

MEMORANDUM

DATE: January 14, 2021

TO: Ms. Jean M. Bubon, AICP
Sturbridge Town Planner

Rebecca Gendreau
Conservation Agent

CC: file

FROM: John P. Shevlin, P.E.

RE: **Definitive Subdivision Plan Submittal &
Notice of Intent Application
Fiske Hill Estate
30 Main Street/20 Fiske Hill Road
Sturbridge, Massachusetts
(Pare Project No. 21001.00)**

PROJECT DESCRIPTION

Pare Corporation (Pare) is in receipt of a Definitive Subdivision Plan Submittal & Notice of Intent Application for Fiske Hill East Realty Trust for the construction of a five-lot mixed use (residential and commercial) cul-de-sac subdivision on the site located at 30 Main Street and 20 Fiske Hill Road. The impetus for creation of the subdivision road is to create a legal building lot with frontage and access within the rural Residential District for the development of a 55+ Senior Housing Community. This review is being performed on behalf of the Planning Board (“Board”) and the Conservation Commission.

Pare has been provided the following information for review:

- Definitive Subdivision Plan “Fiske Hill East” – 30 Main Street & 20 Fiske Hill Road, Sturbridge, Massachusetts owned by: Fiske Hill Realty Trust – 97 Arnold Road, Fiskdale, MA 01518. Plan date November 11, 2020. Plans prepared by McClure Engineering.
- Cover Letter dated November 11, 2020 from McClure Engineering, Inc.
- Stormwater Management Report dated November 11, 2020 from McClure Engineering, Inc.
- Water Supply Curve dated November 11, 2020
- September 3, 2020 document by Performance Consultants, Inc. Licensed Fire Protection Engineers – 31 Massaconnic Trail, Holland, MA.
- Form C Application for Approval of Definitive Subdivision Plan dated November 11, 2020
- Environmental and Community Impact Analysis – dated November 11, 2020 from McClure Engineering, Inc.
- Traffic Impact Study dated August 2020 by AK Associates





Ms. Jean M. Bubon/Ms. Rebecca Gendreau

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- Waiver Request dated November 11, 2020 from McClure Engineering.

Pare offers the following comments pertaining to the review of this submission and our site review.

Traffic Impact Study, dated August 2020:

The project consists of the development of a parcel of land consisting of five lots totaling 134+/- acres to construct a multi-use development.

1. *Project Description*- There is a description of the access to driveways, parking, and garages, the 40' ROW and 20' paved road? It appears this description is from the previous study for the site.
2. *Project Description*- States emergency egress/access is proposed through an existing access easement granted from Southbridge. Please clarify-other documentation states "the roadway Is not proposed to loop out to Fiske Hill Road in an effort to protect the historic and scenic qualities of Fiske Hill Road, even though by doing so it would eliminate the need for a waiver for the proposed length..." No other documents indicate emergency access/egress although it should be considered/discussed. Please clarify.
3. *Figure 1*- Please revise title for the figure.
4. *Study Area Roadway Network* – Applicant has stated that the study area was determined in consultation with the MassDOT District 3 Traffic Engineer.
5. *Traffic Volumes*- Due to COVID-19 pandemic, counts from 2007 were used. MassDOT Growth rates were used to expand traffic to 2020 conditions. The growth rates used were the Average Annual Growth Rate factor provided by MassDOT Data Management System. The average growth rate based on the method is .0034/year or 0.0442 over a 13-year period.

The applicant also provided counts from a nearby count station for the years 2013 to 2019. The yearly fluctuations in those volumes are :

- 2013-2014 +.055/year
- 2014-2015 +.011/year
- 2015-2016 +.0244/year
- 2016-2017 +.011/year
- 2017-2018 -.004/year
- 2018-2019 --.08/year

It appears that these numbers are very inconsistent. If you average the volumes a 0.0029/year factor is calculated, which is close to the Annual growth factor being used. The factor adjustment is acceptable.

Also, seasonal factors were also applied that are in conformance with MassDOT standards and are acceptable.

Truck percentages were provided from the count station. Were trucks counted as part of the applicants turning movement counts for comparison. Can actual count data performed by applicant be provided with the report.



6. *Sight distances* – Sight distances are typically based on a speed study and the 85th percentile speed. The applicant uses the posted speed limit. Based on the sight distances available at the proposed driveway, even using the 85th percentile speed, the sight line measurements will exceed the design speed.
7. *Accidents*- Crash data was obtained from the MassDOT Crash Data Base. Based on the number of crashes summarized in the analysis, there does not appear to be a history of crashes at the Main Street/Fisk Hill Road intersection or the Main Street/Wallace Road intersection.
8. *Site Generated Traffic* – Trips were generated using the ITE Trip Generation Manual 10th edition. The land uses and the trips projected for the daily trips, the weekday a.m. peak and p.m. peak and Saturday peak, appear accurate. All three peak periods were evaluated.
9. *Trip Distribution and Assignment*- The trip distribution was based on existing traffic patterns. The distribution of traffic provided in Figure 3 is accurate.
10. *Site Access and Circulation* – The proposed roadway width is 24 feet with a 50-foot right-of-way. Based on the descriptions within the Subdivision Regulations, the roadway should be classified as a Major Street and the right-of-way width should be 60 feet and the roadway pavement width should be 32 feet. The narrower right-of-way and travel way is allowed if it is determined that the result will be the preservation of trees and other vegetation and will be consistent with the location and character of the subdivision. The applicant is requesting a waiver to preserve vegetation and minimize the total proposed impervious area on site, both of which make for less surface water runoff and encourages a less intrusive stormwater management system design. Based on the number of trips proposed to generated, the speeds of vehicles anticipated and the restrictions of any parking on the road, Pare is in agreement with the 24 foot width. With this width, however, and the proposed uses, the addition of an emergency access road should be discussed and considered to be included in the design.

It is stated that the access driveways pavement width is 20'. Where is this on plans? Stated that each unit will have off-street parking for two vehicles which will eliminate on-street parking. Emergency access/egress is described again. Is this confirmed. Please clarify?

11. *Traffic Operations*- Applicant reviewed existing (2020) conditions and Future (2027) No-build and Build conditions.

Did the applicant consider any future development in the adjoining Town that may impact the volumes?

Revise Table 4. Some of the column headers should be revised for example Existing Conditions Saturday Peak should be 'SB' not '0.04' and Main Street at Wallace Road for No-Build and Build conditions should be 'NB' not 'SB'.

For the Main Street at Fiske Hill Road Saturday Peak No-Build Condition the Southbound Movement should be LOS B not LOS C.

For Future No-Build Conditions, a couple of the movements (Main Street at Fisk Hill Road Saturday Peak Southbound Movement reduced from LOB B to LOS C and Main Street at Wallace Road PM



Peak and Saturday Peak reduce from LOS C to LOS D). Even with the reduction, the LOS D is still considered acceptable and the increase in delays is minor.

When comparing the No Build 2027 to the Build 2027, the only reduction in LOS is for the Main Street at Fiske Hill Road Saturday Peak Southbound movement which reduces from LOS B to LOS C. As stated above, LOS C is still an acceptable LOS.

Please review Figure 5. The traffic volume heading southbound at the Fiske Hill Road/Main Street intersection is 639 vehicles per hour (94+545), while at the proposed site entrance the volume is reduced to 570 vph (489+81). That is a reduction is 69 vehicles per hour (11% of the volume) - please justify. Likewise, northbound, just north of site, the volumes are 430 vph but at the Fisk Hill Road/Main Street intersection the northbound approach has 497 vph (13%). Please review all of these volumes and the analysis.

The results of the analysis provided for the proposed site roadway with 2 lanes indicates that the intersection operates at LOS C during the AM Peak Hour, and LOS D during the PM and Saturday Peak Hour. With the two lanes exiting and the sight distance, the intersection should operate satisfactorily. Please verify after reviewing and responding to previous comment that the numbers and the analysis is accurate.

12. *Findings*: The applicant states that the intersection of Main Street and the driveway will operate at LOS 'B' with two lanes exiting. The analysis indicates that the intersection will operate at LOS C during the AM Peak, LOS D during the PM Peak and LOS D during the Saturday Peak. Please verify.
13. *Conclusions and Recommendations*: Pare is in agreement that vegetation and no addition of any features such as signage or landscaping should be installed at the site driveway that would impact the sight lines.

Pare is in agreement that a two-lane exit should be implemented to improve the LOS at the intersection.

The applicant should review striping on Main Street in the area of the proposed site driveway and modify as necessary.

STORMWATER MANAGEMENT REPORT

1. *Introduction*- The applicant does a good job with the Scope of Analysis, the Site Description, and the Proposed Conditions.
2. *Hydrologic Analysis* – The information and analyses performed pertaining to this section are complete. The results of the analyses indicates a decrease in post peak rate runoff at all five analysis points for the 2, 10, 25 and 110-year, 24-hour storm event.
3. *Stormwater Standards* –
 - *Standard 1-Computations to Show that Discharge Does not Cause Scour or Erosion*- Met. Velocities at outfalls are within acceptable range to prevent scour. Riprap pads are provided at outfalls. Please provide a detail on plans for the pads detailing size of pad and stone size.



- *Standard 2- Peak Rate Attenuation* – Met. Post-development discharge rates do not exceed pre-development peak discharge rates.
- *Standard 3 – Recharge*- This standard is met with the proposed basin. Please review and see if any additional recharge could be provided for the drainage system closest to the entrance.
- *Standard 4 – Water Quality*- Met. The applicant has met this standard based on the water quality volume analysis, the TSS removal calculations and the proposed “Long Term Operation and Maintenance Plan provided.
- *Standard 5 – Land Uses with Higher Pollutant Loads* - NA. Pare agrees that the proposed land use is not a High Potential Pollutant Load development.
- *Standard 6 – Critical Areas*- NA. Pare agrees that this development will not discharge to a Zone II or Interim Wellhead Protection Area of a public water supply and storm water will not discharge to any other critical area.
- *Standard 7 – Redevelopment* - Pare is in concurrence that the site is not considered a redevelopment and that all of the pertinent standards will be met.
- *Standard 8 – Construction Period Controls*- Met. A plan for inspections, the need for an EPA-NPDES Stormwater General Permit and an Erosion and Sediment Control Plan have been provided or identifies and are found to be acceptable.
- *Standard 9- Operations and Maintenance Plan*- Met. A plan has been provided along with an O&M Compliance Statement and Inspection & Maintenance Reports. All are acceptable.
- *Standard 10- Illicit Discharges to Drainage System* – Met. This standard is addressed in the O&M Plan.

MISCELLANEOUS COMMENTS

1. Please review the location of the basin and see if it can be redesigned or reconfigured so it does not encroach into the wetland buffer area.
2. Have areas been identified for temporary stockpiles, spoil areas, temporary drainage.
3. Cul-de-sac is proposed to be 1,030 linear feet and it is stated that it is necessary to create frontage within the Rural district. The 1,030 foot cul-de-sac will require a waiver from the 500 foot length allowed. It is understood that this waiver has been approved for other subdivisions in Town. Based on the proposed uses, this length is not considered an issue if an emergency access is provided for the Senior Housing Community from Crestwood Drive in Southbridge.
4. Has the Water Department weighed in on the extension of the water main and the dead-end being proposed?
5. Applicant has provided a 3/16 inch per foot cross-slope for the sidewalks. The subdivision regulations call for a 3/8 inch per foot cross slope. Based on ADA requirements, the plans as shown are acceptable.
6. Curbing being provided is bituminous concrete. Has this been reviewed and approved by the Department of Public Works?
7. Per the regulations, if only one sidewalk is to be installed, hydrants should be on the opposite side of the street. There are three hydrants being installed. The middle one is in an area where there is only one sidewalk. The other hydrants are proposed on the same side as the middle one. This location should be confirmed with the Water Department.



8. On the Typical Water Main Trench Section, the bed is labelled as 6 inches. Subdivision regulations require 12 inches.
9. Is there a reason as to why the sidewalks are not continued along both sides of the roadways? With proposed uses in the development, it may be advantageous to continue them on both sides to eliminate road crossings.
10. Subdivision regulations (Section 13, A. 2) state that the sidewalks in commercial and industrial areas are to be 6 feet wide. Four-foot sidewalks are proposed. A waiver should be requested for this.
11. Four-by-four-inch welded wire mesh or equal is to be installed at driveways. Plans call for 6x6xW3xW3.
12. Waivers:

Applicant is requesting the following waivers:

- The plan should show individual trees of 10-inch diameter or greater within 50 feet of the proposed right-of-way. There are many trees greater than 10" which would make difficult to identify on the plans. The applicant has stated that they have tried to minimize impacting vegetation and have supplemented areas where trees are being removed with new vegetation. Pare concurs with this request.
- Scale of Index Sheet is acceptable to Pare.
- Centerline radius (175') is less than what is required (200'). Pare takes no exception with layout.
- Right-of-way width and roadway width are described above.
- Cul-de-sac length is described above.
- Pipe cover on drainage pipes at CB1 and CB2 in the vicinity of Main Street are 24" where 36" is required. This was done to capture runoff from going to Main Street. Because of grades we find this request acceptable.
- Proposed water line is 6". This matches existing water line on Main Street.
- Sidewalks are discussed above.

We are ready and available to discuss these comments at the next Planning Board/Conservation Commission meeting. In the meantime, if you have any questions or comments, please feel free to reach out to me.