \$500,000 to \$700,000 less than the single-family homes. The single-family home's final price depends upon the level of interior upgrades a buyer may want.

*10.2.3.3 Unit size:* A variety of units shall be provided within the PRD, which may include dwelling units of one, two, three or more bedrooms; with a minimum gross floor area of not less than four-hundred (400) square feet.

The two-family building (M-Plan) will consist of one 4-bedroom and one 3-bedroom, each with basement and a two-car attached garage. The four detached single family floor plans are 4-bedroom homes, each with basement and a three-car attached garage.

Floor Plan	1 <sup>st</sup> Floor	2 <sup>nd</sup> Floor	Opt. Sq. Ft.	Total Sq. Ft.	Bedrooms	Garage
M-Plan Unit 1	1,140	1,390	190	2,720	3	2 car
M-Plan Unit 2	1,140	1,390	190	2,720	4	2 car
C-Plan	2,010	1,860	600	4,470	4	3 car
H-Plan	2,030	2,000	300	4,330	4	3 car
K-Plan	2,180	1,850	240	4,270	4	3 car
W-Plan	2,100	1,880	670	4,650	4	3 car

*10.2.4.1 Permitted Uses:* Single family detached and semi-detached dwellings, two-family dwellings, and multi-unit dwellings of all types without regard to dwelling unit configuration or form of ownership; however, no multi-unit dwelling shall contain more than eight (8) dwellings units. No more than eighty percent (80%) of the dwelling units within the PRD shall be in buildings of the same type.

The project consists of 80% single-family dwellings with 4 units and one duplex unit for a total of 6 units.

*10.2.5 Lot Area, Frontage and Yard Requirements:* There shall be no minimum lot area, frontage or yard requirements within a PRD. However, no building shall be erected within twenty (20) feet of a public way or boundary line of the PRD in the Residence C and B districts, and within thirty (30) feet in the Residence A and AA districts.

The proposed project meets the 30-foot setback requirements for the Residence AA Zoning District.

*10.2.6 Access to the Tract: Access to the tract shall be provided from an existing public or private way and shall be through the existing frontage on such public or private way.*

Access to the Site is proposed through the existing private way from the adjacent development in Sudbury.

*10.2.7 Height: The maximum permitted height of any structure within a PRD shall be thirty-five (35) feet. The Board may grant relief from the maximum height of a building provided the Board finds that the desired relief may be granted without substantial detriment to the neighborhood and without derogating from the intent and purpose of this Bylaw.*

Pursuant to ZBL Section 6.2.11, the building height is measured from the existing grade, prior to any proposed grading, to the ridgeline of the proposed building. The Site was a former quarry where the natural grade has been drastically altered and is significantly lower. This low existing grade artificially raises the building height of the proposed structures because the height calculation is measured from the two lowest existing grades to the elevation of the proposed ridge height of the dwellings. If it were not for the prior excavation on the Site, all the proposed buildings conform to the 35' maximum height.

The Applicant has provided a surveyed cross-section for two proposed dwelling locations (Home #3 and #6). The adjacent topography and the height of the existing trees at the top of the ridge to the north are shown. The elevation at the edge of the wetland basin to the north is at approximately 125 ft. The elevation of the treetops is between 240 ft. and 250 ft. The proposed ridge height of Home #3 is approximately 191 ft. and the proposed ridge height of Home #6 is approximately 179 ft. The existing tree buffer is made up of evergreen and deciduous trees and is approximately 60 ft. wide at the duplex location and approximately 220 ft wide behind Home #4 and #5.

The Applicant is requesting a waiver to the building height because of the previous quarry operation makes it unreasonable to meet the 35-foot height limits and because the desired relief may be granted without substantial detriment to the neighborhood and without derogating from the intent and purpose of this Bylaw.

*10.2.8 Area of Residential Development: The area developed for residential use, including buildings, parking and other areas paved for vehicular use, shall not exceed fifty (50) percent of the total area of the PRD tract. Foot and bicycle paths and recreational facilities, including buildings wholly devoted to recreation, shall not be counted in calculating the fifty-percent limitation.*

The lot area is 696,867 s.f. of which 297,456 s.f. will be the residential development or 43% of the PRD tract.

*10.2.9 Common Open Space: All land within the PRD tract which is not covered by buildings, roads, driveways, parking areas or service areas, or which is not set aside as yards, patios, gardens, or similar areas for exclusive or shared use by the residents, shall be common open space. The area of the common open space shall equal at least twenty-five (25) percent of the total area of the PRD tract. At least 50% of the area of common open space shall be upland (land that is not within the Flood Plain Conservancy District or freshwater wetlands as defined under the Wetlands Protection Act and the Town's Wetlands Bylaw).*

The Applicant is proposing 399,411 s.f. of common open space or 57% of the PRD tract which will include 122,088 s.f. of upland, which is 50% of the minimum amount of required open space. Within the open

space, the Applicant has included land which abuts the bordering vegetated wetlands on Homesites A, B and C.

The Applicant is proposing that the Open Space be owned by the condominium association and remain accessible to all the occupants of the PRD. Further restrictions will be incorporated into the association documents specifying this requirement. In a letter dated July 20, 2022, the Natural Resources Director is recommending a Conservation Restriction pursuant to M.G.L. Chapter 184, §§ 31-33 be placed on the open space, that baseline documentation of the open space be conducted and that permanent visible markers along the Conservation Restriction boundary be installed. Further restrictions on the Conservation Restriction may be required by the Natural Resources Commission as they complete their review of the project.

*10.2.9.1 The common open space shall have a shape, dimension, character and location suitable to assure its use for park, recreation, conservation, or agricultural purposes by at least all the residents of the Planned Residential Development. In determining whether the intent of this section has been satisfied, the Board shall consider the extent to which land having one or more of the following characteristics is included in the proposed open space:*

- (a) Land abutting the Concord, Assabet or Sudbury Rivers, their tributaries, Elm Brook, or ponds of significant public interest, which enhance or protect wetlands or flood plain, or which provide public access to the water body, or which enhance or provide significant scenic vistas or views, or which provide water-related recreational opportunities;*

The Site abuts a tributary of the Pantry Brook State Wildlife Management Area in Sudbury across Route 117 and is adjacent to a significant wetland area and forested area adjacent to White Pond to the north of the Site. The proposed plan proposes to restore through grading and revegetation approximately 297,456 s.f. of the PRD (43%) and incorporates a stormwater management system, which will help to enhance and protect the adjacent wetland basin.

- (b) Land which currently is in agricultural use or land which is suitable in size, location and soil characteristics for agricultural use;*

The Site is not in agricultural use and is not suitable for agricultural use.

- (c) Land which provides a significant wildlife habitat or which is a unique natural area;*

A significant portion of the proposed common open space land is wetland and forested area associated with White Pond and directly abuts existing Town conservation land. The proposed plan proposes to restore through grading and revegetation approximately 297,456 s.f. of the PRD (43%) and incorporates approximately 149 shade trees, 56 evergreen trees, 578 evergreen & deciduous shrubs. The total landscape planting area (trees, shrubs, native grasses and seed mix) inside the wetland buffer zone is approximately 11,975 s.f. and outside the wetland buffer zone is 35,968 s.f. This will provide significant additional wildlife habitat.

- (d) Land which provides recharge to Concord's current or future municipal wells and highly favored aquifer areas;*

The proposed common open space is part of the recharge area and Zone I for Concord's existing municipal well to the north. The restoration of the Site and installation of stormwater management system will be a benefit to the adjacent wetland and the Town's municipal well.

- (e) *Land which is to be developed for active recreational use including playing fields, boat launching areas, playgrounds, and neighborhood parks;*

The proposed common open space does not include any active recreational uses given its proximity to wetlands and the surrounding natural habitat associated with White Pond. The Natural Resources Commission has indicated that they do not wish to have any public trails within the Conservation Restriction area.

- (f) *Land which preserves existing trail networks or land on which new trails will be developed as part of the PRD for integration into an existing trail network;*

There are no existing trails on the Site and due to the steep slopes and expanse of the wetland area, a new trail through the open space is not desirable. The Natural Resources Commission has indicated that they do not wish to have any public trails within the Conservation Restriction area.

- (g) *Land which enhances scenic views;*

The Site is a former earth quarry and has been significantly degraded. While the proposed plan proposes to restore through grading and revegetation approximately 297,456 s.f. of the PRD (43%), the Applicant has provided a surveyed cross-section of the site at two locations showing the adjacent topography and the height of the existing trees at the top of the ridge to the north of the site. The elevation at the edge of the wetland basin to the north is at approximately 125 ft. The elevation of the treetops is between 240 ft. and 250 ft. The existing tree buffer is made up of evergreen and deciduous trees and is approximately 60 ft. wide at the duplex location and approximately 220 ft wide behind Home #4 and #5. There does not appear to be any scenic views from the project site.

- (h) *Land providing desirable public access to existing Town or State recreational or conservation land.*

Due to the existing topography, the adjacent wetlands and location of the Town's municipal well, public access is not desirable. The Natural Resources Commission has indicated that they do not wish to have any public trails within the Conservation Restriction area.

10.2.9.2 *Provision shall be made so that the common open space shall be readily accessible to at least all of the owners and occupants of the units in the Planned Residential Development, and owned by:*

- (a) *a membership corporation, trust or association whose members are all the owners and occupants of the units;*
- (b) *by the Town; or*
- (c) *otherwise as the Board may direct.*

The Applicant is proposing that the common open space be readily accessible for all unit owners. This will be reflected in the homeowner association documentation.

10.2.9.3 *In all cases, a perpetual restriction of the type described in G.L. c. 184, sec. 31 (including future amendments thereto and corresponding provisions of future laws) running to or enforceable by the Town shall be recorded in respect to such land. Such restriction shall provide that the common open space shall be retained in perpetuity for one or more of the following uses: conservation, agriculture, recreation, or park. Such restriction shall be in such form and substance as the Board shall prescribe and may contain*

*such additional restrictions on development and use of the common open space as the Board may deem appropriate.*

The Natural Resources Director is recommending a perpetual conservation restriction of the type described in G.L. c. 184, sec 31, which shall run with the land, and that the common open space be retained in perpetuity for conservation.

10.2.10 Limitation of Subdivision: *No lot shown on a plan for which a permit is granted under this section may be further subdivided, and a notation to this effect shall be shown on the plan.*

A note to this effect shall be included on the Record Plan.

10.2.11 Sustainable Design Requirement: *The proposal for the built environment should reflect thoughtful consideration of a broad range of sustainability goals. Such design should be consistent with and further the goals of the Town. In determining whether the intent of this Section has been satisfied, the Board shall consider the extent to which the design plan incorporates the following:*

*(a) Low Impact Development for Stormwater Design. Low impact development relies on natural features (indigenous to the site or bio-designed) to protect water quality and encourage on-site infiltration of stormwater. Such measures may include use of natural drainage flow paths, minimization of land clearance, incorporation of bioretention features/raingardens, and minimization of the creation of impervious surfaces (through building clustering, minimizing size and footprint of buildings and paved areas, use of pervious surfaces where practical).*

The Applicant states that the project includes a post-construction stormwater management system designed to collect, convey, treat, infiltrate, and control stormwater discharges associated with the development in accordance with applicable state and Town of Concord requirements. The stormwater management system incorporates Low Impact Development (LID) design methods, which includes focusing the proposed development within previously disturbed areas of the site, minimizing impervious surfaces, substantial infiltration systems, water quality units, and bioretention. The stormwater management system will control runoff to maintain the existing hydrologic conditions and provide water quality treatment. A comprehensive Stormwater Management Report and Operation & Maintenance Plan has been included with this submission.

In a letter dated August 24, 2022, the Concord Public Works Engineering Division has reviewed the revised plans and stormwater drainage report and states the Applicant has addressed previous issues and concerns. The CPW Engineering recommends various condition regarding soil testing, stormwater pollution plan and long-term maintenance be incorporated into any decision granting approval. The CPW Engineering does note that a tractor trailer truck does appear to make the turn within the paved area and is shown as crossing into the adjacent, opposite direction, travel lane. This development is planned as a private development and therefore is not required to comply with CPW's standard roadway requirements for width and turning radii. It is therefore up to the Zoning Board of Appeals to determine if this is an issue that should be addressed.

*(b) Energy Efficiency and Clean Energy Usage. Use of energy efficient appliances and HVAC systems is desired. All-electric buildings, with no fossil-fuel usage, and the use of more sustainable forms of energy production, such as geothermal and solar, are encouraged.*

The Applicant has stated that gas service will not be part of the project and the dwelling units will be all electric. The utility plans have been updated to delete the proposed gas service shown. The Applicant states that energy efficiency and clean energy usage has been incorporated into the design by bringing electricity from CMLP to the Site, Energy Star appliances in all homes, and each home will have one EV charging station in the garage and be wired-ready for solar panels. The Applicant notes that each single-family dwelling will have a minimum southern exposure roof area of 1,000 s.f. and each duplex will have a minimum of 700 s.f.

*(c) Energy Efficient Building Design. The building envelope and components (Building framing, insulation, windows, HVAC systems) should be designed to maximize energy conservation.*

The Applicant states that each dwelling will be designed to meet or exceed the energy codes and has provided energy calculations that estimate a HERS rating of 54 for the single-family dwellings and 55 for the duplex.

*(d) Building Layout. The arrangement of building on the site and the accompanying infrastructure minimizes impervious surface area and maximizes contiguous open space for both residents and wildlife.*

The Applicant states that the buildings have been sited to minimize the driveway length and impervious surface area. Common open space is contiguous, and a large portion abuts land owned by the Town of Concord.

*(e) Ways to Minimize Greenhouse Gas Emissions. Maintaining or proposing new vegetation to maximize carbon sequestration on site. Selection of HVAC systems and appliances to encourage use of renewable energy sources. Construction design to minimize emissions from construction vehicles.*

The property has been previously clear cut of vegetation and mined. The proposed plan proposes to restore through grading and revegetation approximately 297,456 s.f. of the PRD (43%) and incorporates approximately 149 shade trees, 56 evergreen trees, 578 evergreen & deciduous shrubs. The total landscape planting area (trees, shrubs, native grasses and seed mix) inside the wetland buffer zone is approximately 11,975 s.f. and outside the wetland buffer zone is 35,968 s.f. The Site will be fully revegetated to maximize carbon sequestration where there is none currently. The Applicant states that the dwellings will be all electric with Energy Star appliances, and each dwelling will be wired ready for solar and there will be one EV charging station in each garage.

*(f) Other green building, energy efficiency, sustainability measures. The applicant may propose other measures that fit within the broad rubric of sustainable site planning, design and construction.*

No additional measures have been proposed.

10.4.1.1 Development Statement - A written statement meeting the requirements of a Site Evaluation statement under the Subdivision Rules and Regulations by the Planning Board, as applicable:

*a) Impact of the project upon surface and groundwater quality and level;*

The Applicant states the project has been designed so as not to impact the surface or groundwater quality. The design minimizes impervious surfaces and focuses the development within areas of the site that have been previously disturbed by mining operations. The proposed stormwater management system includes substantial infiltration systems, water quality units, and bioretention. The bottom of the stormwater system and septic systems meet the offsets to groundwater and setbacks to surface



waters. The design will result in the removal of over 80% of total suspended solids (TSS) from stormwater runoff. The six proposed septic systems have been sited to meet the Concord Board of Health Local Regulation Chapter 3.00, Wastewater Management, which requires a 75-foot setback distance from a soil absorption system (leaching field) to a wetland resource area and comply with the 50-foot setback distance requirement from a bordering vegetated wetlands pursuant to Title V (310 CMR 15.211). The proposed leaching facilities are outside of the Zone II to the Concord White Pond Wells. Additionally, the direction of groundwater flow at the site as shown on Figure 6 included in the ESS Group “White Pond Watershed Management Plan” prepared for the Town of Concord Natural Resources Division indicates that the “Regional Groundwater Flow” is headed Southeasterly, away from White Pond and the White Pond wells. In an August 24, 2022 memo, the Concord Public Works Engineering Division has reviewed the revised plans and stormwater drainage report and states the Applicant has addressed previous issues and concerns. The CPW Engineering recommends various condition regarding soil testing, stormwater pollution plan and long-term maintenance be incorporated into any decision granting approval. In a September 12, 2022 memo, the Public Health Director recommends the incorporation of two conditions into any decision granting approval so that the project complies with the permitting requirements of the Health Division.

*b) Effects upon important wildlife habitats, outstanding botanical features, scenic or historic sites or buildings;*

The Applicant states the dwellings will be located on area of a former gravel mine which was previously clear cut of most trees. The open space portion of the property includes uplands and a wetland area that contains a blue heron rookery which will all be preserved through the conservation restriction. The proposed landscape plan proposes to restore through grading and revegetation approximately 297,456 s.f. of the PRD (43%) and incorporates approximately 149 shade trees, 56 evergreen trees, 578 evergreen & deciduous shrubs. The total landscape planting area (trees, shrubs, native grasses and seed mix) inside the wetland buffer zone is approximately 11,975 s.f. and outside the wetland buffer zone is 35,968 s.f. This will provide significant additional wildlife habitat.

*c) Capability of soils, vegetative cover, and proposed erosion control measures to support proposed development without erosion, silting or other instability;*

The topography in its current “mined” state will need grading to address drainage and circulation in conjunction with the building of roadway and the PRD dwellings. Once graded, the topography will generally slope from west to east. The soils on the site are comprised of Hinckley Loamy Sand and the soils tests show that they have the infiltration capacity to accept the stormwater infiltration and septic systems. A stormwater operation and maintenance plan has been prepared. The development of the Site includes the replanting of the degraded, mined area. In an August 24, 2022 memo, the Concord Public Works Engineering Division has reviewed the revised plans and stormwater drainage report and states the Applicant has addressed previous issues and concerns. The CPW Engineering recommends various condition regarding soil testing, stormwater pollution plan and long-term maintenance be incorporated into any decision granting approval.

*d) Estimated increase of peak run-off caused by altered surface conditions, and methods to be used to return water to the ground;*

The Applicant states that the project includes a post-construction stormwater management system designed to collect, convey, treat, infiltrate, and control stormwater discharges associated with the development in accordance with applicable state and Town of Concord requirements. The stormwater

management system incorporates Low Impact Development (LID) design methods, which includes focusing the proposed development within previously disturbed areas of the site, minimizing impervious surfaces, substantial infiltration systems, water quality units, and bioretention. The stormwater management system will control runoff to maintain the existing hydrologic conditions and provide water quality treatment. A comprehensive Stormwater Management Report and Operation & Maintenance Plan has been included with this submission.

In an August 24, 2022 memo, the Concord Public Works Engineering Division has reviewed the revised plans and stormwater drainage report and states the Applicant has addressed previous issues and concerns. The CPW Engineering recommends various condition regarding soil testing, stormwater pollution plan and long-term maintenance be incorporated into any decision granting approval.

*e) Description of proposed alterations of wetlands or flood plain areas;*

The Applicant is proposing some development in the 100-foot wetland buffer for the construction of the duplex unit and the leach field for Unit B. There will be no alterations within the 200-foot buffer for the tributary to the east or work in a floodplain area. The Applicant has submitted a Notice of Intent with the Natural Resources Commission. The Natural Resources Director will provide an updated memo for the Planning Board on any outstanding issues or concerns and/or recommended conditions.

*f) A report estimating the traffic flow at peak periods in relation to existing traffic on the streets in and adjacent to the subdivision, and the effect of the project on the public services such as water, sewer, schools, police, fire, waste disposal, and recreational facilities;*

The Applicant has provided a traffic report that estimates 58 weekday daily trips and that 55% of the traffic generated by the project will go east on Route 117 when leaving the site. The CPW Engineering did not have any issues or concerns with the level of traffic generated from the project.

There will be a modest increase in demand on public services based on 6 additional dwelling units for schools, police, fire, and recreational facilities. In a letter dated, July 13, 2022, the Fire Department recommends various conditions of approval to address issues and concerns with emergency response. There will be no impact to Town water because water is to be provided by the Sudbury Water District. In a July 20, 2022 letter, CMLP list 5 requirements for the project and states that the Applicant will need to design a new circuit extension and distribution system meeting all applicable Concord requirements (and potentially additional requirements of Sudbury), will need to furnish materials for, construct the new line extension and distribution and that after satisfactory completion of the new facilities, CMLP will install and terminate all conductors from the source to service points, at the Applicant's expense. The Applicant will be responsible for ensuring that all CMLP Terms and Conditions, CMLP Standards, Town of Concord Bylaws and applicable code requirements (NESC and Massachusetts Electric Code) are met.

*g) A summary tabulation of the total area being developed, the total area of all lots, the total area dedicated for streets and drainage or utilities, and the total area reserved for recreation, parks or other open land;*

The Applicant has stated the following:

Exclusive Residential Use Areas (Buildings, drives & exclusive use areas)	262,830 s.f. = 38%
Common Residential Use Area (Roadway)	34,626 s.f. = 5%
Common Open Space	399,411 s.f. = 57%
<hr/>	
Total PRD Area =	696,867 s.f. = 100%

Home Site A (duplex)	= 87,076 s.f.
Home Site B	= 43,725 s.f.
Home Site C	= 44,451 s.f.
Home Site D	= 43,829 s.f.
Home Site E	= 43,749 s.f.

*h) A projection of the direct, current Town costs and revenues associated with this development;*

The Applicant projects that the total financial impact to Town services is \$88,358 and the total project tax revenue is \$168,600.

*i) An analysis of the sight distances at the intersections of the proposed street(s) with any other street(s);*

The proposed roadway leads into two existing roadways in the adjacent development in Sudbury but does not create a cross-traffic intersection. The Engineering Division does not have any issues with the sight distance and has recommended the removal of the Stop Line since the sharper radius of the curve in the road at both ends and the low volume of use the road does not warrant the need for the stop signs.

*j) Impact of the development on any historical or cultural resources located within one hundred (100) feet of the proposed development as identified in the Survey of Historical and Architectural Resources and Historic Resources Master Plan;*

The proposed project will not have an impact on any historical or cultural resources located within 100 feet.

*k) Impact of the development on any open space or natural resources located within one hundred (100) feet of the proposed development as identified in the Town of Concord Open Space Plan.*

The proposed project will not have an impact on any open space or natural resources located within 100 feet. The Applicant is proposing a perpetual conservation restriction on the common open space, which shall run with the land. Additionally, the common open space connects to permanently protected Town land.

10.4.1.2 Development plans - The Applicant has submitted full Development Plans that include site plans, building elevations, floor plans, and landscape plans.

The Town Planner notes that the civil plans show the terminus of the sidewalk from the adjacent development, but no continuation of the sidewalk for the proposed project. Additionally, it is unclear on the revised landscape plan whether there is a sidewalk on one or both sides of the roadway. It is recommended as a condition that the civil and landscape plans be revised to be consistent with each other and to show a continuation of the sidewalk from the adjacent development along the south side of the PRD roadway.

*10.4.2 Planning Board Report and Recommendations: The Planning Board shall review the development statement and plans and shall submit in writing to the Board its report and recommendations upon the technical quality of the proposed development, and at least the following:*

*10.4.2.1 General descriptions of the natural terrain of the PRD tract and surrounding areas, and of the neighborhood in which the tract is situated.*

The Site is approximately 15.99 acres with roughly 3.75 acres significantly disturbed and degraded due to the previous quarry operation. The remaining portion of the property to the north consists of steeply forested slopes down to a large wetland. To the south in Sudbury is a large residential development under construction on land that was also part of the quarry operation.

*10.4.2.2 A review of the proposed development, including the design and use of buildings and of the open spaces between and around them, of pedestrian and vehicular circulation, of the location and capacity of parking, and of the provisions for grading, landscaping and screening.*

The Planning Board should discuss the proposed development and whether it adequately addresses these issues or whether modifications are needed.

*10.4.2.3 An evaluation and opinion upon the degree to which the proposed PRD provides a range of diversity and the size of the units as it relates to increased density that may be permitted by the Board.*

The Planning Board should discuss whether the proposed project satisfactorily addresses these issues in a manner that supports the increased density.

*10.4.2.4 An evaluation and opinion upon the degree to which any land intended to be conveyed to, or restricted for the benefit of, the Town:*

*(a) Provides or will in the future provide an addition to areas of open space between developed sections of the Town;* The proposed open space area is between densely developed land in Sudbury to the south and Town owned open space land and the Town's municipal well to the north.

*(b) Makes available land desirable for future public use;* or The proposed open space land is not intended for any future public use given its steep slopes, wetlands, and proximity to the Town's municipal water well.

*(c) Conforms to the Town's long-range land use plan.* The Comprehensive Long Range Plan talks about promoting cluster development that concentrates the impact of building on the land and leaves open space and wildlife corridors that meet a range of goals including land conservation, sustainability, and social connectivity. The Planning Board should discuss whether the size and shape of the land intended to be available to the public meets this goal.

*10.4.2.5 Its opinion as to whether the proposed site design, development layout, number, type and design of housing constitute a suitable development for the neighborhood within which it is located.*

The Planning Board should discuss with the Applicant these aspects of the project and provide guidance on whether they feel it constitutes a suitable development for the neighborhood.

*10.4.2.6 Recommendations for the granting or denial of the special permit, including recommendations for modifications, restrictions or requirements to be imposed as a condition of granting the special permit.*

**If the Planning Board decides to recommend approval of the PRD Special Permit, recommended conditions have been incorporated at the end of this report.**

**11.8.5 Site Plan Review:** In reviewing the site plan submittal, the following matters shall be considered:

(a) *Protection of adjoining premises against seriously detrimental uses by provision for surface water drainage, sound and sight buffers, and preservation of views, light and air;* In an August 24, 2022 memo, the Concord Public Works Engineering Division has reviewed the revised plans and stormwater drainage report and states the Applicant has addressed previous issues and concerns. The CPW Engineering recommends various condition regarding soil testing, stormwater pollution plan and long-term maintenance be incorporated into any decision granting approval. The proposed project is located in an area that has been significantly degraded due to a quarry operation and will have very little impact on adjoining premises with the construction of six dwellings units. The Applicant has provided a surveyed cross-section for two proposed dwelling locations (Home #3 and #6). The adjacent topography and the height of the existing trees at the top of the ridge to the north are shown. The elevation at the edge of the wetland basin to the north is at approximately 125 ft. The elevation of the treetops is between 240 ft. and 250 ft. The proposed ridge height of Home #3 is approximately 191 ft. and the proposed ridge height of Home #6 is approximately 179 ft. The existing tree buffer is made up of evergreen and deciduous trees and is approximately 60 ft. wide at the duplex location and approximately 220 ft wide behind Home #4 and #5.

(b) *Convenience and safety of vehicular and pedestrian movement within the site, the location of driveway openings in relation to traffic or to adjacent streets and, when necessary, compliance with other regulations for the handicapped, minors and the elderly;* The proposed project has been designed to connect to the roadway system for the adjacent residential development in Sudbury. The Town Planner notes that it is unclear on the revised landscape plan whether there is a sidewalk on one or both sides of the roadway. It is recommended that the civil and landscape plans be revised to be consistent with each other and to show a continuation of the sidewalk from the adjacent development along the south side of the PRD roadway.

(c) *Adequacy of the methods of disposal of refuse and other wastes resulting from the uses permitted on the site;* Each of the proposed dwellings will be served by a private on-site sewage disposal system that will be required to meet Title V and Board of Health Local requirements and approved by the Concord Health Division.

(d) *Adequacy of the arrangement of parking and loading spaces in relation to the proposed uses of the premises;* Two parking spaces are required for each dwelling unit. The Applicant is proposing a 2-car garage for the duplex units and a 3-car garage for the four single family dwellings.

(e) *Adequacy of the method of exterior lighting for convenience, safety and security within the site and for protection of neighboring properties, roadways and the night sky.* The Applicant is not proposed any streetlights along the roadway and has provided lighting cut-sheets for the exterior lights for the dwelling units that are dark sky compliant.

(f) *Relationship of structures and open spaces to the natural landscape, existing buildings and other community assets in the area and compliance with other requirements of this Bylaw.* The Applicant has designed the project in the area that was previously degraded as part of the quarry operation and in relationship to the adjacent residential development under construction in Sudbury. The proposed project retains the existing forested area to the north as open space. The Applicant has provided a surveyed cross-section for two proposed dwelling locations (Home #3 and #6). The adjacent topography and the height of the existing trees at the top of the ridge to the north are shown. The elevation at the edge of the wetland

basin to the north is at approximately 125 ft. The elevation of the treetops is between 240 ft. and 250 ft. The proposed ridge height of Home #3 is approximately 191 ft. and the proposed ridge height of Home #6 is approximately 179 ft. The existing tree buffer is made up of evergreen and deciduous trees and is approximately 60 ft. wide at the duplex location and approximately 220 ft wide behind Home #4 and #5.

(g) *Impact on the Town's resources including the effect of the Town's water supply and distribution system, sewage collection and treatment, fire protection, and streets.* Water will be provided by the Sudbury Water District so there will be no impact on the Town's water supply. The proposed roadway for the project will be a private way so there will be no impact to the Town for maintenance or plowing. In a July 13, 2022 memo, the Fire Department recommends five conditions, including the units have a sprinkler system and central monitoring system, to address issues and concerns regarding fire protection and emergency response given the project's distance from the central Fire Station.

(h) *Incorporation of sustainability and resiliency principles into the site design that result in a plan that is responsive to the environment and actively contributes to the development of a more sustainable community.* The Applicant states that the project incorporates Low Impact Development (LID) design methods, which includes focusing the proposed development within previously disturbed areas of the site, minimizing impervious surfaces, substantial infiltration systems, water quality units, and bioretention. The Applicant has stated that gas service will not be part of the project and the dwelling units will be all electric. The utility plans have been updated to delete the proposed gas service shown. The Applicant states that energy efficiency and clean energy usage has been incorporated into the design by bringing electricity from CMLP to the Site, Energy Star appliances in all homes, and each home will have one EV charging station in the garage and be wired-ready for solar panels. The Applicant notes that each single-family dwelling will have a minimum southern exposure roof area of 1,000 s.f. and each duplex will have a minimum of 700 s.f. Additionally, the units are proposed to have an estimated HERS rating of 54 for the single-family dwellings and 55 for the duplex. The property has been previously clear cut of vegetation and mined. The site will be fully revegetated to maximize carbon sequestration.

#### **IV. Town Planner's Recommendation**

The Natural Resources Director will provide an updated memo for the Planning Board on any outstanding issues or concerns and/or recommended conditions.

Should the Planning Board move forward with recommending approval of the project, the Town Planner recommends the following conditions be incorporated into that recommendation:

- 1) **Prior to the commencement of any site work**, the Applicant shall submit to the Town Planner for review and approval revised civil and landscape plans that show a continuation of the sidewalk from the adjacent development along the south side of the PRD roadway.
- 2) **Prior to the commencement of any site work**, the Applicant shall submit to the Town Planner for distribution to Town Departments for review and approval a Construction Safety and Sequencing Plan for the site. The plan shall include the location of construction trailers, dumpsters and porta-potties, construction material delivery and laydown areas, location of construction employee parking areas, locations where construction vehicles will enter and exit the site, soil stockpile areas and safety protection measures and fencing employed to protect the movement of pedestrians and vehicles within the site and along the adjacent roadways. The plan shall be developed for all phases required during construction:

- 3) **Prior to the commencement of any site work**, the Applicant shall install the erosion and sedimentation controls and coordinate through the Town Planner a pre-construction meeting with Town staff to review proposed work and safety fencing and protocols shown on the Construction Safety and Sequencing Plan. Following the meeting, the Applicant shall install all required safety fencing and protocols to the satisfaction of the Fire Department.
- 4) **Prior to the commencement of any site work**, the Applicant shall enter into a Memorandum of Understanding with the Concord Public Works Department and the Sudbury Water District for water service to the six dwelling units. The MOU shall be recorded with the Middlesex South Registry of Deeds.
- 5) **Prior to the commencement of any site work**, the Applicant shall retain a qualified independent environmental monitor (EM) to ensure proper operations of all sediment and erosion control measures throughout the duration of the project. The EM shall also be responsible for overseeing invasive species removal and replanting efforts. The name and resume of the qualified independent environmental monitor shall be provided to the Engineering and Natural Resources Divisions for review and approval at least two weeks in advance of any site work. At a minimum, the independent environmental monitor shall be a “qualified person” with a minimum of 3 years professional environmental experience in construction monitoring and invasive species control efforts and shall meet the qualifications outlined in sec. 4.4.1 of the EPA Construction General Permit. The environmental monitor shall provide the Engineering and Natural Resources Divisions site evaluation/inspection reports at the frequency detailed in the SWPPP (i.e. weekly, after storms).
- 6) **Prior to the commencement of any site work**, the Applicant shall receive an Order of Conditions, or Superseding Order of Conditions, issued under the Wetlands Protection Act and the Concord Wetlands Bylaw and shall comply with all conditions placed on the project and provide a copy of a recorded Order of Conditions, or Superseding Order of Conditions to the Natural Resources Division and the Building Inspections Division.
- 7) **Prior to the commencement of any site work**, the Applicant shall submit to CMLP Engineering for review and approval all necessary plans and documents required for the extension of electrical service to the project.
- 8) **Prior to the commencement of any site work or issuance of a Building Permit**, the Applicant shall record with the Middlesex South Registry of Deeds the Special Permit Decision and provide a copy of the recorded decision to the Building Inspections Division and Town Planner.
- 9) **Prior to the issuance of a Building Permit**, the Applicant shall submit to the Fire Department for review and approval a 241 Construction Fire Safety Plan.
- 10) **Prior to the issuance of a Building Permit**, the Applicant shall contact CMLP Engineering to set up a site meeting to review the proposed project.
- 11) **Prior to the issuance of a Building Permit**, the Applicant shall provide CMLP with a detailed electrical load letter for the proposed addition in order to properly size the transformer.
- 12) **Prior to the issuance of a Building Permit**, the Applicant shall provide CMLP a digital copy of the site plans in AutoCAD format. This will allow CMLP to issue an electric and Town fiber communication design and issue an estimate for CMLP’s portion of the construction costs.

- 13) **Prior to the issuance of a Building Permit**, all proposed metering will require approval from the CMLP Meter Supervisor.
- 14) **Prior to the issuance of a Building Permit for each dwelling unit**, the Applicant shall submit a Form C to the Health Division for review and receive a permit from the Board of Health for an on-site sewage disposal system designed in complete conformance with 310 CMR 15.00, The State Environmental Code, Title 5, and Concord Board of Health regulations.
- 15) **Prior to the issuance of a foundation sign-off for the first dwelling**, the Applicant shall install a street sign at both ends of the roadway.
- 16) **Prior to the issuance of a foundation sign-off for each dwelling**, the Applicant shall install a temporary house number to the satisfaction of the Fire Department that is clearly visible from the road to mark the address of the dwelling
- 17) **Prior to back-filling infiltration units**, the applicant shall request and have CPW-Engineering conduct an inspection to verify that the installation of all infiltration units was conducted in a manner consistent with the approved plans. Per CPW Design and Construction Standard 2.2.3.E.5 and Standard 3 of the Massachusetts Stormwater Handbook soils information from test pits within the footprint of all proposed Stormwater management facilities shall be documented. Soils information shall include but not be limited to soil descriptions, depth to seasonal high groundwater, depth to bedrock, and percolations rates. Soils information shall be based on deep holes and percolation tests logged by a Massachusetts Registered Soil Evaluator and witnessed by CPW Engineering. If unfavorable soil conditions are found, the drainage system will need to be redesigned and potentially brought back before a Town Board or Commission.
- 18) **Prior to the issuance of the first Certificate of Occupancy**, the Applicant shall submit baseline documentation of the restricted land to be conducted in accordance with MassAudubon's Massachusetts Conservation Restriction Stewardship Manual (March 2006), or as approved by the Division of Natural Resources. Two copies of the completed report, and an electronic version, shall be provided to the Division of Natural Resources.
- 19) **Prior to issuance of the first Certificate of Occupancy**, the Applicant shall install permanent visible markers along the Conservation Restriction boundary in a manner acceptable to the Natural Resources Director. Bounds shall be included on the Conservation Restriction Plan.
- 20) **Prior to the issuance of a Certificate of Occupancy for each dwelling**, the Applicant shall install to the satisfaction of the Fire Department a smoke and carbon dioxide detection that is capable of being monitored and reported to Central Dispatch.
- 21) **Prior to the issuance of a Certificate of Occupancy for each dwelling**, the Applicant shall install to the satisfaction of the Fire Department a 13-D residential fire sprinkler system, which can be in the form of a 230-gallon tank with pump.
- 22) **Prior to the issuance of a Certificate of Occupancy for each dwelling**, the Applicant shall submit to the Health Division all necessary as-built plans for the on-site sewage disposal system for review and issuance of a Certificate of Compliance.
- 23) **Prior to issuance of a Certificate of Occupancy**, the applicant shall submit an as-built plan to CPW Engineering, CMLP, Town Planner and Building Commissioner of the site including grading, elevations of all drainage infrastructure (i.e. inverts, rims), driveway/parking grades, pavement,



pavement marking, signage, utilities, structures, building elevations, and other pertinent information. The plan must be stamped by a Professional Engineer. A certification letter signed by a Professional Engineer shall outline any deviations from the design plans and certify that there will be no negative impacts as a result of those deviations. This submittal should be provided a minimum of two weeks prior to applying for occupancy to ensure adequate review time. One hard copy and one electronic copy, in the form of both AutoCAD and PDF Files, shall be provided to CPW-Engineering. Additionally, to ease in review, the as built items shall be bold while all other plan items shall be screened down.

- 24) **Prior to the issuance of a Certificate of Occupancy**, the Town Planner shall verify that all plantings shown on the approved Landscape Plan have been installed. Any proposed minor modification or substitutions shall be reviewed and approved by the Town Planner prior to installation. If the Applicant provides documentation to the Town Planner that it would be detrimental to complete weather dependent aspects of the landscaping, the Town Planner may require a performance guarantee to ensure compliance. In such case, the Applicant shall submit to the Town Planner for review and approval a performance guarantee covering the cost of the landscaping and installation and a temporary certificate of occupancy shall be issued until all landscaping work is completed.
- 25) **Prior to the issuance of a Certificate of Occupancy**, the Building Commissioner shall confirm that all exterior lighting complies with the approved lighting cut-sheets.
- 26) **Prior to the issuance of a Certificate of Occupancy**, the Applicant shall provide CMLP with a suitable utility easement for the proposed underground electric distribution system including Town fiber communication system that are located outside of the Town Right-of-Way. The easement shall be reviewed and approved by CMLP prior to recording with the Middlesex South Registry of Deeds. The Applicant shall provide copies of the recorded documents to CMLP. It should be noted that the individual underground electric services are owned and maintained by the property owner(s) and will require approval from the Town of Concord Electrical Inspector.
- 27) **Prior to issuance of any Certificate of Occupancy**, the Applicant shall provide to CPW-Engineering review and approval the Long-Term Operations and Maintenance Plan (LTOMP) of the stormwater system in both a hard copy and electronic (pdf) copy. At the time the (LTOMP) is submitted for review, the applicant shall also provide draft deed documents which outline permanent maintenance responsibilities of all elements of the on-site Stormwater drainage system, including all catch basins, infiltration chambers, trench drains, drainage manholes, pipes, sediment forebays, bioretention areas, level spreaders and all appurtenances thereto in perpetuity. Any inspection or monitoring reports required in all of the (LTOMP) shall be submitted to the CPW-Engineering and the Natural Resources Director annually.
- 28) **Prior to the issuance of the last Certificate of Occupancy**, the Applicant shall complete a Conservation Restriction pursuant to M.G.L. Chapter 184, §§ 31-33, on the restricted property. To be considered complete, the CR must be accepted and approved by the Natural Resources Commission Select Board, the Executive Office of Energy and Environmental Affairs, and recorded at the Middlesex South Registry of Deeds. The Conservation Restriction shall be deeded to the Town of Concord acting by and through its Natural Resources Commission as its Conservation Commission in perpetuity and exclusively for conservation purposes