

STAFF REPORT #2
Application # IWW, WPL/E-11007-20
128 Bayberry Lane
Assessor's Map: G13 Tax Lot: 020
Assessor's Map: G13 Tax Lot: 021
Public Hearing October 14, 2020
Prepared July 30, 2020, last revised October 9, 2020

Receipt Date: May 20, 2020

Application Classification: Plenary

Application Request:

Applicant is proposing an "Open Space Subdivision" consisting of 9 residential lots, served by a 22 ft. wide private road with underground utilities and stormwater management system. Each lot will be served by private septic system and public water supply. Portions of the property are within the upland review area. Two lots will be retained by the owners with their existing residences.

The hearing for this application was opened on July 15, 2020 and testimony was taken. The hearing was continued to receive additional information pertaining to:

The proposed wetland planting buffer, consideration of a Conservation Easement along Muddy Brook and the adjacent wetland, a history of farming practices to ascertain the possibility of contamination, details regarding the maintenance of the proposed detention basin, and the possible creation of a Homeowner's Association for the responsibility to maintain the basin along with other stormwater features.

Plans Reviewed:

- 1) "Belta Farm Subdivision 128 Bayberry Lane Westport Connecticut" Drawing package, Dated May 14, 2020 and last revised August 17, 2020 (except where noted), prepared by Dymar with following sheets:
 - Cover Sheet
 - "Subdivision Map Showing Belta Farm Subdivision prepared for Estate of James S. & Dina M. Belta 126 & 128 Bayberry Lane Westport, CT" Dated March 25, 2020, Scale 1"=60', Prepared by Dymar
 - "Existing Conditions Plan prepared for Estate of James S. & Dina M. Belta 126 & 128 Bayberry Lane Westport, CT" Dated February 4, 2020, Scale 1"=60', Prepared by Dymar
 - C-1: General Legend, Abbreviations & Notes
 - C-2: Existing Conditions Site Analysis Map
 - C-3: Existing Conditions Map – Conventional Lot Layout Plan,
 - C-4: Existing Conditions Map – Cluster Lot Layout Plan, last revised 7/8/20
 - C-5 A Site Development & Grading Plan, last revised 9/30/20
 - C-5 B Site Development & Grading Plan, last revised 8/17/20
 - C-5C Test Hole Data
 - C-5D Test Hole Data & Septic Feasibility Data, last revised 8/17/20

- C-6 (A&B) Phase I – Road Infrastructure Sediment and Erosion Control Plan, last revised **6/1/20**
 - C-6C Sediment and Erosion Control Narrative
 - C-6D Sediment and Erosion Control Construction Standards and Miscellaneous Details
 - C-6E Sediment and Erosion Control Details
 - C-7A Construction Road Plan & Profile, last revised **8/17/20**
 - C-7B Drainage Plan & Profile, last revised **8/17/20**
 - C-8A Paving, Storm Sewer & Utility Details
 - C-8B Miscellaneous Site Details, last revised **8/17/20**
 - C-8C Detention Basin, Storm Sewer and Embankment Details, last revised **8/17/20**
 - C-9A Construction Specifications & Standards
 - C-9B Earthwork Specifications
 - C-10 Sight Line Drawing
 - C-11A Street Tree Landscape Plan, last revised **6/1/20**
 - C-11B Wetlands Buffer Planting Plan, last revised **8/17/20**
 - C-12 Detention Basin Landscape Plan, last revised **8/17/20**
- 2) Wetland Impact and Assessment Report Proposed 9-Lot Open Space Residential Subdivision 128 Bayberry Lane Westport, Connecticut”, Dated May 14, 2020, Prepared by Landtech, (4pgs)
 - 3) **Drainage Report** Belta Subdivision 128 Bayberry Lane Westport, CT for Estate of James S. & Dina M. Belta 128 Bayberry Lane Westport, CT 06880”, Dated May 8, 2020 last revised **8/20/20**, prepared by Dymar, with Appendices A, B-1, B-2, and C.
 - 4) **Drainage Addendum #1**, Belta Subdivision 128 Bayberry Lane Westport, CT prepared for Estate of James S. & Dina M. Belta 128 Bayberry Lane Westport, CT 06880”, prepared by Dymar, Dated **8/27/20**
 - 5) Belta Subdivision – Storm Water Infrastructure Long Term Maintenance Program, undated

Regulated Activity:

This subdivision is being reviewed pursuant to Section 9.1 of the Inland Wetland and Watercourse Regulations (IWW Regulations), which requires that all applications for subdivision of land containing a wetland or watercourse must be reviewed by the Conservation Commission before the Planning & Zoning Commission can act on said subdivision application. There is no proposed work directly in the wetland or within the 50-foot upland review area. However, the proposed detention basin will become a regulated area for future regulatory purposes.

WPLO

The Waterway Protection Line is located 15 ft. from the 25-year floodplain boundary of Muddy Brook. No work is proposed within the WPLO area. However, the application has been referred to the Flood & Erosion Control Board for comments pursuant to Section 6.5(e) of the IWW Regulations.

This staff report will focus on an analysis of the subdivision relative to section 6.0 of the IWW Regulations “Standards of Review”. Please refer to Staff Report #1 for description of soils found on site and relative information regarding the site.

Conformance to Section 6 of the Inland Wetlands and Watercourses Regulations:

6.1 GENERAL STANDARDS

- a) disturbance and pollution are minimized;
- b) minimize height, width, length of structures are limited to the minimum; dimension to accomplish the intended function;
- c) loss of fish, other beneficial organisms, wildlife and vegetation are prevented;
- d) potable fresh water supplies are protected from dangers of drought, overdraft, pollution, misuse and mismanagement;
- e) maintain conservation, economic, recreational and aesthetic qualities;
- f) consider historical sites

Discussion

The property is 23.048 acres (1,003,978 sq. ft.) in size. Of that, 4.88 acres (212,532 sq. ft.) is dedicated to be an open space parcel. The combined wetland area for the site is **3.45 acres (150,448 sq. ft.)** with **1.84 acres (79,947 sq. ft.)** located within the open space parcel.

The plans show that all proposed site improvements are located outside of the regulated areas onsite. Proposed lots 3, 4, 5, 6, 7 and the open space are the only parcels that contain wetlands. Proposed lots 1, 2, 8, and 9 contain no regulated areas.

All improvements indicated on parcels that contain wetlands are depicted outside the upland review area from the wetlands onsite. Each of the lots with wetlands depict theoretical potential improvements including residence, subsurface sewage disposal systems (septic systems), driveways and drainage systems.

Test holes within the upland areas conducted by the design engineer typically reveal a thick layer of topsoil common with the historic land use as a farm. Additionally the results corroborate the findings of soil types as described by the soil scientist’s investigation: Woodbridge Fine Sandy Loam (45a), and Paxton and Montauk Fine Sandy Loams (84b). The soil description shows a till with a denser layer of soils within the 20-40 inch range. Test pits confirm this dense area showing signs of mottling and having a description as dense or compact within this range. Groundwater and seeps were intercepted in several test pit locations ranging in depth of ~60” to ~80” with varying exceptions across the site.

The USDA National Resource Conservation Service (NRCS) Web Soil Survey describes the suitability of constructing dwellings with basements as:

“Very limited” indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major

soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

The rating reason for the main limiting factor for both soil types is listed as “depth to saturated zone”. Staff feels the Commission should review the house construction locations and limit any proposed basements or require evidence that the proposed basements will not intercept with the groundwater. Staff feels that the Conservation Commission should limit basement elevations to be above groundwater. This will ensure the footing drains will not intercept groundwater and limit discharging that water to the surface.

The NRCS Web Soil Survey also classifies the on-site soil conditions for road construction as somewhat limited primarily based on the depth to saturated zone and frost action.

6.2 WATER QUALITY

- a) flushing rates, freshwater sources, existing basin characteristics and channel contours will not be adversely altered;
- b) water stagnation will neither be contributed nor caused;
- c) water pollution will not affect fauna, flora, physical or chemical nature of a regulated area, or the propagation and habitats of fish and wildlife, will not result;
- d) pollution of groundwater or a significant aquifer will not result (groundwater recharge area or Aquifer Protection Overlay Zone);
- e) all applicable state and local health codes shall be met;
- f) water quality will be maintained or improved in accordance with the standards set by federal, state, and local authority including section 25-54(e) of the Connecticut General Statutes
- g) prevents pollution of surface water

Discussion

The proposed development will be serviced by municipal water and onsite subsurface sewage disposal systems for individual lots. Typical septic designs have been indicated on the plans and the Westport Weston Health District issued a letter reviewing and approving the nine-lot subdivision on October 6, 2020. Lots 3,4,5,6, and 7 show proposed residences, each with 5 bedrooms and, each contain wetland areas and the regulated review area setback from wetland.

Staff recommends, as a continuation with discussion of Section 6.1, to limit the construction of basements that would intercept groundwater flow. Specifically, prospective residences on lots show the footing drain discharge in the rear of the proposed sites discharging downhill towards the wetlands. Each has been provided an energy dissipator to manage flow; these will be required to meet the Town of Westport Drainage Standards. Staff recommends restricting the basement depth for these five residences to ensure that the groundwater will not be intercepted.

The proposed vegetative buffer provides a filtration area where nonpoint source pollutants adhere to soil particles or may be diluted in the soil substrate prior to discharge into groundwater or wetlands. Clearing of trees or cutting of vegetation within the floodplain, wetlands, and the WPLO would be a concern as the stormwater quality from surface runoff entering Muddy Brook will be dependent on the riparian zone vegetation for treatment. Staff feels that the applicant should consider a Conservation Easement that would protect this vegetated buffer and wetland. A Conservation Easement area consisting of the wetlands and the 50' upland review area could preserve the vegetated buffer and limit any cutting, clearing, grading, filling or structures within the individual lots from future disturbances ensuring long-term protection of water quality in those areas.

Amrik Matharu of the Town Engineering Department, requested on July 29, 2020, more information regarding the individual detention systems for each proposed residence. These shall be designed to meet the Town of Westport Drainage Standards. On September 30, 2020, Mr. Matharu issued a letter stating the most recent revisions to the drainage plans meet the Town Standards for residential construction.

Chris Allan, Soil and Wetland Scientist, of Landtech states that: *“Potential indirect wetland impacts are minimized through the use of an engineered stormwater management system to detail and treat runoff from the proposed development site.”* Furthermore, he states: *“Stormwater management systems are proposed to detain and treat runoff from the proposed roadway and from individual houses. Each lot is designed with systems to capture the roof areas' runoff and convey the volume to an underground plastic chamber storage and exfiltration technology. The proposed systems will vary to match the requirements of capturing and storing the first 1" of storm water for each proposed lot. For design purposes, the systems are sized for pure storage with no credit taken for infiltration”.*

Additionally, the applicant provides a detention basin to manage the stormwater from the impervious areas of about 6.7± acres of the site including the roadway. The sizing of the basin was done to include capturing runoff from the proposed lots (considering impervious coverage up to 25% for land use) as well as runoff from the proposed road. Due to topographic attributes, some stormwater runoff from the roadway, ~350' from the entrance of Bayberry Lane into the site, will be directed by way of catch basins to drain into the drainage system of Bayberry Lane. The existing 15" pipe crossing Bayberry Lane will be replaced by an 18" pipe and discharge into the existing riprap splash pad on the southern side of Bayberry Lane.

The Flood & Erosion Control Board reviewed and approve this application at its October 5, 2020 hearing.

6.3 EROSION AND SEDIMENT

- a) temporary erosion control measures shall be utilized during construction and for the stabilization period following construction;

- b) permanent erosion control measures shall be utilized using nonstructural alternatives whenever possible and structural alternatives when avoidable;
- c) existing circulation patterns, water velocity, or exposure to storm and flood conditions shall not be adversely altered;
- d) formation of deposits harmful to aquatic life and or wetlands habitat will not occur;
- e) applicable state, federal and local guidelines shall be met.

Discussion:

The applicant has provided sediment and erosion controls on the “Phase 1 – Road and Infrastructure Sediment and Erosion Control Plan” which incorporates the use of perimeter silt-fencing, temporary swales, sediment traps, water breaks, stockpile locations, and anti-mudtracking beds at the driveway entrance. The proposal also includes a Construction Sequence Plan for the duration of street and detention basin construction. Staff notes the proposed temporary construction access road for the detention basin construction will be underlain with geotextile fabric and covered with large stone.

Additionally, a site monitor shall be utilized to provide weekly reports monitoring sediment and erosion controls, as well as daily street sweeping. The construction traffic control and the work upslope of the upland review areas during the construction activities will require frequent inspection. Staff supports the use of a site monitor for the portion of the project related to road and detention basin construction and notes that additional measures or controls may be required to address the construction along sloped areas as needed.

These items and standards on the proposed plans address requirements stated within the 2002 Connecticut Erosion and Sediment Guidelines.

Long-term erosion control measures are provided with vegetation coverage including thirteen (13) trees along the detention basin as well as New England Conservation/showy Wildlife Mix and New England Erosion Control/ Restoration seed mixes. Other long-term protection of sloped areas include thirty-two (32) street trees indicated along the road sided. Other shrubs and plantings are proposed along the upland review area along lots 3, 4, 5, and 6, to provide a wetland buffer. These plants are native, non-invasive species.

6.4 NATURAL HABITAT STANDARDS

- a) critical habitats areas,
- b) the existing biological productivity of any Wetland and Watercourse shall be maintained or improved;
- c) breeding, nesting and or feeding habitats of wildlife will not be significantly altered;
- d) movements and lifestyles of fish and wildlife (plant and aquatic life) will not be significantly affected;
- e) periods of seasonal fish runs and bird migrations shall not be impeded;

- f) conservation or open space easements will be deeded whenever appropriate to protect these natural habitats.

Discussion:

Staff's observation is that the large undisturbed wetland along the north and eastern sides of the property and offsite is a high-quality wetland that serves as an important wildlife habitat area, migratory corridor, and as stormwater recharge area and floodplain associated with Muddy Brook. Soil and Wetland Scientist, Chris Allan, of Landtech wrote the "Wetlands Evaluation and Impact Assessment" on May 14, 2020, which discusses the habitat and potential species of wildlife that would make use of the wetland areas. There are no State-listed species within the NDDB at or within 0.75 miles of the site.

A planted buffer has been proposed along the upland review areas for lots 3, 4, 5, and 6. This plan identifies the area as a scrub-shrub transitional area from past farmland to wetlands. Several species of invasive plants were identified. The applicant proposes the removal of these plants by mowing, pulling, and the selective use of herbicides. Then the restoration incorporates 102 native, non-invasive plantings within the 50' upland review area as well as a three (3) year monitoring period to ensure success. Staff recommends a separate management plan be provided to direct the maintenance within this buffer and consider the long-term use of pesticides and herbicides on properties adjacent to wetland and Muddy Brook. Staff also recommends establishing a performance bond to cover the cost of plantings and invasive monitoring

The Commission questioned the buffer's size and number of plantings at the July 15, 2020 hearing, and whether it provided adequate habitat restoration and filtration of potential pollutants and provided the appropriate protection from invasive species. The plan has been updated to address these concerns. The proposed planting amount represents a doubling of the previously submitted plan presented to the Commissioners.

The vegetation within the riparian corridor for Muddy Brook provides shelter and habitat for wildlife. The existing vegetation within this area helps shade the water and provide cover for both fish and terrestrial animals. Additionally, plantings provide the main source of organic detritus forming the basis of the food chain. Staff notes that every effort should be made to preserve existing woody vegetation along the wetland and wetland buffer. Staff recommends that the applicant consider providing a Conservation Easement Area with corresponding language or other means of permanent protection of the wetlands and the created buffer on lots 3, 4, 5, 6, 7 and the open space parcel. This would permanently protect the resources on and directly off-site.

Eight bird boxes are proposed within the area of the constructed basin. Two separate designs are proposed to attract differing species, specifically, chickadees and bluebirds. This is an opportunity to improve bird habitat and diversity within the constructed area. The matured vegetation within the detention basin should provide additional habitat and food source from the plant's seeds. These bird boxes should also be bonded to ensure they are installed.

6.5 DISCHARGE AND RUNOFF

- a) the potential for flood damage on adjacent or adjoining properties will not be increased;
- b) the velocity or volume of flood waters both into and out of Wetlands and Watercourses will not be adversely altered;
- c) the capacity of any wetland or watercourse to transmit or absorb flood waters will not be significantly reduced;
- d) flooding upstream or downstream of the location site will not be significantly increased;
- e) the activity is acceptable to the Flood & Erosion Control Board and or the Town Engineer of the municipality of Westport

Discussion:

The Engineering Department has reviewed this drainage plan. Several items were listed by Amrik Matharu email dated July 29, 2020. A subsequent memorandum was written to the Flood & Erosion Control Board, completed by Mr. Matharu on September 1, 2020. Therein he comments about deficiencies in the plans. Specifically, the items of discussion related to the following:

The system crossing Bayberry Lane is required to be upgraded to handle a 100-year storm per the Planning & Zoning Regulations 17-18.3, and 55-3.1.3, which both state "Street culverts and bridges shall be designed for a 100-year storm."

The applicant requested a continuance on September 2, 2020 in order to address the comments. This necessitated a further postponement to the October 7, 2020 Flood & Erosion Control Board hearing and the Commission hearing date of October 14, 2020. Mr. Matharu submitted a letter on September 30, 2020 stating that the updated plans met the requested conditions and they comply with the Town Drainage Standards. The Flood & Erosion Control Board approved the application at the October 7, 2020 hearing with standard conditions.

The applicant proposes to provide storage within an onsite detention basin that accounts for runoff from an area that includes 25% max coverage of impervious surfaces from all lots. Additionally, stormwater runoff from the proposed residential roofs will be directed to underground Cultec units on each lot to provide storage for the first flush or 1" of stormwater runoff.

The storm water runoff directed to the detention basin will flow into catch basins designed to have a sump and hood (snout) over the outlet to stop debris or oils from flowing out. This flow will be directed into a plunge pool within the forebay. This is constructed at the initial part of the detention basin to allow further settling of sediment and filtering of contaminants. The water will continue to move across a stone seepage area into the main storage area of the detention basin. The outlet overflow of the basin is directed to a bioswale underlain by 4" pipe with two final discharge points onto stone dissipator pads. The detention basin will be planted with New England Conservation/Showy Wildlife Mix and New England Erosion Control/ Restoration seed mixes which should provide nutrient uptake and pollutant removals from the stormwater.

Grading of the parcels for the individual home construction sites will be consistent with the natural existing topography. The rear yards of lots 3, 4, 5, 6, and 7 slope towards the wetland. This slope ranges from ~10 feet to ~15 feet in elevation from the rear of the proposed houses to the wetland along the back (~10-14% slopes). Staff recommends the Commission consider limiting the grading on these specific sites within 100' from the wetlands. This will reduce the potential of filling in the rear yard as an attempt to achieve a level back yard for the individual houses. The septic systems will presumably be allowed without fill, if the WWHD approves the current design concepts. Failure to restrict the grading will increase slopes in the area thereby increasing the rate of surface flow runoff into the wetland and create an erosion issue

The Flood & Erosion Control Board reviewed this application as a referral from the Conservation Department. On October 7, 2020 they approved the application with standard conditions.

6.6 RECREATIONAL AND PUBLIC USES

- a) access to and use of public recreational and open space facilities, both existing and planned, will not be prevented;
- b) navigable channels and or small craft navigation will not be obstructed;
- c) open space, recreational or other easements will be deeded whenever appropriate to protect these existing or potential recreational or public uses;
- d) wetlands and watercourses held in public trust will not be adversely affected.

Discussion:

The current application will not have a significant impact on recreational and public uses. The open space parcel is presumably available for all the residents to enjoy but more than likely inaccessible without establishing a trail. Staff recommends that the applicant consider placing a conservation easement on the open space parcel and vegetated wetland buffer and follow the management plan for the planted buffer areas.

Criteria to be considered by the Commission

Section 5.1 of the Regulations for the Protection and Preservation of Wetlands and Watercourses of Westport refers to the consideration of all relevant facts and circumstances including, but not limited to:

- (a) the environmental impact of the proposed regulated activity on wetlands or watercourses;
- (b) the applicant's purpose for, and any feasible and prudent alternatives to, the proposed regulated activity which alternatives would cause less or no environmental impact to wetlands or watercourses;
- (c) the relationship between the short-term and long-term impacts of the proposed regulated activity on wetland or watercourses and the maintenance and enhancement of long-term productivity of such wetlands or watercourses;

- (d) irreversible and irretrievable loss of wetland or watercourse resources which would be caused by the proposed regulated activity, including the extent to which such activity would foreclose a future ability to protect, enhance or restore such resource and any mitigation measures which may be considered as a condition of issuing a permit for such activity; and
- (e) impacts of the proposed regulated activity on wetlands or watercourses outside the area for which the activity is proposed and future activities associated with, or reasonably related to, the proposed regulated activity which are made inevitable by the proposed regulated activity and which may have an impact on wetlands or watercourses

Staff notes that the applicant is seeking approval for an Open Space Residential Subdivision as a Cluster Lot Layout Plan. The application set of plans also includes a Conventional Lot Layout Plan as is required by the Town's Subdivision Regulations. The "Cluster" plan provides for a larger open space parcel to be created. The applicant has shown the proposed dwellings and subsurface sewage design systems, grading, and drainage for each proposed lot outside of the upland review area from the wetlands on site.

The "Wetlands Evaluation and Impact Assessment" prepared by Soil and Wetland Scientist, Chris Allan of Landtech, concludes that no direct impacts are expected with the proposed subdivision. Additionally, it states that indirect impacts are mitigated through the use of stormwater treatment plan, following the sediment and erosion control plans, and installation of the wetland buffer.

WATERWAY PROTECTION LINE ORDINANCE

Section 30-93 of the Waterway Protection Line Ordinance states that the applicant shall submit information to the Conservation Commission showing that such activity will not cause water pollution, erosion and/or environmentally related hazards to life and property and will not have an adverse impact on the preservation of the natural resources and ecosystem of the waterway, including but not limited to impact on ground and surface water, aquifers, plant and aquatic life, nutrient exchange and supply, thermal energy flow, natural pollution filtration and decomposition, habitat diversity, viability and productivity and the natural rates and processes of erosion and sedimentation.

Discussion:

The Conservation Commission received comments from the Engineering Department and Flood and Erosion Control Board on September 30, 2020 and October 7, 2020. No work is proposed within the limits of the Waterway Protection Line onsite. Staff notes the stormwater runoff will be collected as designed and will not significantly impact resources as they are protected under the Waterway Protection Line Ordinance

Possible Commission Decisions

1. No construction alternative.
2. Approve application as proposed with the following conditions:
 - a. Individual permits must be secured for house construction on lots 3, 4, 5, 6, and 7. Said house designs shall limit or provide evidence that the proposed basements will not intercept with groundwater.
 - b. A site monitor shall be utilized to provide weekly reports monitoring sediment and erosion controls during road and detention basin construction. Additional Sediment and erosion controls may be required to address the construction along sloped areas as needed
 - c. Provide a Wetland Buffer management plan to direct the maintenance within this buffer and consider the long-term use of pesticides and herbicides prior to the issuance of a Zoning Permit.
 - d. Submit a performance bond to cover the cost of bird boxes, plantings, and invasive plant removal & monitoring (for three years) prior to the issuance of a Zoning Permit.
 - e. A Conservation Easement shall be established to protect the wetland vegetative buffer on lots 3, 4, 5, 6, 7, and the open space parcel area. A map showing the Conservation Easement Area and corresponding Conservation Easement language or other means of permanent protection of the wetlands and the created buffer on lots 3, 4, 5, 6, 7 and the open space parcel shall be filed on the land records prior to the issuance of a CCC. The language should include: "No cutting, clearing, grading, filling or structures shall be built within said easement area."
 - f. No grading is allowed within 100' of the wetland line on lots 3, 4, 5, 6, and 7. Any proposed changes of this grade for permitting individual houses will require Commission approvals.
 - g. Conservation Department shall notified 48 hours prior to work commencement for inspection of erosion controls.
 - h. Final inspection will be required prior to a certificate of compliance issuance by the Conservation Department.
 - i. The installation of a basements shall be restricted on lots 3, 4, 5, 6, and 7. The basement elevations shall be limited to be above groundwater, or, the individual applications for house construction shall submit evidence that the proposed basements will not intercept with the groundwater.
 - j. The Home Owners Association (HOA) shall include language regarding long-term maintenance of the detention basin and stormwater appurtenances in the private roadway.
 - k. Conformance to F&ECB recommendations of October 7, 2020

Recommendations to the Planning & Zoning Commission

1. The Planning & Zoning Commission should hold a bond for sediment and erosion controls associated with road construction, temporary swales, sediment trap and detention basin.