

MEMORANDUM

TO: John Taylor, Planning Manager
Town of Kiawah Island, South Carolina

FROM: Lucas Hernandez, Project Environmental Scientist
Weston & Sampson Engineers, Inc.

DATE: February 1, 2024

SUBJECT: Peer Review: Ocean Pines (Parcel ID: 207-05-00-118)
Application for Multifamily Residential Development

Introduction

The Town of Kiawah Island (the Town) requested Weston & Sampson Engineers, Inc. (Weston & Sampson) to provide a peer review of the Multifamily Residential Development Plans for the proposed developments of the West End at Beachwalker and Ocean Pines. The project properties are both located within the R-3/Commercial Zoning District. The West End at Beachwalker property consists of approximately 7.6 acres between two existing parcels (TMS# 207-05-00-116 and 207-05-00-117) of which 6.4 acres will be developed. The Ocean Pines property consists of approximately 7 acres which will be developed on Beachwalker East Parcel 13B - Lot 1 (TMS#- 207-05-00-118). The proposed work will take place in the FEMA F.I.R.M Zone AE for both site locations.

The applicant is proposing six residential buildings with four habitable floors over parking with the western portion of the Ocean Pines site and three to four buildings of three habitable floors over parking within the eastern portion of the site. The West End at Beachwalker has a total of 120 proposed dwelling units while Ocean Pines will be limited to 69 dwelling units.

This memorandum summarizes the results of Weston & Sampson's peer review of site plan application documents. We prepared this memo pursuant to our October 13, 2023, peer review proposal and addresses general bylaw compliance, site plan layout, constructability, and stormwater, which is discussed under general comments. We reviewed the following documents submitted with the application as summarized below:

- **Ocean Pines**
 - KICA – KRA Memorandum of Understanding (Executed 11/20/2018)
 - Town of Kiawah Island Site Plan Review Application Comments #SPR23-000002 (08/22/2023)
 - Thomas & Hutton Stormwater Management Report (06/09/2023)
 - Ocean Pines Letter of Intent (03/03/2022)

- Site Development Plans (12/15/2023)
- SCDHEC Approval Letter (10/05/2023)
- Ocean Pines C-SWPP (06/08/2023)
- SCDHEC NPDES General Permit for Stormwater Discharges from Construction Activities (Issued: 01/29/2021)
- Charleston County Stormwater Program Permitting Standards and Procedures Manual (May 2017)
- Town of Kiawah Island, SC Code of Ordinances – Chapter 12 Land Use Planning and Zoning
- Revised ARDA Rezoning Recommendations Draft (10/19/2023)
- 2013 Amended Restated Development Agreement
- Town of Kiawah Island Future Land Use Map
- Town of Kiawah Island Comprehensive Plan 2015 (2019 Amendment)
- Cape Point Parking and Emergency Beach Access Planning Staff Comments (1/4/2024)
- Site Development Plans for Cape Point Parking and Emergency Beach Access (11/20/2023)
- Supporting Documentation:
 - Development Summary Brief (08/16/2022)
 - Kiawah Island Architectural Review Board Conceptual Review (02/01/2023)
 - Kiawah Island Utility Coordination Letter (02/13/2018)
 - Town of Kiawah Island Permit Application: Restrictive Covenants Affidavit (03/03/2023)
 - Thomas & Hutton Construction Phasing Plan (09/07/2023)
 - United States Postal Service Coordination Letter (08/30/2023)
 - St Johns Fire District Coordination Letter (09/11/2023)

Overview

Weston & Sampson has conducted the review of this application for compliance with the Town of Kiawah Island Land Use Planning and Zoning Ordinance (Article 12) along with Charleston County's Stormwater Program Permitting Standards and Procedures Manual as a supplement to the Town's Stormwater Ordinances (Article 12 Sec. 12-501 through Sec. 12-510). The Charleston County Stormwater Program's Permitting Standards and Procedures Manual was utilized in this review due to its more rigorous requirements as compared to the Town's Stormwater Ordinances and the SC Department of Health and Environmental Control's Standards for Stormwater Management and Sediment Reduction. The Charleston County's Stormwater Program Permitting Standards and Procedures Manual is the most applicable tool to provide as detailed of a review as possible for this project. This review is not a review of applicable building codes. We have determined that the following recommendations would need to be met for the applicant to meet the requirements of Article 12 of the Town's Municipal Code of Ordinances and the Charleston County Stormwater Permitting Standards and Procedures Manual.

Peer Review

As part of the peer review process, Weston & Sampson conducted a site visit to the location of the proposed development on Beachwalker Drive along with the Town of Kiawah Island's Planning Manager. During this site visit, our team took the time to review the plans with Town staff and walk the site to better understand:

- Potential land alterations
- Existing conditions at the proposed entrance to the development
- Alterations to natural drainage patterns
- Proposed drainage tie-ins to existing infrastructure

At this site location, we observed the existing land alterations that have already taken place to stage equipment for the Cape. We also identified the locations of buildings that were removed to allow for additional parking on-site and an existing channel that is planned to become the main drainage feature for the development (**Figure 1**).



Figure 1. Maritime Forest and Channel Currently Located at Site of Proposed Development

Additionally, we investigated the proposed drainage at the site to determine how it will impact the existing drainage system. According to the most recent set of plans, on site stormwater runoff will be managed by the detention pond in the center of the proposed development. From this point stormwater will be routed east through the proposed parking areas toward a leisure trail to the eastern end of the property where an additional stormwater pond (Pond-A) before being routed across Beachwalker Drive and into the marsh to the south of Belmeade Hall Road.

Weston & Sampson provided peer review of the applicant's submission and conformance to the Town of Kiawah Island's Comprehensive Plan, Land Use Planning and Zoning Ordinance, and the Amended and Restated Development Agreement with the Kiawah Partners. The format of each reviewed items is the *italicized applicable standard and enforceable policy (paraphrased)*, our evaluation and analysis, and an underlined request or action for the applicant. Our peer review scope provided on October 13, 2023, limits our review to the documents cited above, which includes an updated set of site plans for Ocean Pines and the Cape Point Parking Project.

General Bylaw Compliance

Weston & Sampson reviewed the applicant's submission for compliance with general Town bylaws and policies. We found no concerns related to the Town's general bylaws, except as noted below. We recommend that the engineer address these items as noted.

Health and Safety (Code of Ordinance, Article 8)

In general, Article 8 of the Code of Ordinances requires participation in solid waste management. Ocean Pines proposes dumpsters and, apparently, solid waste collection. The proposal was approved by the Town; therefore, we surmise that the proposed development is in accordance with Article 8. No recommended change.

Use of Sewers, Public Utilities (Code of Ordinances, Article 10)

In general, Article 10 of the Code of Ordinances requires use of public sewers (i.e., the sanitary sewer system or approved onsite wastewater management systems). Ocean Pines proposes connection to the sanitary wastewater collection system. The proposal was approved by the Town and Kiawah Island Utility; therefore, we surmise that the proposed developments are in accordance with Article 10. No recommended change.

Flood Damage Prevention (Code of Ordinances, Article 14, Chapter 1)

In general, Article 14 of the Code of Ordinances requires developments to avoid potential damage due to flooding. Ocean Pines proposes parking at the ground level and elevated living space. No living space is sited at the elevation of flood waters; therefore, we find the proposed development to be in accordance with Article 14. No recommended change.

Development Agreement

Parking Spaces Required (Development Agreement)

Requirements for number of parking spaces are listed in Exhibit 13.4 "Off-Street Parking Requirements" from the Amended and Restated Development Agreement by and between Kiawah Resort Associates and the Town of Kiawah Island (November 4, 2013). Specifically, developments of multifamily residences are required to provide 1.75 parking spaces for each two-bedroom dwelling unit and two parking spaces for each dwelling unit of three bedrooms or more. The application under review proposes 38 two-bedroom units and 31 three-or-more bedroom units. Therefore, total number of parking spaces required is 129. Sheet G0.1 of the Site Development of Ocean Pines indicates a total of 129 spaces. This would appear to be adequate parking under the parking requirements of Exhibit 13.4. No recommended change.

Additional Comments

Supplementary Parking Being Required by the Town (Conversation with the Town)

We understand from our January 23, 2024 conversation with you (i.e., the Planning Director), that a total of 100 parking spaces are required for the Cape Point PEBA project. The Cape Club Supplementary Parking table on Sheet G0.1 notes a total of 86 parking spaces—20 spaces adjacent to Beachwalker Park, 36 outside of Building G, and 30 spaces outside of Building F. This would appear to be 14 spaces less than the required 100 spaces. We recommend that the applicant provide for an additional 14 spaces in order to meet the requirement.

Access, parking and loading regulations (Code of Ordinances, Sec.12-128 (d)(4)(5)(6)(7) and (13))

Sec. 12-128 of the Code of Ordinances prohibits parking on certain public roads and further defines design and location of proper access, parking, and loading areas. Generally, Ocean Pines proposes parking at the ground level of each proposed residential building; however, 20 spaces are proposed on a drive as part of the Cape Point Parking and Emergency Beach Access (Cape Point PEBA) project, of which the number of parking spaces is being reviewed as part of this application. The Town acknowledges deviation from the code for offsite parking requirements and it has been determined that a variance will be needed to allow for these 20 parking spaces to count toward the total required number of spaces. We recommend that the Board of Zoning & Appeals make a determination as to whether or not a variance will be issued for the parking proposed on a separate lot.

Parking Spaces Required (Development Agreement)

Note 4 of Exhibit 13.4 states “no ‘head-in’ parking shall be permitted unless a variance is approved by the Board of Zoning & Appeals; each off-street parking space shall be accessed from a private drive and not from a KICA or other dedicated street.” Of the 20 spaces shown on Sheet G0.2 of the Cape Point PEBA plans, two spaces appear to be parallel to the drive and 18 spaces appear to be head-in spaces. We recommend that the Town make a determination as to whether head-in parking will be approved on this drive.

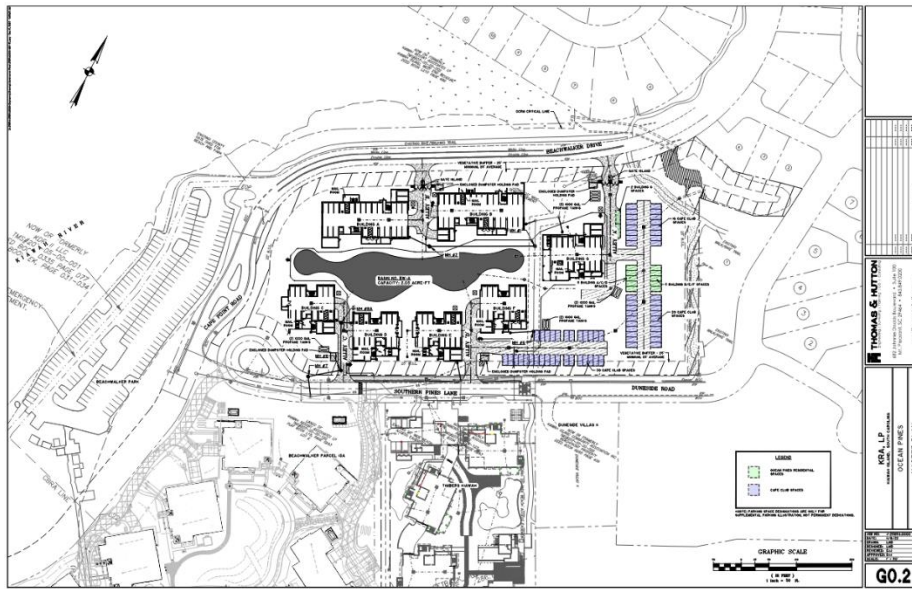
Zoning—Residential Uses (Zone R3/C)

Based on a review of the Town of Kiawah Island Zoning Map (October 5, 2010, as amended), the proposed development of Ocean Pines is sited in the Residential R3/C Zone in the Beachwalker Ocean area. Residential uses are allowed by right in accordance with Exhibit 13.1 of the Development Agreement between the Town of Kiawah Island and Kiawah Resort Associates. This includes certain multi-family units. Regarding multi-family units, Item 1(a) “Residential Uses, Permitted Uses” on page 6 of the development agreement specifically notes that R-3 may include “permitted by type[s] of residential development listed in Exhibit 13.1 with up to seven (7) dwellings per building...not to exceed twelve (12) dwelling units per acre.” The Third Amendment to the Development Agreement, which superseded this document, states on page 7 (item 32) that the maximum number of dwelling units allowable shall not exceed 100 for parcel 13. No recommended change.

Ocean Pines proposes buildings at a greater ratio of units per building than allowed in the original development agreement; however, this number was later changed in the third amendment to the development agreement. (Density of dwelling units per acre complies for both development proposals.)

The table below presents a summary of each proposed development with development density dwelling units per acre and number of units per building.

Development Name	Density (Dwelling Units/Acre)	Units per Building
Ocean Pines	12 units/acre (84 units/7 acres)	Buildings A – B, 14 units each Buildings C – J, 8 units each



Ocean Pines (Source: Site Development of Ocean Pines, 12/15/2023)

Compliance with the November 20, 2018, Memorandum of Understanding, regarding Parking

Weston & Sampson reviewed the Memorandum of Understanding between Kiawah Resort Associates and the Kiawah Island Community Association (herein referred to as the “MOU”) for consistency with stipulations related to parking. The MOU discusses parking under Item 2.c. on page 2. The text of this section is presented below:

c. Any future Kiawah Island Club (“Club”) facility located on or adjacent to Parcel 13A shall have primary access to and from Beachwalker Road but shall have the ability to offer up to thirty (30) parking spaces accessed from Duneside Road via Southern Pines Lane through Parcel 13A and this parking lot shall not tie into any portion of the club facilities that have access to Cape Point Road or Beachwalker Drive. Except as permitted hereunder, additional Club member parking, commercial deliveries, service and employee access to and from the Club shall be via Beachwalker Road and Cape Point Road.

Sheet G0.1 of the design plans for the Ocean Pines site shows a parking table with 86 parking spaces; however, there is no designation of how these spaces are allocated for the MOU. Additionally, per the Town's Zoning Ordinance, the 30 off-site parking spaces may not be permissible without approval of the Board of Zoning & Appeals. We recommended that the Town requests the Kiawah Island Community Association to review the proposed Ocean Pines site plans to verify that the stipulations of the MOU are met and verified.

Compliance with the Charleston County Stormwater Program Permitting Standards and Procedures Manual

Weston & Sampson reviewed the applicant's proposed stormwater management design for compliance with the Charleston County Stormwater Program Permitting Standards and Procedures Manual. We recommend that the engineer address these items as noted.

Ocean Pines Development

General Comment

The project applicant has submitted revised plans for the Ocean Pines site to the Town on 12/15/2023 which include the removal of two dwelling units from the eastern portion of the site and the addition of 43 parking spaces where the two buildings were previously located on the site plans. Per the latest submitted plans, there appears to be a slight increase in impervious area, however no stormwater calculations have been provided to clarify whether there is an increase to impervious area or not. It is recommended that the applicant provide updated stormwater calculations to demonstrate the effects of this design change on the proposed stormwater management design.

3.3 Hydrologic Computation Methods (3.3.1 Inputs)

Design storm precipitation data from the South Carolina State Climatology Office is provided for use on projects in Charleston County, however the applicant has used precipitation data obtained from the South Carolina DHEC Stormwater Management BMP Handbook in the supplied stormwater calculations, which utilize lower rainfall amounts during the more frequent 2-year and 10-year storm events. It is recommended that the applicant provide updated stormwater calculations utilizing the precipitation data provided by the State Climatology Office for Charleston County to demonstrate how the stormwater management system functions during these more frequently occurring storm events.

3.4 Water Quantity / Quality Control Standards (3.4.1(3.) Water Quantity Design Standards)

Post development peak outflow for the 10-year and 25-year storm events exceed the peak outflow for existing conditions, however the applicant has requested a waiver from meeting this standard in the form of a Detention Waiver. We have no engineering objections to this request and recommend no action.

3.4 Water Quantity / Quality Control Standards (3.4.1(6.) Water Quantity Design Standards)

A forebay or screening vault is required for all quantity controls which are also used for quality control. The applicant has stated that the detention pond was designed to capture, store, and treat the required water quality volume, yet no forebays or screening vaults are depicted on the design plans. It is

recommended that the applicant revise the design to include either a forebay or screening vault at each point of discharge into the detention pond.

3.4 Water Quantity / Quality Control Standards (3.4.3(a.) Water Quality Design Standards/First Flush Volume)

All permanent water quality ponds having a permanent pool shall be designed to release the water quality volume over a minimum period of 24 hours, with at least 0.10-CFS discharging after this period. According to the drawdown calculations provided by the applicant in the Stormwater Management Report, the design only provides an outflow greater than or equivalent to 0.10-CFS for a period of 8.5 hours, and after a period of 24 hours, is only draining at a rate of 0.02-CFS. It is recommended that the applicant revise the design to include an outlet control structure or otherwise increase the retention time in the permanent pool to provide a minimum discharge rate of 0.10-CFS for a 24-hour period.

3.4 Water Quantity / Quality Control Standards (3.4.3(3.) Water Quality Design Standards)

All BMPs must have a maintenance plan depicting routine maintenance schedules and activities. It is recommended that the applicant demonstrate compliance with this requirement.

3.4 Water Quantity / Quality Control Standards (3.4.6(1.) Detention Pond/Reservoirs Standards)

Side slopes of the proposed wet detention pond banks are as steep as 0.5(H):1(V) in multiple locations, steeper than the required maximum side slope of 3.5(H):1(V). It is recommended that the applicant revise the design to provide 3.5(H):1(V) side slopes or provide a slope stability analysis to demonstrate the stability of the proposed slopes, and additionally, provide at least one interior side slope with a slope of 3.5(H):1(V).

3.4 Water Quantity / Quality Control Standards (3.4.6(2.) Detention Pond/Reservoirs Standards)

A length to width ratio of 3:1 or greater is required for a wet detention pond. It is recommended that the applicant demonstrate compliance with this requirement.

3.4 Water Quantity / Quality Control Standards (3.4.6(3.) Detention Pond/Reservoirs Standards)

Ponds shall include one or more forebays that trap coarse sediment, prevent short circuiting, and facilitate maintenance. It is recommended that the applicant revise the design to include a forebay located at each point of discharge into the detention pond.

3.4 Water Quantity / Quality Control Standards (3.4.6(6.) Detention Pond/Reservoirs Standards)

A minimum depth of 6-feet is suggested for a permanent pool to discourage vegetated growth and to prevent anaerobic conditions on the pond bottom. The applicant has provided a pool depth of 3.6-feet based upon a bottom elevation of 0.5-feet and a normal permanent pool elevation of 4.1-feet per the draw down calculations. It is recommended that the applicant revise the design to provide a deeper permanent pool within the wet pond.

3.5 Stormwater Drainage System Design Standards (3.5.1(c.) Storm Drain Pipes)

There are two runs of drainage pipe, consisting of 10 segments of 36-inch RCP pipe in the stormwater management design which are proposed with a slope of 0.0%. The first run connects structure CB #50 to structure SMH #14 via 7 segments of pipe. while the second pipe run starts at the wet detention pond

outlet and connects to structure VI #24 via 3 segments of pipe. Unless specifically approved in writing by the Public Works Director, the minimum allowable pipe slope for storm drainage pipe shall be 0.40% or be able to provide a minimum flow velocity of 3 feet per second at all flow levels. It is recommended that the applicant either provide written approval from the Town of Kiawah Island Public Works Director, provide flow velocity calculations which demonstrate a minimum flow rate of 3 feet per second at all flow levels, or revise the design to provide adequate pipe slopes.

3.5 Stormwater Drainage System Design Standards (3.5.1(f.) Storm Drain Pipes)

A minimum of 1-foot of cover shall be required for all RCP storm drainage pipes under unpaved roads in which no roadway or other structure is to cover the pipe or as otherwise stated by the pipe manufacturer. For pipes under any paved surface, the minimum cover is 6-inches, excluding base and surface course depth. It is recommended that the applicant confirm adequate pipe cover is maintained over all proposed RCP pipes, or request written approval from the Public Works Director for the use of RCP Class IV or Class V pipe with reduced pipe cover requirements.

3.5 Stormwater Drainage System Design Standards (3.5.1(j.) Storm Drain Pipes)

Storm drain pipes discharging into a wet pond or lake shall have the discharge invert set above the permanent pool elevation and rip-rap or other energy dissipation structures shall be placed from the bottom of the outlet to 1-foot below the normal pool level. It is recommended that the applicant revise the design to set all inlet pipe elevations above the normal permanent pool elevation and provide energy dissipation devices to prevent scour and erosion.

3.5 Stormwater Drainage System Design Standards (3.5.1(l.) Storm Drain Pipes)

Hydraulic grade line and head loss calculations shall be performed for all system connections. It is recommended that the applicant provide these calculations for the proposed system.

3.5 Stormwater Drainage System Design Standards (3.5.1(m.) Storm Drain Pipes)

Per section 3.2.13(a.), the appropriate design storm for the storm drain system is the 25-year storm event. It is recommended that the applicant provide calculations to demonstrate that the storm drain system was sized using the appropriate storm event.

3.5 Stormwater Drainage System Design Standards (3.5.5(a.) Storm Drain Pipes)

When a catch basin or junction box exceeds 4-feet in depth, rungs or steps shall be provided for ascent and descent. It is recommended that the applicant confirm the proposed structures meet this requirement and revise the construction details to include this information.

3.5 Stormwater Drainage System Design Standards (3.5.5(c.) Storm Drain Pipes)

All pipes entering or leaving a catch basin, yard inlet, manhole or junction box shall not protrude more than 4-inches into the box. It is recommended that the applicant revise the construction details to include this information.

3.7 Erosion Prevention and Sediment Control Standards (3.7.2.7(a.) Design Standards)

Stabilized construction entrances are to be located at all points of ingress/egress to the construction site. There are two points of access to the site located along Beachwalker Drive, while a stabilized

construction entrance is only depicted at the easterly most entrance. It is recommended that the applicant revise the plans to specify ingress and egress will be limited to the easterly entrance of Beachwalker Drive, or add additional stabilized construction entrances at all points of ingress/egress.