



October 26, 2021

Mr. Anthony Padula, Chairman  
355 East Central Street  
Franklin, MA 02038

**Re: Eastern Wood Estates  
Definitive Subdivision Plan Peer Review Update**

Dear Mr. Padula:

BETA Group, Inc. has reviewed revised documents for the project entitled “Eastern Wood Estates” located at 725 Summer Street in Franklin, Massachusetts. This letter is provided to outline findings, comments, and recommendations.

## **BASIS OF REVIEW**

The following documents were received by BETA and formed the basis of the review:

- Plans (11 sheets) entitled: ***Definitive Subdivision Plan of Land Eastern Wood Estates***, revised to October 22, 2021, prepared by Guerriere & Halnon, Inc. of Franklin, MA.
- ***Stormwater Report***, revised to October 18, 2021, prepared by Guerriere & Halnon, Inc. of Franklin, MA.
- Definitive Subdivision Submittal, including:
  - Cover Letter
  - Form C
  - Certificate of Ownership
  - Form R
  - 300-foot Abutters Map

Review by BETA includes the above items along with the following, as applicable:

- Site Visit
- ***Zoning Chapter 185 From the Code of the Town of Franklin***, current through October 2019
- ***Zoning Map of the Town of Franklin, Massachusetts***, attested to April 30, 2019
- ***Stormwater Management Chapter 153 From the Code of the Town of Franklin***, Adopted May 2, 2007
- ***Subdivision Regulations Chapter 300 From the Code of the Town of Franklin***, current through January 1, 2016
- ***Wetlands Protection Chapter 181 From the Code of the Town of Franklin***, dated August 20, 1997
- ***Town of Franklin Best Development Practices Guidebook***, dated September 2016

## **INTRODUCTION**

The project site includes an 18.953± acre parcel (#315-037) located at 725 Summer Street in the Town of Franklin (the “Site”). The Site is located within the Rural Residential I Zoning District. Surrounding lots are also within this district. The Site borders the north side of Interstate Route 495.

The existing Site predominantly consists of woodlands with a two-story residence located in the easternmost portion of the Site near Summer Street. A driveway extends north from the residence, through abutting Lot 315-037-001, and connects to Summer Street. Additional site features associated with the residence include a septic system, lawn areas, and a shed. An 80' wide New England Power Company easement and associated power lines runs longitudinally across the western side of the Site.

The Site includes several high elevation areas within the center of the Site from which topography is graded to the northwest, south, and east. An isolated wetland is present in a low point of the Site near its southwestern corner. The Site is not located within a FEMA mapped 100-year floodplain, a wellhead protection area, an NHESP-mapped estimated habitat of rare or endangered species, or any other critical area. NRCS soil maps indicate the presence of Hollis-Rock outcrop-Charlton complex with a Hydrologic Soil Group (HSG) rating of D (very low infiltration potential).

The project proposes to subdivide the Site into five separate lots, a parcel for drainage, and will result in the construction of four new single-family residences with associated driveways, septic systems, subsurface stormwater infiltration systems, and water wells. One lot will be used for the existing residence which shall remain and be unaltered under the submittal. Fall Lane is proposed to be extended by approximately 350 feet and will be 26' wide in a 56' wide Right-of-Way. Additional site features include electric conduits and streetlights. Stormwater management is proposed via a closed drainage system consisting of catch basins and drainage manholes which will discharge into an infiltration basin. Runoff from roofs will be managed via four subsurface infiltration systems. All modifications are situated in the western side of the Site and will require tree clearing and grading.

## FINDINGS, COMMENTS, AND RECOMMENDATIONS

### GENERAL

- G1. Evaluate the need for the retaining wall proposed at STA 2+50 LT. An outcropping of ledge appears to be located in this area. If a retaining wall is required, BETA recommends for it to be located outside of the right-of-way. *GH: To remove wall we provided a small area with a stabilized 1:1 slope, We will recommend that slope stabilization measures (i.e., soil reinforcement or modified rock fill) be provided and that the contractor shall have this stabilization designed by others.* **BETA2: Information provided. BETA notes that final grading and design will need to be evaluated during construction based on field conditions.**
- G2. A retaining wall, approximately 19' in height, is proposed between the roadway and adjacent infiltration basin. The designer should evaluate alternatives to reducing the height of the wall or relocating it to private property. If the wall is to remain in Parcel A the developer should work with the Town to select a limited number of acceptable wall designs/manufacturers. *GH: Acknowledged-We will coordinate with the T manufacturers are acceptable.* **BETA2: Wall height reduced. If the Board elects to approve the project, BETA recommends a condition that requires final wall design and materials to be approved by the Town.**
- G3. Review and revise wooden guardrail detail to be crashworthy, as defined by the AASHTO *Roadside Design Guide*, for the roadway application adjacent to the retaining wall with significant height. *GH: We have proposed to use standard W-Beam steel guardrail in place of the previously proposed wooden guardrail. See sheet 9 for detail.* **BETA2: Guardrail revised – issue resolved. Coordinate**

**with the DPW to evaluate if guardrail is required where proposed retaining walls abut the maintenance access around the pond. GH: We have added additional guardrail around access drive and pond. We will coordinate with the DPW as requested. BETA3: If the Board elects to approve the project BETA recommends a condition that final plans shall depict limits of guardrail and fence along the pond maintenance access to the satisfaction of the DPW.**

## ZONING

The Site is located within the Rural Residential (RRI) Zoning District. The proposed Site is a residential subdivision with single family residential uses, which are permitted by right in this zoning district.

## SCHEDULE OF LOT, AREA, FRONTAGE, YARD AND HEIGHT REQUIREMENTS (§185 ATTACHMENT 9)

Each proposed lot meets the requirements for lot area, depth, frontage, width; front and side yards; and impervious coverage.

## SUBDIVISION REGULATIONS

### §300-8 DEFINITIVE PLAN

- S1. Provide information to verify compliance with §300-12.A regarding potable water quality and quantity (§300-8.A.1(g)). *GH: There is no public water supply system available for this area. Fire emergency will be provided using a pumper truck. BETA2: Information provided. BETA defers to the Fire Chief regarding emergency services.*
- S2. Provide the existing widths of Summer Street and Fall Lane on the plans (§300-8.B.(2(i))). *GH: Revised-See sheet 5. BETA2: Widths provided – issue resolved.*
- S3. Revise roadway plan and profile as follows: (§300-8.C(1)).
  - a. Show existing center-line profile as a fine, continuous line.
  - b. Show proposed left-side line as black dots.
  - c. Show exiting center-line profile for at least 100 feet beyond the end of the cul-de-sac.

*GH: Revised-See sheet 7. BETA2: Profile revised – issue resolved.*

### §300-10 STREETS

Access to the Site is proposed via a 400' ± extension to Fall Lane ("Fall Lane Extension"), resulting in a total dead-end roadway length of 600'. The extension will be a paved, 26' wide roadway ending in a 90' diameter cul-de-sac. The proposed right-of-way for Fall Lane Extension is a minimum of 56' wide and is 120' at the cul-de-sac. For the proposed 4 dwelling units it services, Fall Lane Extension is classified as a Minor Street. Proposed curbing is Type SB sloped granite, which is consistent with the surrounding subdivision roadways.

A driveway is provided for each residence which will connect to Fall Lane Extension, except for Lot 2A which will continue to achieve access from Summer Street (no modifications proposed). Parking for proposed residences is provided via driveways, each of which is a minimum of 12' wide. A T-shaped turnaround area is located at the end of each driveway to improve maneuverability.

A 20' wide access easement is proposed to allow the driveway for Lot 2-4 to pass through Lot 2-3.

- P1. Clarify the type of proposed pavement work between the northerly limit of work and the limit of existing pavement on Fall Lane. *GH: GH has included additional notation (i.e., cold planning and*

- resurfacing, saw cutting, etc.) on sheet 5, indicating work to be performed at the limit of work on Fall Lane. BETA2: Information provided. Recommend that final plan set indicates that existing pavement shall be removed from the limits of cold planning to beginning of new pavement. BETA notes the DPW may also require the joint between existing and new pavement to be blended with infrared heating. GH2: On Sheet 5, we have added two notes, one indicating beginning of full depth construction, and the other indicating existing pavement to be removed in the area of full depth construction. BETA3: Notes provided – issue resolved.*
- P2. Provide vertical scale on roadway profile. *GH: Revised-See sheet 7. BETA2: Scale provided – issue resolved.*
- P3. Evaluate the volume of cut and fill for the development §300-10.D.(1). Earth removal of greater than 1,000 cubic yards of material requires a special permit by the Board of Appeals (§185-23). *GH: Acknowledged-If determined to be in excess of 1,000 cy, G&H will submit a Special Permit to the Board of Appeals. BETA2: No evaluation provided. If the Board elects to approve the project BETA recommends they note in their findings that an earth removal permit may be required.*
- P4. Indicate proposed grade for the steep section of Fall Lane Extension to verify compliance with §300-10.D(2). *GH: Revised-See sheet 7. BETA2: Information provided confirming compliance with maximum permitted grades – issue resolved.*
- P5. Revise grading plan such that proposed right-of-way grades are not more than 5 ft above or below existing grades, such as near STA 2+50 to 3+50 RT and STA 4+50 (§300-10.D(5)), or request a waiver. *GH: We are requesting a waiver from Section 300-10.D(5). BETA2: Waiver requested. BETA notes the request appears reasonable given the unique topography of the existing site.*
- P6. Evaluate the need for subdrains on the high side of the roadway between STA 3+50 and STA 5+50 through soil borings (§300-10.D(5)). If soil borings have not been performed in proximity to this area, BETA recommends that subdrains be installed as a conservative measure. *GH: Underdrain added as requested-See sheet 6 and 10 for details. BETA2: Subdrains provided – issue resolved.*
- P7. Provide detail for driveways, indicating that the portion of the driveway within the right-of-way must be constructed to the same specifications as the roadway (§300-10.G(2)) and shall be a minimum width of 16' at the gutter line (§300-10.G(3)) . *GH: Revised-See sheet 5. BETA2: Detail provided. In consideration that sidewalks are now proposed, modify detail or include additional detail, to ensure sidewalk grades are continuous across driveway openings (§300-10.G(2)). GH: We have revised the "Site Driveway Apron Detail", on Sheet 9 to include additional information in regards to requirements set forth in (§300-10.G) of the Town Code. BETA3: Detail revised – issue resolved.*
- P8. The proponent has requested a waiver from §300-10.G(6), which requires that driveways serving a premises must be through the required frontage of the serviced lot, except in the case of a common driveway, which is not proposed. BETA notes the proposed driveway easement will effectively segregate approximately 20,000 sq. ft. of area from Lot 2-3 and result in an uninterrupted frontage of approximately 90 feet. At a minimum, the designer should evaluate options to place the driveway easement as close to the lot line as possible. *GH: The driveway is now serviced through the subject property frontage-See sheet 5. BETA2: Driveway location revised. BETA notes that although a waiver is no longer required the majority of the proposed driveway is still located within an easement on the adjacent lot.*

- P9. Revise Sloped Granite Curb detail to indicate required setting angle between 45° and 60° (§300-10.H(2)). *GH: Revised-See sheet 9. BETA2: Detail revised – issue resolved.*
- P10. Provide four-foot transition pieces at all driveway entrances (§300-10.G(4(b))) or revise Transition Curb Detail, as applicable. *GH: Revised-See sheet 9. BETA2: Detail revised – issue resolved.*

### §300-11 STORMWATER MANAGEMENT

Stormwater management is proposed via catch basins, drainage manholes, subsurface recharge structures on private lots, and an infiltration basin. Refer to the Stormwater Management section below for additional details.

- S4. Provide required 20' setback between the maximum pond water surface and the northern property line. Also provide the required 10' setback between the toe of pond berm embankment and the property line (§300-11.A.(7)). *GH: Revised-See sheet 5. BETA2: Required setbacks provided; however, BETA notes that providing the setback for the toe of berm results in a significant increase in the length of proposed retaining wall. The designer should evaluate placing the wall at the limits of the NE Power easement so that some grading can be used to reduce the height of the wall. Similarly, the wall could be placed closer to the property line at the northwest corner of the pond to reduce the wall height. GH: We have revised grading along the access drive and infiltration/detention pond. A large portion of the retaining wall previously located adjacent to access drive has been removed and replaced with a 3:1 slope down to the existing New England Power easement line. Additionally, we have moved the wall closer to the easement line allowing for reduction in wall height at this location as suggested. BETA3: Wall length reduced by approximately 180 feet. BETA notes that if the Board elects to approve the project, the Town will likely take future ownership for 460± feet of retaining wall up to 10 feet in height.*
- S5. Label individual pipe segments that will have cover less than 42", requiring Class V RCP (§300-11.B.(2)(a)). *GH: All drainage pipes have a minimum of 42" of cover-See sheet 7. BETA2: Information provided – issue dismissed.*
- S6. Include notes and details for handling stormwater following placement of binder course. All catchment structures and mitigation features must be fully operational at the time of paving and an edge treatment such as curb or temporary berm must be installed. Using straw bales/crushed stone as noted in the Erosion Control Phasing will not be acceptable to the Board. *GH: G&H has updated Note 10 on Sheet 4 in the Erosion Control and Drainage Construction Phasing notes to indicate temporary berm to be provided. BETA2: Note revised. Remove or update Note 10 on Construction Details (Sheet 11) and provide approximate dimensions on Temporary Bituminous Concrete Berm Detail. GH2: Note 10 has been updated by removing reference to (Dribble Berm). Berm dimensions have been added. BETA3: Note and detail revised – issue resolved.*

### §300-12 UTILITIES

Proposed public utilities include drainage and electric, including street lighting. Residential lots are proposed to be serviced by private well and septic systems. BETA defers to the DPW on the feasibility on providing public water supply and to the Fire Chief on water supply for fire safety.

- S7. Provide information on if adequate testing has been done to determine that proposed well and septic systems can be constructed to applicable local and state standards. *GH: Prior to the required approvals from the local Board of health for each individual septic system, the*

*appropriate testing will be performed. BETA2: Information provided. BETA defers to the Board of Health on this issue.*

- S8. In coordination with the DPW, revise Light Pole detail to conform to the latest Town Standards including LED, 3,000K, 3,000 lumen luminaires set on 6' long steel gray arm. *GH: Detail has been revised to Town Standards. BETA2: Detail revised – issue resolved.*
- S9. Recommend for the Board to discuss lighting on the proposed roadway. BETA notes that four light fixtures, including the existing fixture at the intersection of Summer Heights Drive, will be located on the 600' long roadway, whereas the surrounding neighborhood has light fixtures located at intersections and cul-de-sacs only. *GH: Removed excess lighting. One fixture remains at the end of the cul-de-sac. BETA2: Lighting revised. BETA defers to the preference of the Board on this issue.*
- S10. Clarify how proposed electric conduit will interconnect to offsite power source. *GH: A note has been added to the Utility Plan stating that the Contractor shall coordinate connection with electric company prior to construction. BETA2: Note provided – issue resolved.*

### **§300-13 OTHER IMPROVEMENTS**

- S11. The applicant has requested a waiver from §300-13.A.(1) and proposes no sidewalks along the roadway. BETA notes that one sidewalk is generally provided within the nearby neighborhood (west side of Fall Lane, Summer Heights Drive). BETA also notes the Board typically requires the installation of vertical granite curb when granting this waiver for sidewalks; however, the surrounding roadways currently have sloped granite curb. *GH: We have included a five-foot-wide bituminous concrete sidewalk which is consistent with the surrounding neighborhood. Sloped Granite Edging is to be installed-See sheet 5. BETA2: Sidewalk provided – issue resolved.*
- S12. Provide bounds at easement boundaries (§300-13.D.(1)). *GH: Bounds have been added as requested. See Sheet 2. BETA2: Bounds provide – issue resolved.*
- S13. Revise planting legend to clarify that any trees beyond those listed must be in accordance with the approved trees in the subdivision regulations (§300-13.E.(2)(c)). *GH: Added required note to Legend. BETA2: Note provided – issue resolved.*
- S13a. **Revise location of proposed tree on Lot 2-4 to be outside of the maintenance access around the pond. Also, two of the proposed shade trees on lot 2-3 are greater than 15 feet from the right-of-way (§300-13.E.(2)(a)).** *GH2: Trees have been adjusted accordingly. BETA3: Tree locations revised – issue resolved.*
- S14. Clarify need for proposed arborvitaes within the right-of-way. If they are for the benefit of screening for #122 Summer Heights Drive, consider relocating them to the private lot. *GH: Relocated Arborvitaes to screen the abutter's property line. BETA2: Plantings relocated – issue resolved.*
- S15. Provide a street sign at the intersection of Summer Heights Drive and Fall Lane (§300-13.F.(1)). *GH: Revised-See sheet 5. BETA2: Sign provided – issue resolved.*



## STORMWATER MANAGEMENT

The project proposes disturbance of more than one acre of land and thus is required to comply with Chapter 153: Stormwater Management. Comments regarding the project's conformance to §153 are provided in the following sections, where applicable.

### GENERAL

- SW1. Revise HydroCAD model to include the grate for the outlet control structure. Also, the emergency spillway elevation should be above the 100-year peak elevation. As currently modeled, the spillway is not used for emergencies but rather is necessary for the regular function of the basin. *GH: We have revised the type of outlet control structure, frame and grate to be proposed. The proposed 24"x 24" standard catch basin frame and grate has been added to the Hydrocad model and set at elevation 403.90-See sheet 10. The emergency spillway elevation has been revised to (EL=404.00) which is above the 100-yr peak elevation of 403.84.* **BETA2: Model revised – issue resolved.**
- SW2. Identify full extent of existing tree line on the watershed plans. *GH: Revised-See Existing/proposed Watershed Plans.* **BETA2: Tree line provided – issue resolved.**
- SW3. Clarify extent of area modelled as "brush" in the HydroCAD model. *GH: The area modeled as brush is located within the existing New England power line easement.* **BETA2: Information provided – issue dismissed.**
- SW4. Review HydroCAD model for basin to confirm that the area used for the 404' elevation matches that shown on the plans. Provide labels on basin contours for clarity. *GH: Hydrocad model and CAD areas match. Basin contours have been added.* **BETA2: Model verified – issue resolved.**
- SW5. Provide an impervious material, such as a curb, through the depth of the emergency spillway to prevent premature seepage through the spillway material. *GH: We have added concrete weir wall for the length of the spillway, see sheet 8 and 10.* **BETA2: Material provided – issue resolved.**
- SW6. Clarify the need for a cast-in-place outlet control structure. Suitable precast structures should be readily available. *GH: Revised-See sheet 10 for revised Outlet Control Structure Detail.* **BETA2: Structure revised – issue resolved.**
- SW7. Provide details for the steel safety grating and metal trash rack proposed for the outlet control structure. *GH: See sheet 10 for revised Outlet Control Structure Detail showing proposed standard catch basin frame and grate to be used.* **BETA2: Conventional grate provided – issue resolved.**
- SW8. Provide AASHTO or USDA soil classification for proposed low permeability fill. *GH: We have added additional verbiage indicating the required soil classification to be used as fill for the detention basin earth berm. See detail sheet 10.* **BETA2: Soil classification provided – issue resolved.**
- SW9. Revise pipe calculations to correct upper end invert for DMH-1 to match plans (419.10). *GH: Drainage inverts revised-See sheet 7.* **BETA2: Calculations revised – issue resolved.**
- SW10. Provide model number on Cultec chamber detail. *GH: Revised-See sheet 10.* **BETA2: Model provided – issue resolved.**
- SW11. Recommend replacing the broken inlet stone at the existing catch basin at the corner of Summer Heights Drive and Fall Lane. *GH: We will address the contractor to coordinate the replacement of the existing inlet stone with the DPW during construction.* **BETA2: Provide a note regarding the**

**coordination of the inlet stone replacement on the final plans.** *GH2: Note has been added to Sheet 5 indicating broken inlet stone to be removed and replaced.* **BETA3: Note provided – issue resolved.**

**No untreated stormwater (Standard Number 1):** *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.*

An isolated wetland is located on the southern side of the Site. Though no outfalls are proposed to this wetland, proposed grading will concentrate runoff to this area.

In addition, an outfall is proposed that will discharge runoff from the infiltration basin. A headwall and riprap apron are proposed to control erosion.

SW12. Provide rip rap sizing calculations and designate proposed stone size at outfalls. *GH: Revised-See sheet 11.* **BETA2: Calculations provided – issue resolved.**

SW13. Evaluate if any permanent or temporary erosion control measures are required in the swale located east of the Lot 2-3 residence. *GH: This area has been regraded based on the revised location of the Bordering Vegetative Wetland-See sheet 5.* **BETA2: Swale removed – issue dismissed.**

**Post-development peak discharge rates (Standard Number 2):** *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.*

The project proposes an increase in impervious area due to a new roadway, driveways, and houses. The project intends to mitigate increases in peak discharge rate via an infiltration basin as well as roof recharge structures. Models are provided for the 2, 10, 25, and 100-year storm events.

SW14. Provide an analysis point for the isolated wetlands. All freshwater wetlands are regulated by the Town's Bylaws. *GH: Provided-See Stormwater Report.* **BETA2: An analysis point has been added (AP-4) to represent the isolated wetland. Revise boundaries of watershed PR-4 to include all areas draining to the wetland; some such areas are currently included in watershed PR-3.** *GH2: Both the existing and proposed watershed sub-catchment areas have been revised to include all drainage flow contributing to the BVW. See existing and proposed watershed maps included in the stormwater report. HydroCAD models have been revised accordingly.* **BETA3: Watershed boundaries revised – issue resolved.**

SW15. Model the proposed infiltration basin as “water surface” to avoid “double-counting” the infiltration that will occur in this area. *GH: Revised-See Stormwater Report.* **BETA2: Model revised – issue resolved.**

SW16. Field review of the project area and review of aerial photography generally indicates a full tree canopy with understory growth. Revise woodlands “fair” to “good.” *GH: Revised-See Stormwater Report.* **BETA2: Model revised – issue resolved.**

SW16A. **Update HydroCAD model to include the proposed 2” slow drain at the outlet control structure or remove from the plans.** *GH2: We have removed 2” slow drain from plans and HydroCAD model.* **BETA3: Slow drain removed – issue resolved. Final plan set should remove Note 3 from the Outlet Control Structure detail.**

**Recharge to groundwater (Standard Number 3):** *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to maximum extent practicable.*



NRCS soil maps indicate the presence of Hollis-Rock outcrop-Charlton complex with a Hydrologic Soil Group (HSG) rating of D (very low infiltration potential). Four test pits have been completed at the Site in the area of the proposed infiltration basin. Test pit logs generally indicate the presence of Loamy Sand beneath proposed basin elevations. No groundwater was detected in any of the test pits, which were completed to depths between 0' and 7' below the proposed basin bottom.

The project proposes an infiltration basin to provide recharge volume in excess of that which is required. Additional recharge is proposed in the form of four subsurface infiltration systems which will collect runoff from each building roof. A Rawls rate of 2.41 in/hr, consistent with loamy sand and HSG A, has been used for the design of the infiltration basin.

SW17. Clarify the extent of soil evaluations done at the site, whether for stormwater, septic, or potable water. Test Pits indicate sandy loam and loamy sand, and an exfiltration rate of 2.41 in/hr has been used for the HydroCAD model, which is inconsistent with the HSG D conditions mapped in the NRCS soil survey. In accordance with Volume 3, Chapter 1, Page 9 of the *MA Stormwater Handbook*, provide additional soil survey within areas subject to alteration, particularly impervious surfaces, and revise HSG cover type as necessary. *GH: Currently test pits were only performed for the area of the infiltration basin. Additional test pits will be performed for the areas of the individual septic and portable water locations prior to submitting to the Board of Health. Test pits indicate that Sandy Loam and Loamy Sand was encountered at elevations below the existing ground surface at depths between 4" and 30" and 36" respectively. The majority of the proposed infiltration basin footprint will be located at or below these depths. We have included additional verbiage to Note 1, in the Infiltration/Detention Basin Detail on sheet 11, indicating that soils below the infiltration area, if not determined to be within the C Horizon Layer, are to be removed or replaced with sand or stone so that the proposed exfiltration rate assumed for the project can be achieved. BETA2: BETA takes no issue with the exfiltration values used in the HydroCAD model; however, cover types are based on an assumed HSG of D for the entire study area, while test pits indicate a HSG of B (sandy loam) in the upper layers of the soil. Perform additional test pits to confirm HydroCAD model is representative of actual field conditions or assume that the study area, at least in the area of roadway and proposed basin, are comprised of soils in HSG B. GH2: Evaluation of the onsite soils was completed in accordance with Volume 3 Chapter 1 of the Stormwater Handbook. The NRCS identified soil is used for runoff analysis unless the HSG is not listed for the soil or site evaluation reveals an inaccuracy of the NRCS soil identification. NRCS identifies the soil throughout the site as Hollis-Charlton-Rock Outcrop of HSG D (see soil report in drainage report). Hollis and Charlton indicate A and B soil layers as Sandy Loam and the onsite soil evaluation revealed the same, confirming the NRCS soil classification. Since the NRCS Soil Survey identifies the Hydrologic Soil Group of the entire site and there isn't any practical evidence the site soils deviate from what is identified, the use of the NRCS Soil Survey HSG D for Hollis-Charlton-Rock Outcrop in the calculations for surface runoff/infiltration is in accordance with the Stormwater Handbook. BETA3: Information provided – issue resolved.*

SW18. Clarify if the extent of refusal encountered at elevation 399.5' in TP-4 was evaluated. No exfiltration credit should be taken in the area of refusal. If refusal extends northward from the test pit, then the basin design may require modification. *GH: The bottom pond elevation has been set to Elev. 401.00 to account for minimum separation requirements. A groundwater mounding analysis has been provided. BETA2: Since the extents and elevations of refusal are unknown at TP-4, BETA recommends taking a conservative approach to exclude exfiltration in this area. At a minimum, BETA recommends a condition of approval that requires the extent of refusal to be*

**determined at the start of construction through additional test pits. GH2: Acknowledged. No further action required. BETA3: BETA recommends for the Board to include this as a condition of approval.**

**80% TSS Removal (Standard Number 4):** *For new development, stormwater management systems must be designed to remove 80% of the annual load of Total Suspended Solids (TSS).*

The project proposes to direct runoff from the roadway and driveways to an infiltration basin for treatment. The treatment train consists of deep sump catch basins, a sediment forebay, and the basin itself to provide the required TSS removal and pretreatment. The basin has been sized to provide water quality volume in excess of what is required for the Stormwater Standards and Town Bylaw (MS4).

A long-term pollution prevention plan was included as part of the O&M Plan. Comments on this plan are provided under Standard 8.

**Higher Potential Pollutant Loads (Standard Number 5):** *Stormwater discharges from Land Uses with Higher Potential Pollutant Loads require the use of specific stormwater management BMPs.*

The project is not a land use with a higher potential pollutant load – standard not applicable.

**Critical Areas (Standard Number 6):** *Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas.*

The project does not propose discharges to critical areas – standard not applicable.

**Redevelopment (Standard Number 7):** *Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.*

The project is not a redevelopment – standard not applicable.

**Construction Period Erosion and Sediment Controls (Standard Number 8):** *Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.*

The project as currently depicted will disturb more than one acre of land; therefore, a Notice of Intent with EPA and a Stormwater Pollution Prevention Plan (SWPPP) are required. The project proposes the use of erosion control barrier (mulch sock), catch basin inlet protection, straw bale dikes, and a stabilized construction entrance. A draft Construction Period Pollution Prevention Plan was included in the Stormwater Report.

SW19. Revise proposed straw bale dike. Per the *Best Development Practices Guidebook*, straw bales are not permitted in the Town of Franklin. GH: *Detail has been removed.* **BETA2: Detail removed – issue resolved.**

**Operations/maintenance plan (Standard Number 9):** *A Long-Term Operation and Maintenance Plan shall be developed and implemented to ensure that stormwater management systems function as designed.*

A Long-Term Operation and Maintenance (O&M) Plan has been provided.

SW20. Provide greater detail on inspection and maintenance of infiltration basins. Indicate specific maintenance activities as described in the *MA Stormwater Handbook*, Volume 2, Chapter 2, Pages 87 and 92. Increase inspection frequency to include inspection/cleaning of pretreatment devices after every major storm event. GH: *See O&M Plan Section D.4(d) for maintenance of the infiltration basin.* **BETA2: Plan revised – issue resolved.**

Mr. Anthony Padula, Chairman

October 26, 2021

Page 11 of 11

SW21. Provide description of public safety features. *GH: See O&M Plan Section D.3(e) for description of public safety feature (i.e. fencing).* **BETA2: Information provided – issue resolved.**

SW22. Provide an estimated operations and maintenance budget. *GH: Revised-See O&M Section R.* **BETA2: Budget provided – issue resolved.**

SW23. Remove reference in the O&M plan that states the Site will be serviced by municipal sewer. *GH: Revised-See O&M Section H.* **BETA2: Plan revised – issue resolved.**

**Illicit Discharges (Standard Number 10):** *All illicit discharges to the stormwater management systems are prohibited.*

An Illicit Discharge Compliance Statement was included in the Stormwater Management Report.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,  
BETA Group, Inc.



Matthew J. Crowley, PE  
Senior Project Manager



Stephen Borgatti, PE  
Engineer

cc: Amy Love, Planner



# TOWN OF FRANKLIN

## DEPARTMENT OF PUBLIC WORKS

Franklin Municipal Building

257 Fisher Street

Franklin, MA 02038-3026

October 28, 2021

Mr. Anthony Padula, Chairman  
Members of the Franklin Planning Board  
355 East Central Street  
Franklin, MA 02038

**RE: Definitive Subdivision – Eastern Wood Estates, Summer St**

Dear Mr. Chairman and Members:

We have reviewed the revised materials for the subject project and offer the following comments:

1. Our only outstanding comment is related to the proposed wall around the storm water basin which will vary in height from 1 to 10 feet. While we prefer to not see a retaining wall used in the final design of the basin, the revised design shifted the wall further away from the access path around the basin and added a guard rail for safety. While the plans call out that the design of the wall will be provided by others, we recommend that the final wall material selection and its design be approved by DPW prior to construction whereas the wall will eventually owned by the Town.

Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Michael Maglio, P.E.  
Town Engineer



## **FRANKLIN PLANNING & COMMUNITY DEVELOPMENT**

355 EAST CENTRAL STREET, ROOM 120  
FRANKLIN, MA 02038-1352  
TELEPHONE: 508-520-4907  
FAX: 508-520-4906

### **MEMORANDUM**

**DATE:** October 25, 2021  
**TO:** Franklin Planning Board  
**FROM:** Department of Planning and Community Development  
**RE:** Eastern Woods  
Definitive Subdivision Plan

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The DPCD has conducted a review for the above referenced Preliminary Subdivision Application for the Monday, November 1, 2021 Planning Board meeting and offers the following commentary:

#### General:

1. The Planning Board has 90 days for a decision, on which day is November 28, 2021. The Applicant can provide a written extension to the Planning Board to extend this deadline.
2. The Definitive plans indicates the development will be serviced by private water and individual on-site subsurface sewage disposal systems.

#### Waiver Request:

- **§300.13.A.(1) - Sidewalks. Location:** To allow one sidewalk to be constructed
- **§300.10.G.(6) – Driveways:** To allow access through the required frontage of a serviced lot
- **§300.10.D.(5) – Proposed grades within the right-of-way to be no more than five feet above or below existing grades.**

#### Comments:

1. Applicant is showing the sidewalk on one side of the road. Planning Board will need to grant a waiver. ***Waiver has been submitted***
2. The Applicant is required to file with the Conservation Commission. ***Conservation Commission granted a Negative Determination, no filing required.***

#### Recommend Conditions of Approval:

1. Final wall design and materials are to be approved by the Town.
2. Final plans shall depict limits of guardrail and fence railing the pond maintenance access to the satisfaction of the DPW.
3. If earth removal is determined to exceed 1,000 cy, then an earth removal permit will be required.



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F-4410

October 22, 2021

Franklin Planning Board  
355 East Central Street  
Franklin, MA. 02038  
Attn: Anthony Padula, Chairman

**RE: *Comments from BETA Group Inc.: Northeast Development Group, LLC, 725 Summer Street, Franklin, MA 02038***

Dear Members of the Board:

On behalf of our client, Northeast Development Group, Guerriere & Halnon, Inc. has prepared the following information to address the comments contained in the letter from BETA Group, Inc. dated October 4, 2021.

**BETA Group's** findings, comments and recommendations are shown in *italics* followed by our response in **bold**.

## **GENERAL**

G1. *Evaluate the need for the retaining wall proposed at STA 2+50 LT. An outcropping of ledge appears to be located in this area. If a retaining wall is required, BETA recommends for it to be located outside of the right-of-way. GH: To remove wall we provided a small area with a stabilized 1:1 slope, we will recommend that slope stabilization measures (i.e., soil reinforcement or modified rock fill) be provided and that the contractor shall have this stabilization designed by others. BETA2: Information provided. BETA notes that final grading and design will need to be evaluated during construction based on field conditions.*

### **GH: Acknowledged**

G2. *A retaining wall, approximately 19' in height, is proposed between the roadway and adjacent infiltration basin. The designer should evaluate alternatives to reducing the height of the wall or relocating it to private property. If the wall is to remain in Parcel A the developer should work with the Town to select a limited number of acceptable wall designs/manufacturers. GH: Acknowledged-*



*We will coordinate with the Town that manufacturers are acceptable. BETA2: Wall height reduced. If the Board elects to approve the project, BETA recommends a condition that requires final wall design and materials to be approved by the Town.*

**GH: Acknowledged**

- G3. *Review and revise wooden guardrail detail to be crashworthy, as defined by the AASHTO Roadside Design Guide, for the roadway application adjacent to the retaining wall with significant height. GH: We have proposed to use standard W-Beam steel guardrail in place of the previously proposed wooden guardrail. See sheet 9 for detail. BETA2: Guardrail revised – issue resolved. Coordinate with the DPW to evaluate if guardrail is required where proposed retaining walls about the maintenance access around the pond.*

**GH: We have added additional guardrail around access drive and pond. We will coordinate with the DPW as requested.**

**§300-8 DEFINITIVE PLAN**

- S1. *Provide information to verify compliance with §300-12.A regarding potable water quality and quantity (§300-8.A.1(g)). GH: There is no public water supply system available for this area. Fire emergency will be provided using a pumper truck. BETA2: Information provided. BETA defers to the Fire Chief regarding emergency services.*

**GH: Applicant defers to the Fire Chief.**

**§300-10 STREETS**

- P1. *Clarify the type of proposed pavement work between the northerly limit of work and the limit of existing pavement on Fall Lane. GH: GH has included additional notation (i.e., cold planning and resurfacing, saw cutting, etc.) on sheet 5, indicating work to be performed at the limit of work on Fall Lane. BETA2: Information provided. Recommend that final plan set indicates that existing pavement shall be removed from the limits of cold planning to beginning of new pavement. BETA notes the DPW may also require the joint between existing and new pavement to be blended with infrared heating.*

**GH: On Sheet 5, we have added two notes, one indicating beginning of full depth construction, and the other indicating existing pavement to be removed in the area of full depth construction.**

- P3. *Evaluate the volume of cut and fill for the development §300-10.D.(1). Earth removal of greater than 1,000 cubic yards of material requires a special permit by the Board of Appeals (§185-23). GH: Acknowledged-If determined to be in excess of 1,000 cy, G&H will submit a Special Permit to the Board of Appeals. BETA2: No evaluation provided. If the Board elects to approve the project BETA recommends they note in their findings that an earth removal permit may be required.*

**GH: Acknowledged.**

- P7. *Provide detail for driveways, indicating that the portion of the driveway within the right-of-way must be constructed to the same specifications as the roadway (§300-10.G(2)) and shall be a minimum width of 16' at the gutter line (§300-10.G(3)) . GH: Revised-See sheet 5. BETA2: Detail provided. In consideration that sidewalks are now proposed, modify detail or include additional detail, to ensure sidewalk grades are continuous across driveway openings (§300-10.G(2)).*

**GH: We have revised the “Site Driveway Apron Detail”, on Sheet 9 to include additional information in regards to requirements set forth in (§300-10.G) of the Town Code.**

- P8. *The proponent has requested a waiver from §300-10.G(6), which requires that driveways serving a premises must be through the required frontage of the serviced lot, except in the case of a common driveway, which is not proposed. BETA notes the proposed driveway easement will effectively segregate approximately 20,000 sq. ft. of area from Lot 2-3 and result in an uninterrupted frontage of approximately 90 feet. At a minimum, the designer should evaluate options to place the driveway easement as close to the lot line as possible. GH: The driveway is now serviced through the subject property frontage-See sheet 5. BETA2: Driveway location revised. BETA notes that although a waiver is no longer required the majority of the proposed driveway is still located within an easement on the adjacent lot.*

**GH: No further action required.**

**§300-11 STORMWATER MANAGEMENT**

- S4. *Provide required 20' setback between the maximum pond water surface and the northern property line. Also provide the required 10' setback between the toe of pond berm embankment and the property line (§300-11.A.(7)). GH: Revised-See sheet 5. BETA2: Required setbacks provided; however, BETA notes that providing the setback for the toe of berm results in a significant increase in the length of proposed retaining wall. The designer should evaluate placing the wall at the limits of the NE Power easement so that some grading can be used to reduce the height of the wall. Similarly, the wall could be placed closer to the property line at the northwest corner of the pond to reduce the wall height.*

**GH: We have revised grading along the access drive and infiltration/detention pond. A large portion of the retaining wall previously located adjacent to access drive has been removed and replaced with a 3:1 slope down to the existing New England Power easement line. Additionally, we have moved the wall closer to the easement line allowing for reduction in wall height at this location as suggested.**

- S6. *Include notes and details for handling stormwater following placement of binder course. All catchment structures and mitigation features must be fully operational at the time of paving and an edge treatment such as curb or temporary berm must be installed. Using straw bales/crushed stone as noted in the Erosion Control Phasing will not be acceptable to the Board. GH: G&H has updated Note 10 on Sheet 4 in the Erosion Control and Drainage Construction Phasing notes to indicate temporary berm to be provided. BETA2: Note revised. Remove or update Note 10 on Construction Details (Sheet 11) and provide approximate dimensions on Temporary Bituminous Concrete Berm*

*Detail.*

**GH: Note 10 has been updated by removing reference to (Dribble Berm). Berm dimensions have been added.**

#### §300-12 UTILITIES

S7. *Provide information on if adequate testing has been done to determine that proposed well and septic systems can be constructed to applicable local and state standards. GH: Prior to the required approvals from the local Board of health for each individual septic system, the appropriate testing will be performed. BETA2: Information provided. BETA defers to the Board of Health on this issue.*

**GH: Applicant defers to the Board of Health.**

S9. *Recommend for the Board to discuss lighting on the proposed roadway. BETA notes that four light fixtures, including the existing fixture at the intersection of Summer Heights Drive, will be located on the 600' long roadway, whereas the surrounding neighborhood has light fixtures located at intersections and cul-de-sacs only. GH: Removed excess lighting. One fixture remains at the end of the cul-de-sac. BETA2: Lighting revised. BETA defers to the preference of the Board on this issue.*

**GH: Applicant defers to the Board.**

#### §300-13 OTHER IMPROVEMENTS

S13A. *Revise location of proposed tree on Lot 2-4 to be outside of the maintenance access around the pond. Also, two of the proposed shade trees on lot 2-3 are greater than 15 feet from the right-of-way (§300-13.E.(2)(a)).*

**GH: Trees have been adjusted accordingly.**

#### GENERAL

SW11. *Recommend replacing the broken inlet stone at the existing catch basin at the corner of Summer Heights Drive and Fall Lane. GH: We will address the contractor to coordinate the replacement of the existing inlet stone with the DPW during construction. BETA2: Provide a note regarding the coordination of the inlet stone replacement on the final plans.*

**GH: Note has been added to Sheet 5 indicating broken inlet stone to be removed and replaced.**

SW14. *Provide an analysis point for the isolated wetlands. All freshwater wetlands are regulated by the Town's Bylaws. GH: Provided-See Stormwater Report. BETA2: An analysis point has been added (AP-4) to represent the isolated wetland. Revise boundaries of watershed PR-4 to include all areas*

*draining to the wetland; some such areas are currently included in watershed PR-3.*

**GH: Both the existing and proposed watershed sub-catchment areas have been revised to include all drainage flow contributing to the BVW. See existing and proposed watershed maps included in the stormwater report. HydroCAD models have been revised accordingly.**

*SWI16A. Update HydroCAD model to include the proposed 2" slow drain at the outlet control structure or remove from the plans.*

**GH: We have removed 2" slow drain from plans and HydroCAD model.**

*SWI17. Clarify the extent of soil evaluations done at the site, whether for stormwater, septic, or potable water. Test Pits indicate sandy loam and loamy sand, and an exfiltration rate of 2.41 in/hr has been used for the HydroCAD model, which is inconsistent with the HSG D conditions mapped in the NRCS soil survey. In accordance with Volume 3, Chapter 1, Page 9 of the MA Stormwater Handbook, provide additional soil survey within areas subject to alteration, particularly impervious surfaces, and revise HSG cover type as necessary. GH: Currently test pits were only performed for the area of the infiltration basin. Additional test pits will be performed for the areas of the individual septic and portable water locations prior to submitting to the Board of Health. Test pits indicate that Sandy Loam and Loamy Sand was encountered at elevations below the existing ground surface at depths between 4" and 30" and 36" respectively. The majority of the proposed infiltration basin footprint will be located at or below these depths. We have included additional verbiage to Note 1, in the Infiltration/Detention Basin Detail on sheet 11, indicating that soils below the infiltration area, if not determined to be within the C Horizon Layer, are to be removed or replaced with sand or stone so that the proposed exfiltration rate assumed for the project can be achieved. BETA2: BETA takes no issue with the exfiltration values used in the HydroCAD model; however, cover types are based on an assumed HSG of D for the entire study area, while test pits indicate a HSG of B (sandy loam) in the upper layers of the soil. Perform additional test pits to confirm HydroCAD model is representative of actual field conditions or assume that the study area, at least in the area of roadway and proposed basin, are comprised of soils in HSG B.*

**GH: Evaluation of the onsite soils was completed in accordance with Volume 3 Chapter 1 of the Stormwater Handbook. The NRCS identified soil is used for runoff analysis unless the HSG is not listed for the soil or site evaluation reveals an inaccuracy of the NRCS soil identification. NRCS identifies the soil throughout the site as Hollis-Charlton-Rock Outcrop of HSG D (see soil report in drainage report). Hollis and Charlton indicate A and B soil layers as Sandy Loam and the onsite soil evaluation revealed the same, confirming the NRCS soil classification. Since the NRCS Soil Survey identifies the Hydrologic Soil Group of the entire site and there isn't any practical evidence the site soils deviate from what is identified, the use of the NRCS Soil Survey HSG D for Hollis-Charlton-Rock Outcrop in the calculations for surface runoff/infiltration is in accordance with the Stormwater Handbook.**

*SW18. Clarify if the extent of refusal encountered at elevation 399.5' in TP-4 was evaluated. No exfiltration credit should be taken in the area of refusal. If refusal extends northward from the test pit, then the basin design may require modification. GH: The bottom pond elevation has been set to Elev. 401.00 to account for minimum separation requirements. A groundwater mounding analysis has been provided. BETA2: Since the extents and elevations of refusal are unknown at TP-4, BETA recommends taking a conservative approach to exclude exfiltration in this area. At a minimum, BETA recommends a condition of approval that requires the extent of refusal to be determined at the start of construction through additional test pits.*

**GH: Acknowledged. No further action required.**

We believe these responses have addressed the concerns expressed by BETA Group, Inc's review letter. Should you have any further questions or concerns, please contact our office.

Sincerely,  
**Guerriere & Halnon, Inc.**

Amanda Cavaliere  
Franklin Office Manager



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F-4410

October 22, 2021

Franklin Planning Board  
355 East Central Street  
Franklin, MA. 02038  
Attn: Anthony Padula, Chairman

**RE: *Comments from Franklins DPW: Northeast Development Group, LLC, 725 Summer Street, Franklin, MA***

Dear Members of the Board:

On behalf of our client, Northeast Development Group, Guerriere & Halnon, Inc. has prepared the following information to address the comments contained in the letter from the Franklin DPW, dated September 29, 2021.

**Franklin DPW's** findings, comments and recommendations are shown in *italics* followed by our response in **bold**.

## *GENERAL*

*1. The revised plan shows a five foot asphalt sidewalk around the majority of the road extension, although concrete sidewalk is required per the Subdivision Rules and Regulations.*

**GH: Asphalt sidewalks have been proposed to maintain consistency with the neighborhood aesthetics. A waiver has been requested.**

*2. While the drainage basin has been modified to provide better access around the full perimeter of the basin, the design still incorporates a 10 foot high wall supporting the basin itself. We recommend against this design as the wall creates additional future maintenance obligations for the Town. Additionally, the top of the proposed 10 foot wall is at the edge of the maintenance access path at the rear of the basin creating a safety hazard.*

**GH: The retaining wall has been relocated and lowered further away from the detention pond and will have a w-beam steel guardrail around the perimeter of the access drive for safety.**



We believe these responses have addressed the concerns expressed by Franklin DPW's review letter. Should you have any further questions or concerns, please contact our office.

Sincerely,  
**Guerriere & Halnon, Inc.**

Amanda Cavaliere  
Franklin Office Manager



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F-4410

October 22, 2021

Franklin Planning Board  
355 East Central Street  
Franklin, MA. 02038  
Attn: Anthony Padula, Chairman

**RE: *Comments from Franklin Department of Planning and Community Development: Northeast Development Group, LLC, 725 Summer Street, Franklin, MA 02038***

Dear Members of the Board:

On behalf of our client, Northeast Development Group, Guerriere & Halnon, Inc. has prepared the following information to address the comments contained in the letter from the Franklin Department of Planning and Community Development dated September 28, 2021.

**Franklin Department of Planning and Community Development's** findings, comments and recommendations are shown in *italics* followed by our response in **bold**.

*GENERAL*

- 1. Applicant is showing the sidewalk on one side of the road. Planning Board will need to grant a waiver.*

**GH: A waiver for one sidewalk has been added to the plans.**

- 2. The Applicant is required to file with the Conservation Commission.*

**GH: The applicant has filed with the Commission and a hearing was held on Thursday, October 21, where the Commission granted a Negative Determination.**

- 3. DPCD defers to DPW and BETA to comment on drainage and roadway layout.*

**GH: See response letters to BETA and DPW, dated October 21, 2021.**

We believe these responses have addressed the concerns expressed by the Franklin Department of Planning and Community Development's review letter. Should you have any further questions or concerns, please contact our office.

Sincerely,

**Guerriere & Halnon, Inc.**

Amanda Cavaliere  
Franklin Office Manager