DS 2022-01 Starboard Drive Definitive Subdivision

- Applicant: The Starboard Drive Nominee Trust, John P. Mathieu, Trustee
- **Project Location:** 2, 3, 5, 9 and 11 Starboard Drive, Map 42 Lots 9D, 9E and a portion of 9A.
- **Proposal:** 8-lot subdivision on Starboard Drive on 9.5 acres with 5 existing cottages.
- Zoning: Rural Residence (RR) which requires that a building lot contain a minimum lot area of 30,000 sf and 140' of frontage. The property contains 9.53 acres and 266.66' of frontage along Sconticut Neck Road. A new road will be developed with lots meeting the requirements.
- Local Permits: PB Subdivision; Conservation Commission; Building.
- Surrounding Land Uses: Farms and seaside residences.

Starboard Drive Definitive Subdivision

- The Assessors Map depicts lots #9D, #9E and #9A
- Reconfigured last year through an ANR Plan.
- The ANR Plan reconfigured lots #9B and #9C to comply with the minimum zoning requirements and merged lots #9D and #9E with #9A.
- Property has 9.53 acres & 266.66' of frontage.
- The property has <u>contained five (5) single family</u> dwellings since 1970's, possible earlier, on a single parcel with shared access from Sconticut Neck Road via a gravel roadway of variable width.
- Zoning District Rural Residence (RR) which requires that a building lot contain a minimum lot area of 30,000 sf and 140' of frontage.



ADMINISTRATIVE SUMMARY

- Preliminary Subdivision stamped: February 8, 2022
- Advertisement: FNN October 20 & 27, 2022
- Routing Sent: September 26, 2022
- Public Hearing: Public Hearing date <u>Thursday November 10</u>, 2022; Continued to November 22; 11/22 Continued without testimony to December 13; 12/13 Continued without taking testimony to January 10, 2023; 1/10/23 continued without taking testimony to January 24; 1/24 continued without taking testimony to February 28, 2023; 2/28 continued without taking testimony to <u>March 28, 2023</u>









Section &



DS 2022-01 Starboard Drive Definitive Subdivision



Starboard Drive Definitive Subdivision

- Applicant proposes to construct an 18' wide paved roadway with 12" cape cod berms and a paved 80' diameter cul-de-sac at its terminus.
- The property contains a water main and hydrant and overhead electric, cable and telephone supported by five (5) utility poles.
- The five <u>existing dwellings are currently serviced by a common septic</u> <u>system which includes a Bioclere de-nitrification</u> treatment unit. This arrangement will continue after the <u>existing homes are torn down and</u> <u>replaced with Flood Zone compliant structures</u>.
- The three <u>extra lots will be serviced by their own individual onsite septic</u> <u>systems</u>.
- The Applicant will be requesting a waiver for the construction of sidewalks.
- The entire subdivision will be in the velocity zone under elevation 10'.
- Future homes will use existing municipal water and onsite septic systems.
- A stone wall along Sconticut Neck Road will be impacted.

Project History:

- The property has historically contained five cottages on a single parcel with shared access from Sconticut Neck Road via a gravel driveway.
- The property was slightly reconfigured last year through an ANR Plan
- The ANR Plan reconfigured lots #98 and #9C to comply with the minimum zoning requirements and merged lots #9D and #9E with #9A. The property now contains 9.53 acres and 266.66' of frontage along Sconticut Neck Road.

The Applicant respectfully requests the following waivers:

Section 322-14 D. (7) Construct Cost Estimate The applicant proposes to provide a Form D Covenant and the roadway will remain private in perpetuity.

Section 322-14 F. Staking of the centerline of the roadway,

This has not been provided at the time of the submission because the proposed roadway improvements fall within the existing gravel roadway which is currently in use.

Section 322-26 d. – BMP is located within a common easement vs. common parcel The BMP will be maintained by a HOA in perpetuity & therefore never conveyed to the town.

Appendix A – Stormwater Management Systems The following waivers are required due to the existing flat topography and location within the velocity zone.

B. (3) (c) [2] [b] - 10 year volume control has not been provided

C. Design Standards (1) (a) 10 year volume control has not been provided

(2) (k) [d] 4 foot deep forebay has not been provided

(2) (m) [7] 12 inch reinforced concrete drainage pipe has not been provided

Section 322-16. B. Street Design Standards – Table A and Section 322-32: No curbing or cape cod berms have been provided because the roadway has been designed to fit the site sloping south to north to divert stormwater into a water quality swale.

Section 322-17 Sidewalks and Section 322-16. B. – Table A Sidewalks have not been provided as none exist in Sconticut Neck Road

Section 322-25 - Landscape Street Tree Belts

Trees are only proposed along the southerly side and cannot be place along the northerly side due to the existing water main, existing sewer forcemain pipe and proposed water quality swale.





















Comments from Town Departments: November 2022

- <u>Fire Department (Chief Correia)</u>: No major issues with the proposed project. Fire will yield to the water department to ensure the water main and hydrants are consistent with other developments along with hydrant placements.
- <u>Police Department (Chief Meyers)</u>: The Police department has no issue.
- <u>Highway Department</u> (John Charbonneau): Highway will be looking for the drainage plans and roadway profile plan in the Definitive Plan. Highway believes the street should be 20' wide.
- <u>Water</u>: Does not like that plan shows water and sewer lines would be crossing. Asks that they run the sewer line behind the homes to the septic leach field instead of crossing the road to the field. (*Note: possibly existing*)
- <u>Sewer</u>: Everything is on septic. They should reach out to a specific septic hauler that would maintain the pumping of the holding tanks for that development. Probably going to need advanced denitrification septic system.
- <u>Conservation & Sustainability (Whitney McClees)</u>:
 - The wetland line for this property has not yet been verified. The applicant's representative has contacted the conservation agent about setting up a preliminary site visit, but there is nothing on file.
 - The resource areas include coastal beach, barrier beach, salt marsh, bordering vegetated wetland, & flood zone.
 - <u>Entire property falls within the velocity flood zone</u>, so all structures will have to be constructed on columns and in compliance with all flood zone regulations. May also be FEMA reg.s regarding the road & emergency egress.
 - The conservation agent attached a map created by the Buzzards Bay National Estuary Program showing areas that are likely to be critical for salt marsh migration to adapt to sea level rise. The yellow is DEP mapped salt marsh and the red are the areas that may be crucial to supporting coastal resiliency and salt marsh migration.
- <u>Finance/Treasurer/Collector (Wendy Graves)</u>: No issue
- <u>Board of Health</u>: Not in a Zone II so denitrification is not necessarily an issue. Agent would need a working plan, not necessarily a final plan, to give further guidance.

Stormwater Peer Review (2) – March 21, 2023:

- GCG latest comments shown in "Blue."
- GCG reviewed under Chapter 322; 194; and 198. Conservation will review under 192.
- Development requires a Land Disturbance Permit with the Fairhaven Board of Public Works. Permit could be exempted per 194-4. A.3.
 - Permit could be exempted per 194-4. A.3. Under 194-4. A3. the <u>applicant could submit written</u> determinations from Planning Board or Conservation Commission to the Board of Public Works to qualify for exempted project.
- This project requires an US-EPA National Pollutant Discharge Elimination System (NPDES) permit and associated Stormwater Pollutant Prevention Plan (SWPPP) filing.
- There are wetland resource areas delineated on the property. The property is in the Zone VE Costal Flood Zone with Velocity Hazard (wave action).
- Project is under review by the Conservation Commission.
- A Notice of Intent has been filed with the Town of Fairhaven, Conservation Commission.
- <u>CC PR 3/28</u>: Subdivisions greater than 4 lots in size that are within 100 feet of wetland resources, or within Land Subject to Coastal Storm Flowage must adhere to the Massachusetts Stormwater Standards in the Massachusetts Stormwater Handbook (MSH). In addition to the MSH, the Commission also will be utilizing the FEMA Free-of-Obstruction Requirements in NFIP Technical Bulletin 5 / March 2020, as this project is in a VE flood zone.

Existing Conditions Plan (Sheet 3):

 Need to show and clarify soil test pit locations and demonstrate the system meets the minimum separation from the estimated seasonal high groundwater (ESHW). Soil test pit locations were updated on this plan sheet sent through an email. The soil pit locations should be added to the final plan set.

Grading & Utility Plan (Sheet 4):

- Lots #1 & #2 roof drain chambers system do not meet the 50-foot setback. Resolved.
- Roof drain infiltration system do not meet the 2-foot separation to ESHW. Based on the soil test logs, the ESHW for Lots 1, 2, 3, 4, 7, and 8's roof drain infiltration chambers systems are acceptable. However, Lot number five roof drain infiltration system (Class V Well) is within the fifty feet wetland setback requirements. The proposed system is approximately <u>33' from wetland flag #4-R</u>, and this series of salt marsh wetland flags are located above the 4' contour. This area is designated as HSG <u>'D' soil and not suitable for infiltration</u>. <u>GCG recommends relocating or removing the infiltration system on Lot 5</u>.
- 198-31.1. C.(2)(g)[6][d] ...basins/ponds designed ...no steeper than a 4H:1V grade. Ponds A & B have 3H:1V side slopes. <u>Waiver requested</u>. The proposed 3H:1V side slope meets the Massachusetts Stormwater Handbook requirements. Granting the waiver <u>should not have any adverse impacts</u> to the basin system.
- <u>Conservation Commission PR 3/28</u>: The Conservation Commission decision making process is in some way fashioned by the FEMA Free-of-Obstruction Requirements. These requirements state "Slopes of 1 unit vertical to 3 units horizontal (or steeper) can produce appreciable wave runup.

Roadway Plan & Profile (Sheet 5)

- Proposed Water Quality Swales (#1 & #2) do not have a pretreatment device and do not have the soil media thickness required and are close to the ESHW. Resolved.
- 198-31.1. C.(2)(k)[1][d] Design standards, Pond A forebay is only 0.5 feet deep.
 ...exceeds MSH's minimum forebay sizing (0.1") but does not meet FH regulation (2)(k)[1][d] which requires a 4' deep forebay, local requirements. <u>Waiver requested</u>.
- Design Standards (2)(k)[1][b], ...Portion of the proposed roadway pavement drains directly to the Pond-A forebay, forebay should be sized to receive the 25% TSS removal for pretreatment credit. Revised forebay meets the 0.25 inches requirements but not the 4' deep local requirements. <u>Waiver requested</u>.
- Approximately 75 % of Pond-A and 100% of Pond-B are in the Hydrologic Soil Group 'D' area and not suitable for exfiltration. Based on the soil test logs, Basin A has the 2 feet separation ... <u>Basin B will not meet the minimum 2' separation</u> requirements and <u>has been redesigned as a dry detention basin</u>. The bottom of Basin 'B' is most likely within a foot of the ESHW and <u>could become a wetland basin</u> which will not affect the function of the detention basin, but the <u>maintenance may have to be modified</u> if it becomes a wet basin.

Roadway Plan & Profile (Sheet 5) continued

- Detention Ponds A & B ... do not have the 1-foot of freeboard required (MSH Vol.2, Ch.2, Pg. 90). The emergency spillway should be sized based on Brimful conditions. Basin 'A' was designed as an infiltration basin. This basin has 0.5' freeboard and 1 foot is required by the MSH. A waiver has been requested. The emergency spillway was sized to accommodate the brimful conditions without overtopping the earth berm.
- <u>CC PR 3/28</u>: Please note that the Planning Board has no authority to grant a waiver to MSH requirements for applications to the Conservation Commission.
- Ponds A & B's earthen berm will be constructed with fill material approximately 1.5' to 2' above existing grade in the costal velocity zone. The top of the berm is only 4-foot wide. GCG recommends the width of earth berm be increased to minimum 10-foot width with an impervious core to secure the earthen berms. The entire site is in the coastal velocity zone 'VE' (EL. 17 to 20) with wave elevation 13 feet higher than the proposed top of earth berm. The eastern side of basin 'A' and the southern side of basin 'B' along the cul-de-sac have a berm width of 4 feet. GCG recommends providing earth berm design to protect against the coastal wave action.
- 7. The proposed <u>Basin 'A' outlet should be equipped with three (3) 6-inch diameter pipes</u> as used in the HydroCAD calculations. (Also shown on sheet 6)

Stormwater Peer Review (2) – March 21, 2023

GCG latest comments shown in "Blue."

Roadway Plan & Profile (Sheet 6)

- Cul-de-sac forebay removed, resolved.
- Soil test logs indicate 2 feet separation between bottom of basin to ESHG. Resolved.
- Outlet Control Structure detail should be provided. Resolved.
- Roof drain leader overflow control detail should be provided... Resolved.
- Proposed roadway pavement is classified as new-development and requires a 90% TSS removal and 60% of Total Phosphorus, based on average annual load. The <u>applicant is considering this</u> <u>development as redevelopment and requesting the Planning Board treat it as such</u>. GCG's interpretation of the new-development condition was based on the MSH which considers all new pavement as new development. However, if a development proposes gravel roadway in a new project, the Town would be most likely to treat it as an impervious surface. Therefore, <u>GCG does not</u> object to the argument that this is a redevelopment project. Nevertheless, the status should be decided by the Board.
- <u>CC PR 3/28</u>: This is a new development condition for the purposes of the MSH.
- Lot #5's infiltration system is within the 50' wetland setback and should be relocated.
- 198-31.1. C. (2). (n).[6] Requires storm drains at least 12" <u>diameter...Waiver has been requested</u>. This <u>waiver should not have any adverse impacts</u> to the drainage design.
- Typ. X-Section of Roof Recharge Trench Finish grade should be 12" minimum to meet the manufacturers minimum cover requirements for unpaved conditions.

Stormwater Report:

- This project is a re-development and new-development project. Re-development impervious areas are limited to the existing five building roofs only.
- 198-31.1 amendments (2021) requires <u>new development</u> to provide post-development load of 90% TSS removal and 60% TP removal... <u>redevelopment</u> to 80% TSS removal and 50% TP removal standards.
- The <u>redevelopment status needs to be approved by the Board</u>...GCG considers the drainage design follows the redevelopment conditions.
- 198-31.1. A.(1)(b). Water quality the first flush of stormwater runoff should be treated prior to discharge off site.
- Due to the <u>high seasonal water table</u> and HSG <u>'D' soil</u> on site. The applicant is <u>unable to</u> <u>provide the First Flush</u> 1.25" times the total site impervious surface treatment volume and is <u>requesting a waiver</u>.
- 198-31.1. A. (1)[2] Tables 2, 3, and 4 should provide comparison of the 10-year, 24-hour design storm pre-development and post-development volumes to demonstrate the net increases. There appeared to be increased in runoff volume during the 10-yr storm event and the applicant is requesting a waiver. Calculations indicated there will be approximately 0.019 a.f. or (828 c.f.) of runoff volume increase during the 10-year storm event.

Stormwater HydroCAD report – Proposed

- Lot 5 infiltration system should be relocated to outside the 50' wetland setback.
- First Flush water quality treatment waiver requested.
- The <u>site is restricted by the HSG 'D' soil and the shallow ESHW</u>, controlling runoff peak and volume by infiltration and utilizing soil media filtering are not practical. Applicant could consider wet BMPs (wet swale, constructed wetland w/ wet forebay in series to meet the TSS & TP removal requirements. MSH does not specify any separation between bottom of dry detention basin to ESHW. The handbook mentioned that if the water table is within two feet of the bottom of the basin, the basin may experience problems with standing water. <u>GCG recommends</u> the O&M operator to <u>monitor the</u> <u>detention basin and modify maintenance procedure as necessary</u>.
- Operation and Maintenance plan should be updated with the BMPs comments above and revisions. Plan should include sample inspection form and operation budget. O&M should reference plan sheet 6's operation and maintenance notes. <u>Street sweeping</u> (minimum twice per year, early Spring, and late Fall) <u>should be mandatory</u> as part of the O&M plan. An annual operation should be provided.

- <u>Review Summary</u>:
 - The general drainage mitigation concept is based on soil media pre-treatments and in infiltration/detention ponds with sediment forebay pre-treatments which requires a deep ESHW and well drained soils. <u>The ESHW is within two feet of the</u> <u>ground surface</u> which also affects the exfiltration rate.
 - <u>GCG recommends utilizing wet BMPs</u> as recommended by the MSH to provide treatment for high ESHW.
 - The proposed drainage system is relatively sound with the limitation of high seasonal water table and HSG 'D' soil (high water table related) on site. However, the entire development is within the Coastal Velocity zone. The drainage BMPs performance are subject to coastal tide and wave action.

Planning comments

- Entire development is in the Velocity Zone
 - VE, V1-V30: Areas <u>subject to inundation by the 1-percent-annual-chance flood event with</u> <u>additional hazards due to storm-induced velocity wave action</u>. Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.
- Entire roadway is under elevation 10'
- Will new septic systems be advanced de-nitrification systems?
- Wetlands have been re-delineated shifting buildable area.
- Proposal requires numerous waivers. Need clean sheet with all requested.
- Planning Board needs to review and decide if this is new Development or Redevelopment.
- Conservation Commission Peer Reviewer notes issues with conformity of plans.
- MVP: Some communities do not allow subdivision in VE Zone.

BBC/TNC/NHESP BioMap2 Coastal Adaptation Analysis

2 Starboard Drive (Map 42, Lot 9A)

DEP Wetlands: Salt Marsh

Upland Buffer Adjacent to Existing Coastal Community

Assessors Parcels

The Massachusetts Natural Heritage & Endangered Species Program (NHESP) and The Nature Conservancy's (TNC) Massachusetts Program developed BioMap2 in 2010 as a conservation plan to protect the state's biodiversity.

Coastal Adaptation Analysis

The BioMap2 team examined the landward side of salt marshes to determine where these habitats might move as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.



Source: MassGIS

🌔 Map prepared by: Buzzards Bay National Estuary Program, 2870 Cranberry Highway, East Wareham, MA 02538. www.buzzardsbay.org, February 3, 2022.



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Hazard Mitigation Plan – Recommended Actions

- Mitigation Action #1 <u>Review and Amend Zoning Bylaws to Reduce Risk</u>: Conduct review of existing zoning bylaws and identify specific opportunities to incorporate additional <u>measures to reduce the long-term risk to life and</u> <u>property from natural hazard events</u>. This includes but is not limited to the <u>adoption of higher regulatory standards and/or incentives for development</u> <u>that considers projected changes</u> in future climate and/or hazard conditions.
- Mitigation Action #4 <u>Hazard Avoidance through Development Regulations</u>: Minimize or eliminate the potential for future damage and loss through the incorporation of best practices for hazard mitigation and climate adaptation into existing development regulations under the Town's authority.
- Mitigation Action #6 <u>Incorporate Anticipated Future Conditions into Town</u> <u>Bylaws</u>: Incorporate existing and projected <u>future climate conditions into the</u> <u>Town's zoning bylaw to promote (re)development patterns that minimize</u> <u>exposure to known hazards</u>. This action is linked to the same recommendation included in the Town's Master Plan under Sustainability Goal #3.