

DEVELOPMENT IMPACT STATEMENTS

COUPER FARM ESTATES - DEFINITIVE SUBDIVISION

180 GREAT ROAD
MAP U05 PARCEL 5
LITTLETON, MA

DECEMBER 15, 2016

Prepared for:

M+M REALTY TRUST
442 KING STREET
LITTLETON, MASSACHUSETTS 01720

Prepared by:

MARKEY & RUBIN, INC.
360 MASSACHUSETTS AVENUE
ACTON, MASSACHUSETTS

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1. PROJECT NARRATIVE

The site consists of 41.9 acres comprised of 2 parcels. The current use of the site is primarily agriculture (hayfields and a pumpkin patch) and a single family residence.

Of the 41.9 acres, there is a wetland area which reaches from the southeast toward the middle of the site, which contains 5.8 acres. This wetland area makes up most of the wooded portion of the site. The remaining cleared portion of the site is predominantly hayfields, with a pumpkin patch.

The proposed development of the site will consist of the creation of 3 roads totaling 2,280' of pavement, one shared residential driveway totaling 800' of pavement, the existing single family dwelling to remain, the creation of 25 open space development lots, 24 "Over 55" housing units, and 4 open space parcels.

The proposed development will create 22.5 acres of open space, which is 53.7% of the total site area. The project will require the following permit approvals from the planning board for construction:

Definitive Subdivision of Land

Special Permit – Open Space Development (Sec. 173-93 – Sec. 173-118)

Special Permit – Over 55 Housing Development (Sec. 173-145 – Sec. 173-164)

Special Permit – Shared Residential Driveway (Sec. 173-125 – Sec. 173-127)

2. ENVIRONMENTAL ANALYSIS

a) Site Analysis

i. MGL 131, § 40 Removal, fill, dredging or altering bordering waters.

Work proposed that falls under the jurisdiction of the Wetland Protection Act is currently being filed with the Conservation Commission, or will be after approval of the Definitive Subdivision.

ii. Vegetative cover analysis, botanical features and wildlife habitat

The majority of the land is currently cleared and used as hayfields. Of the wooded portions of the site, it is mostly juvenile deciduous woods with little evergreen vegetation. Wetlands are mostly juvenile vegetation and brush, and a few scattered trees. Of the vegetated areas, the entirety is riddled with invasive plants. There are no important botanical features on site. Habitat is early-successional.

A portion of the site is located in Estimated and Priority Habitat for the blue-spotted salamander, a state-listed Species of Special Concern. The development of the site has been significantly limited in this area, and is currently being designed in consultation with the MA Natural Heritage and Endangered Species Program (NHESP) to avoid and minimize impacts to the local blue-spotted salamander population.

iii. Scenic vistas

Land is generally low lying in comparison to abutting land and therefore providing little scenic vistas or visual prominences. As a part of the host agreement, the developer has agreed to provide an average 300' wide strip of open space between Great Road and the proposed development.

b) Narrative statements

i. Surface Water Quality and Level

Although there is not long term standing surface water on site, there is a peninsula of wetlands which lies in the geographic middle of the site. The land slopes from great road to this wetland area. Wetland area boundary has been approved by the Littleton conservation Commission in September 2016. With development all necessary precautions are taken to ensure no significant changes are made to this resource area. More specifically, these precautions include:

- No increase in stormwater runoff, both peak and volume
- All point source discharges are adequately treated before being released.
- Surface runoff not from a point source travels over sufficient vegetated land providing a filter strip exceeding 25 feet of slope less than 6% to ensure adequate treatment.

ii. Groundwater Quality and Level

Groundwater is affected in two ways:

1. Change in surface conditions and hence where stormwater recharge occurs
With the required recharge of stormwater, the overall level of groundwater will essentially remain the same except for some localizing mounding. That is, the amount of groundwater leaving the site remains the same.
2. Subsurface Soil Absorption System
The proposed septic systems will increase the amount of groundwater though by a relatively small amount. For the proposed 3-bedroom subdivision homes, and 1-bedroom age restricted homes, the amount of water added to the soils over the development area in a year is less than

one inch. The amount of water infiltrated from rainfall in a year on average is about 17 inches.

iii. Effects on species, botanical features and historic environs

The majority of the development will occur within presently disturbed and cleared land, including the proposed roadways and houses. Also, the open space area outside of the wetlands is mostly cleared and will have the opportunity to establish new growth. There is little effect on existing wild life – no significant botanic features, scenic or historic environs, or endangered species.

iv. Erosion and sediment control

All necessary precautions to ensure necessary erosion and sediment control will be included with the definitive subdivision design plans.

v. Wetland Protection Act

For work proposed that falls under the jurisdiction of the Wetland Protection Act, filing with the Conservation Commission will occur during the Definitive Subdivision project phase.

2. TRAFFIC STUDY

The applicant has requested a waiver from preparing a full traffic study. Historically, there have been several traffic studies upon this route. Given the small nature of this development in relation to the existing infrastructure of Great Road, a full traffic study is not warranted. Sight distances in both directions of each egress are in excess of 500’.

3. SANITARY SEWER STUDY

a. Sewer Design

A significant amount of testing has been performed on site. For this cluster development, 2 separate septic treatment facilities will be constructed – one for the single family dwellings, and one for the age restricted dwellings. The testing on site yields favorable results for these 2 systems. The total area covered by the 2 systems combined is approximately one acre in about 7 to 8 feet of fill on average. The locations of the age restricted homes will be on the same lot as the houses it serves. The single family dwelling system will be located on its own lot for operation and maintenance issues. Neither of the systems lie within open space areas.

b. Impact of Typical Design

The major impact of the septic system will be in amount of imported material required to construct the raised system. The discharge of effluent into the ground is regulated by the state environmental code 310CMR15.00. A permit will be required from the Littleton Board of Health to construct the system. Localized treatment of effluent is regulated more strongly than individual septic systems, (requires annual inspections and maintenance) which lessens the impact to groundwater.

4. WATER STUDY

Over the past month we will have worked with the water department to determine the adequacy of the water system on Great road, and have designed the proposed water system with their input. As designed the proposed development will meet the requirements for domestic and fire prevention flows.

5. PUBLIC WORKS COSTS

An estimate for future road plowing, sanding and sweeping, catch basin cleaning and maintenance of stormwater systems is based on the June 30, 2014 Town Annual Budget (as reported in 2014 Annual Town Report). That is, the total costs for Highway Department, Roadway Repairs and Snow & Ice amount to \$2,022,901. Also, the town has 62 miles of road, or \$32,627/mile.

In the case of Couper Farm Estates, the total length of roads is:

Couper Farm Lane – 1250’

Vint Lane – 300’

Field Lane – 730’

Total = 2280’

(The calculation of road length excludes the age restricted portion of the development – this shared residential driveway will be maintained privately). The average cost for the annual maintenance of a road of this length based on the 2014 Annual Budget is then \$14,088 (2280 ft. x \$32,627/mile x 1/5280 ft/mile).

6. MUNICIPAL SERVICE COSTS

The total town budget for 2014 was \$34,371,781 (after adjustments). Setting school costs aside, the net budget is then \$17,981,781 (school cost budget is \$16.4 million for 2014). Assuming a population of 9,000 for Littleton, the cost per resident is \$1,998.

Referring to the 2012-2013 Pupil Expenditure report, the total FTE (full time equivalent) members for the town of Littleton is 1,722.8. General funds appropriated are \$19,729,790; Grants, revolving and other funds are \$2,181,930; or total school funds are \$21,911,720. The cost per pupil is then \$12,719 per annum.

In reference to “Environmental Impact Analysis Handbook” edited by Rau and Wooten, the estimated number of school children (K-12) per detached dwelling unit is 1.4 for a 3-bedroom house. The development will consist of 25 3-bedroom dwellings, thus the total number of school children will be 35, (there is no proposed or an average cost to the town of \$445,165/annum. This is based on an incremental linear progression. However, this is unlikely to occur because capital expenditures on school improvements, or expansions, happen over longer periods of time. A small increase in the number of children per annum will generally have a much smaller cost. The major cost comes in expanding the schools.

Referring back to the Municipal Service Cost per resident, the total number of people living in this subdivision could be estimated as 35 school children, 50 adults and about 10 pre-school children, and an additional 48 adults in the age restricted homes, totaling 143 persons. The total Municipal Service Cost per year from this subdivision would amount to about \$285,714.

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The single family houses are estimated to sell for about \$640,000 per 3-bedroom, and the age restricted dwellings are estimated to sell for about \$550,000. Residential taxes for Littleton are \$18.1/1000. The total tax revenue per annum is then \$528,520.

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