TOTAL PROPOSED SQUARE FOOTAGE _____ x .50 = $_____ +

CONDITIONAL USE ☐ ($200.00)
(Optional) VESTED RIGHT ☐ ($200.00)
(Optional) BOTH ☐ ($300.00)
= TOTAL FEE DUE _____

TOWN OF NAGS HEAD

DATE RECEIVED _____

SITE PLAN REVIEW APPLICATION & CHECKLIST FOR CONDITIONAL USES

1. **LOCATION AND ZONING INFORMATION**
   - A. PROJECT TITLE OUTER BANKS HOSPITAL - CANCER CENTER
   - B. STREET ADDRESS 4927 S. CROATAN HIGHWAY
   - C. SUBDIVISION SMALL VILLAGE HOTEL PARCEL - VILLAGE AT NAGS HEAD & MOONGATE
     LOT(S) 26, 27 12,13,14 BLOCK - SECTION -
   - D. PRESENT ZONING VILLAGE HOTEL AND SF-2
   - E. PRESENT USE MEDICAL FACILITIES/URGENT CARE AND VACANT LOTS
   - F. EXISTING NONCONFORMITIES URGENT CARE PARKING
   - G. ABUTTING PROPERTY ZONING SF-2 (EAST) COMMERCIAL/VILLAGE HOTEL (NORTH & SOUTH)
   - H. ABUTTING PROPERTY USE RESIDENTIAL (EAST), RESTAURANT (SOUTH), MEDICAL OFFICE (NORTH)

2. **CERTIFICATION AND STANDING**
   - A. As applicant of standing of the above named project, I certify that the information on this checklist and the site plan is complete and accurate.

     OWNER ☐ AGENT ☐ CONTRACT PURCHASER ☑
   - B. APPLICANT/DEVELOPER: NAME THE OUTER BANKS HOSPITAL, INC.
     ADDRESS 4800 S. CROATAN HIGHWAY
     NAGS HEAD, NC 27959
     TELEPHONE 252-449-4500
   - C. CONTACT PERSON: NAME TODD SKINNER
     ADDRESS P.O. BOX 6028
     GREENVILLE, NC 27835
     TELEPHONE _____

3. **ADJACENT OWNERSHIP INFORMATION (TO BE SHOWN ON SITE PLAN)**
   NAME/ADDRESS (N) _____
   NAME/ADDRESS (S) _____
   NAME/ADDRESS (E) _____
   NAME/ADDRESS (W) _____
   (If additional space is needed, please attach separate sheets.)

4. **SITE PLAN AND SITE PLAN ATTACHMENT DATA**

A. Site plan preparer QUIBLE & ASSOCIATES, P.C. - CATHLEEN M. SAUNDERS Phone # 252-202-7112

NC Registered ☒ Engineer ☐ Architect ☐ Surveyor. License # 043652

B. The design for the attached Stormwater Management Plan includes:

☐ 1.5", 2-hour rainfall: retained on-site.

☒ 4.3", 2-hour rainfall: no important access or health-related impacts.

☐ 5.0", 2-hour rainfall: no unapproved impacts.

Drainage calculations have been prepared ☒ YES ☐ NO ATTACHED ☒ YES ☐ NO

Note: Stormwater Managment Plan MUST be approved by the Town Engineer prior to Planning Board review for all listed permitted uses in the zoning ordinance.

C. Sewage disposal approval is being submitted in the form of:

☒ Attached tentative approval letter dated 8/14/17 & 09/25/19

☐ Attached final permit dated .

☐ State ☐ County

D. Project involves condominium ownership.

☒ NO ☐ YES, Three copies of condominium documents attached.

E. Amount of land-disturbing activity proposed _____ square feet.

A Soil Erosion and Sedimentation Control Plan has been prepared.

☐ NO ☒ YES; (1) Copy attached,
(2) Copy submitted to Dare County Soil Conservation Service, Manteo NC 27954.

F. Coastal Area Management Act (CAMA) permit. ☐ YES ☒ NO

5. **INFORMATION TO BE SHOWN ON SITE PLAN**

Twelve (12) copies for Planning Board review

A. **Property and ownership**	YES	COMMENTS
1. Present recorded owner and map book/cabinet reference of the site property.	X	
2. Current PIN Number.	X	
3. Site Address.	X	
4. Owners' names, lot numbers or map book and page reference of all adjacent property owners.	X	
5. Boundary of the entire parcel by course and distance.	X	
6. Widths of the existing rights-of-way that abut the site.	X	
7. Nature or purpose, location and size of existing easements.	X	
8. At all lot corners, points of tangents and any angle point along a given course of the site, iron pins minimum 3/8-inch diameter or 4x4-inch concrete monuments.	X	
9. Plan to at least 1"=50' scale, showing north arrow and whether true or magnetic.	X	SKETCHES PROVIDED AT THIS TIME
10. Signature and seal of preparer.	N/A	
B. Existing features		
1. Streets, curbs, and sidewalks with type and width of pavement.	X	
2. Topographic features of site and existing grades for any streets, storm drainage system including existing grades at four corners of all structures.	X	

	YES	COMMENT
3. Flood zone(s) as determined by latest FEMA Flood Insurance Rate Map, with notation, "flood zone subject to change by FEMA."	X	
4. All underground utilities and facilities including gasoline tanks and existing septic facilities (including tanks and fields).	X	
5. If the lot is within an ocean hazard Area of Environmental Concern, the location of the first line of stable natural vegetation, the CAMA setback line, and contour lines at 2-foot intervals depicting any dunes located within an oceanfront AEC that are to be disturbed by construction.	N/A	
6. The location of any marsh areas or estuarine waters or US Army Corps of Engineers 404 wetlands within or abutting the lot.	N/A	
7. If the lot is within the small surface water supply watershed AEC (within 1,200 feet from the Fresh Water Pond), the distance between the pond and proposed septic or sewage treatment system.	N/A	
8. Percentage of site to be included in calculation for undisturbed vegetation preservation compliance in Section 48-371.	X	
C. Site improvements in accordance with regulations of state of North Carolina, Dare County, and Town of Nags Head		
1. Proposed building type (e.g., concrete or frame), number of floors and dimensions.	X	
2. Proposed building elevations of all sides of building labeled in accordance with proposed architectural design criteria of Section 48-370.	X	ARCHITECTURAL RENDERING PROVIDED AT THIS TIME
3. Total height and number of stories of proposed structure(s). If increased height is being proposed in conjunction with increased setbacks, show increase allowed in tabular form on plan. Note definition of height in Section 48-7 of the Town Code of Ordinances.	X	
4. Existing and proposed ground elevations at the corners of proposed structure(s).	~~N/A~~ X	GRADING AND SANITARY CONNECTIONS ~~TO BE DETERMINED ONCE SKETCH IS REVIEWED~~
5. Sanitary sewer facilities with connection to sewer system or septic tank.	~~N/A~~ X	
6. Approximate locations of proposed underground utilities and any necessary easements.	~~N/A~~ X	
7. Screened dumpster pad(s) accessible to left-side loaders and sized in accordance with the Town Code of Ordinances.	X	
8. Proposed fire hydrants and extensions of water distribution lines in accordance with size and density requirements found in Section 48-363 of the Town Code of Ordinances.	X	SEE FIRE EXHIBIT
9. Location and height of proposed free-standing signs. See requirements of Chapter 48-Article VIII of the Town Code of Ordinances.	N/A	SIGN PLACEMENT TO BE DETERMINED ONCE SKETCH IS REVIEWED
10. Location of all sidewalks, curbs, drives, and parking within the site and proposed finished elevations.	X	
11. Handicapped parking spaces, walks, ramps, and entrances in accordance with the NC State Building Code. Handicapped parking spaces to be 13 feet wide, marked with a free-standing handicapped sign.	X	
12. The Vegetative Buffer Yard areas have been identified and the proper buffer yard provision(s) have been identified (i.e. Buffer Yard A, B,C,D,E as outlined in Chapter 48 Article XIII of the Town Code of Ordinances.	X	
13. Layout of numbered stalls/loading zones in accordance with Chapter 48 Article V of the Town Code of Ordinances.	X	

Commercial [X] Residential [ ]	Parking Spaces Required	Parking Spaces Shown	Loading Spaces
2 STORY EXPANSION STORIES BUILDING SQUARE FOOTAGE: PRINCIPAL 14,880 ACCESSORY _____ TOTAL 14,880	CONDITIONAL USE REQUESTED		
# EMPLOYEES 22			
# DWELLING/LODGING UNITS N/A			

D. **EXPLANATORY NOTES**

1. Vicinity map.
2. Total square feet of land area to undergo land-disturbing activity.
3. The total required parking spaces versus the total parking spaces provided. Parking spaces to be numbered.
4. Cross-section details of all streets, roads, ditches, and parking lot improvements.
5. The number of dwelling/commercial units. If more than one use is proposed (e.g., large hotel with shops, etc.), show breakdown of units or square footage by building.
6. If additional height above 35 feet is being proposed, the additional height and increased setbacks shall be laid out in tabular form.
7. Total site coverage calculations. (Refer to Zoning Ordinance to calculate lot coverage for lots abutting ocean or sound).
8. Components of the lighting plan (pole location, pole height, type of fixture, wattage, source of illumination, etc.). See Chapter 48 Article IX of the Town Code of Ordinances.
9. A completed architectural points worksheet for commercial structures subject to residential design criteria.

6. **PLAN AND ATTACHMENT PREPARER CERTIFICATION**

A. I certify that all information for which I am responsible is complete and accurate.

11/14/19
DATE

SIGNATURE OF ENGINEER [✓] ARCHITECT [ ] SURVEYOR [ ]

B. The following individuals have contributed information or attachments to the plan:

Name	Phone #	Information provided

Site Specific Development Plan Option - Vested Right for Site Plans

Please be advised that as the owner, or agent for the owner, you have the opportunity to apply for and receive a Site Specific Development Plan that will establish a Vested Right for this project for a period of time not to exceed two (2) years from the date the Board of Commissioners approves the plan. You must secure a building permit for this project within two (2) years of the approval date or your Site Specific Development Plan will expire. If you elect not to apply for a Site Specific Development Plan, you must secure a building permit within six (6) months or else your site plan will expire.

If you choose the Site Specific Development Plan option, please keep in mind the following concerns:

1. Although your project may be classified as a permitted use, by requesting a Site Specific Development Plan your project will be processed as a Conditional Use for which a public hearing will be held, and an additional fee of $200.00 will be charged to process your application.
2. Once your Site Specific Development Plan has been approved with vested rights status no modifications can be made to the plan.

If you wish to take advantage of the Vested Right process please check off the Vested Right box on page one. If you do not then leave the box blank.

ZONING AMENDMENT APPLICATION
TOWN OF NAGS HEAD, NORTH CAROLINA

Applicant OUTER BANKS HOSPITAL, INC.

Mailing address P.O. BOX 6028 GREENVILLE, NC 27835

Explanation of request

☐ Zoning Ordinance - Section(s) _____
Attach amendment in ordinance form.

☒ Zoning Map
Attach copy of current Zoning Map with affected property outlined in red.
Attach names and mailing addresses of the property owners of all parcels of land abutting the parcel in question.

Nature of request

REZONING FROM SF-2 TO VILLAGE HOTEL

Reason for request

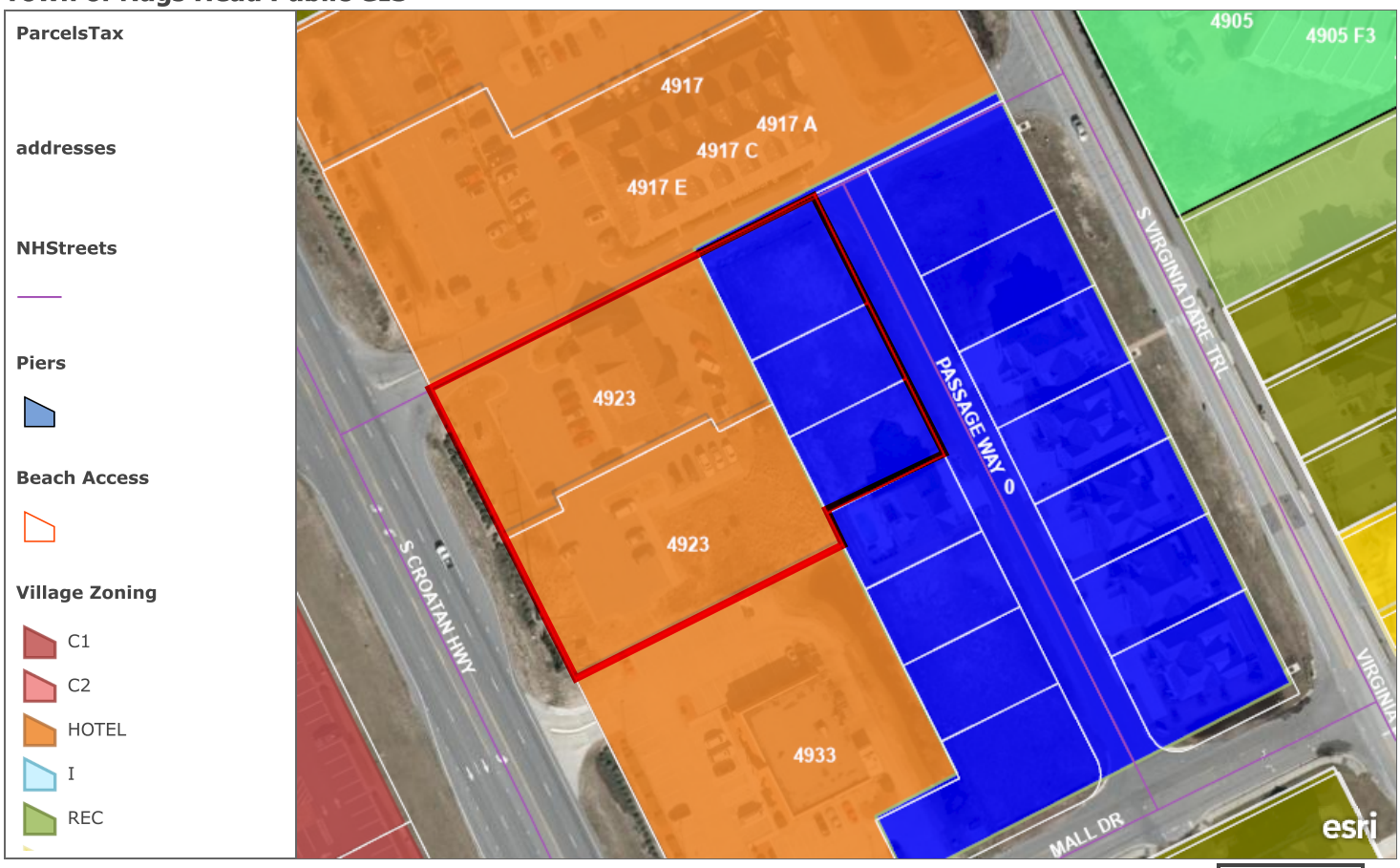
The parcels located at 4922, 4926, & 4928 S. Passage Way are currently zoned as single family (SF-2). These parcels were originally zoned as Village Hotel and a rezoning took place in April 2009 to rezone these properties to single family for the Moongate Subdivision. The current proposed development would require rezoning of the existing single family zoning to Special Planned Developed – Community District (SPD-C)(Hotel District Overlay). The proposed rezoning would revert the three parcels back to prior 2009 zoning. This proposed rezoning will allow for expansion of the Cancer Center and required parking.

Applicant _____

10/2/2019

Date

Town of Nags Head Public GIS



This map service includes GIS data provided by the Town of Nags Head.

Adjacent Parcels:
4917 Croatan Highway - Outer Banks Medical Suites, LLC; PO Box 960 Kitty Hawk, NC 27949
4933 Croatan Highway - Carlos Angel Fernandez; PO Box 1325 Nags Head, NC 27959
4930 S. Passage Way - Moongate Partners, LLC; PO Box 90 Kill Devil Hills, NC 27948
4929 S. Passage Way - Margaret K. Galasso; 2403 Hightee Court Crofton, MD 21114
4927 S. Passage Way - Moongate Partners, LLC; PO Box 90 Kill Devil Hills, NC 27948
4923 S. Passage Way - Moongate Partners, LLC; PO Box 90 Kill Devil Hills, NC 27948
4930 S. Passage Way - Moongate Partners, LLC; PO Box 90 Kill Devil Hills, NC 27948

SITE NARRATIVE

Outer Banks Hospital – Cancer Center
Nags Head, Dare County, North Carolina

Prepared for:
Outer Banks Hospital, Inc.
P.O. Box 6028
Greenville, NC 27835

Prepared by:
Quible & Associates, P.C.
PO Drawer 870
Kitty Hawk, NC 27949

November 14, 2019
Revised: December 4, 2019
P17012.1

Overview
The Outer Banks Hospital, Inc. (Applicant) is proposing an expansion of their Cancer Center, which includes the existing Radiation Therapy building and a proposed Infusion Facility located in Nags Head, Dare County, NC. The proposed development will require the recombination of 4923 & 4927 S. Croatan Highway along with 4922, 4926, & 4928 S. Passage Way to create an +/-1.45 acre parcel of land. The Outer Banks Hospital proposes to remove the existing Urgent Care Facility to expand the existing Radiation Therapy building approximately 10,400 sf (two stories), provide associated pedestrian access, and vehicular accommodation areas to serve the proposed outpatient Cancer Center Treatment facility.

The proposed building expansion will require an increase in the existing number of parking spaces, modification of the existing storm sewer system, verification of the Town's water system, and a revised connection into the existing onsite sanitary sewer collection system. As the site disturbance is greater than 1 acre, a State soil erosion and sediment control permit is required. In addition, it is understood that a State high-density stormwater permit will be required prior to any disturbance onsite. The Outer Banks Hospital strives to continue to provide the necessary medical services that benefit the Outer Banks Community.

Rezoning
The parcels located at 4922, 4926, & 4928 S. Passage Way are currently zoned as single family (SF-2). These parcels were originally zoned as Village Hotel and a rezoning took place in April 2009 to rezone these properties to single family for the Moongate Subdivision. The current proposed development would require rezoning of the existing single family zoning to Special Planned Developed – Community District (SPD-C)(Hotel District Overlay). The proposed rezoning would revert the three parcels back to prior 2009 zoning.

The Town of Nags Head Comprehensive Plan shows the existing land use for the subject parcels as vacant. The site is within the Village Municipal Service Character Area, specifically the Village Municipal Activity Node. This area is envisioned to provide commercial services including medical facilities. The proposed use for this site is consistent with the Town of Nags Head Comprehensive Plan based on the proposed development. The proposed structure is just under 15,000 sf, which is encouraged for this area within the comprehensive plan and the building façade will be reviewed by the Villages at Nags Head Architectural Committee to determine compatibility to the surrounding area.

Coverages
The parcels, if rezoned, will be recombined to make one parcel for the proposed development of approximately 1.45 acres. The proposed zoning of Village Hotel will require the following coverages shown within Table 1 (a summary of the proposed coverages is also included):

Table 1: Summary of Coverages

	Allowable Coverage	Proposed Coverage
Maximum Building Coverage (25%)	<15,755 sq. ft.	12,105 sq. ft.
Minimum Landscaped Area (30%)	>18,906 sq. ft.	31,096 sq. ft.
Minimum Interior Parking Lot Landscaping	1,174 sq. ft.	1,491 sq. ft.
Maximum Parking Coverage (45%)	<28,359 sq. ft.	19,819 sq. ft.

Access
The Cancer Center will be accessed by an existing unnamed access road that connects S. Croatan Highway and S. Virginia Dare Trail. This drive aisle is within an existing 40' wide access and utility easement as defined by PC D, SL 84 and PC E, SL 134. The existing entrance at the Urgent Care building will remain in place with a second proposed access added at the rezoned residential properties (previously Lot 21, Part "A").

We respectfully request a reduced loading and unloading zone be considered. Based on the anticipated use and building size, we are requesting a 20'x23' dedicated loading zone. Because of the low volume of patients and the nature of the treatment, radiation therapy and infusion entail very limited use of non-durable products and generate very limited need for product pick-up and delivery. Given these limited needs, it is reasonable to expect no more than two brief loading or unloading events on any given day. The applicant can accurately anticipate the following events:

- Supplies for medical treatment and administration needs: 1 or 2 visits per week, via Van (Vehicle consistent with a Ford Cargo Transit Van 220" long by 82" wide)

- Clean/soiled linens pick-up and delivery: 1 visit per week, via Van (Vehicle consistent with a Ford Cargo Transit Van, 220" long by 82" wide)

Given the types of frequency of loading/unloading events, the developer proposes to provide a reduced loading berth of 20'x23'.

Parking
As the proposed use of an infusion center addition is unique and not currently covered within the Uniform Development Ordinance (Article V Section 48-167 Table showing Minimum Off-Street Parking Standards) an alternative parking plan is proposed through a Conditional Use Permit per Town Code Section 48-165. Three different alternatives were considered during the sketch plan review process.

The project proposes the addition of a 10,400 sf infusion center. The existing Urgent Care facilities at this location currently provide for 19 parking spaces associated with the Urgent Care facility (per permit documents signed by W.C. Owen issued 6/28/00) and 22 spaces associated with the Radiation Therapy building (per the approved site plan latest revised 8/27/18). The existing Urgent Care Facility is currently under parked at a parking rate of one parking space for every 300 square feet of gross floor area of each building or portion thereof devoted to medical use, plus one parking space for each employee and for each doctor. At 21 employees and 3,000 sf (2-story) the Urgent Care Facility would be required to have 31 parking spaces based on the current Town of Nags Head ordinance. The proposed change in use to an infusion center will improve the available parking at the site as the 19 available spaces will be expanded to provide 35 spaces related to the infusion center addition.

The Town of Nags Head Unified Development Ordinance currently has parking rates available for a "Medical Office" or "Dialysis Center". These two parking rates are the closest comparable to our proposed use of an infusion center. The existing Radiation Therapy building requires 22 parking spaces based on the Town's Medical Office parking rate. In addition, the 10,400 sf infusion center addition will have 15 employees and 10 infusion bays. An infusion center, similar to a dialysis center, can only treat one patient at a time within an infusion bay. At any given time within this building addition only 10 patients can be seen with a waiting area that can seat 12

visitors. We will compare this anticipated maximum capacity with the two parking rates available within the Town of Nags Head Ordinance in the Table below.

Similar Use	**Required Parking for Comparable Use Type**	**# Spaces for Existing Radiation Therapy Building**	**# Spaces Required (for addition only)**	**Total # Spaces Required**
Dialysis Center	One parking space for each dialysis machine available for treatment, plus one parking space for each staff member.	22	25	**47**
Medical Office	One parking space for every 300 square feet of gross floor area of each building or portion thereof devoted to medical use, plus one parking space for each employee and for each doctor.	22	50	**72**

Based on the medical staff available at the proposed Cancer Center, it was decided that the expansion will need to follow the Medical Office parking rate and request a Conditional Use permit for the reduced parking based on the anticipated use.

This parking rate would require 72 total parking spaces (22 spaces for the Radiation Therapy building and 50 spaces for the infusion center expansion). As this parking rate requires more parking spaces than anticipated for use at the infusion center, a reduction of 15 parking spaces is requested by providing 1 bike rack (equal to 1 parking spaces per the Town of Nags Head Ordinance Sect 48-165(e)), and a 14 space reduction for access/use of the bus transit system. A total of 57 parking spaces would be provided for the Cancer Treatment Center.

This parking rate would leave 35 parking spaces allocated to the addition, allowing for 15 employees, 10 patients receiving treatment, and 10 patients within the waiting room. This parking rate would provide more parking spaces than typical capacity of the infusion center.

The proposed building and associated parking, if ever sold in the future, would comply with the following potential uses:

Potential Future Use	Required Parking for Potential Use Type	# Spaces Provided	Allowable Areas
Professional Office	One space per office or workspace plus a minimum of two customer parking spaces.	57	Allows for up to 55 offices within the 14,880 sf
Bank	One parking space for each 500 square feet of gross floor space plus one space for each employee.	57	Allows for up to 27 employees within the 14,880 sf

The proposed Cancer Treatment Center including the proposed infusion addition can be a great asset to The Town of Nags Head and the surrounding area. The Center will help to improve health care for those who require this type of treatment. An infusion center as a standalone facility is a unique use that is not covered by Town Codes and an international parking rate has not been set by International Standards, the American Planning Association, or the Town of Nags Head. Typically, an infusion center is found within a Hospital facility and the parking would be met through Hospital parking standards (ie. a per bed rate). As this standalone use is unique to the Town code, the provided options allow for a parking rate that the Outer Banks Hospital feels are more reflective of the actual use and parking rate of an outpatient cancer treatment center.

The ITE has evaluated anticipated parking rates for Outpatient Cancer centers and supports a parking rate of 3.5-4.5 spaces per 1,000 sf of floor area (**Appendix A**). This study would recommend a parking ratio of 52-67 spaces, which is consistent with our proposed 57 spaces. A condition of approval of the conditional use permit, would require the owner to obtain a third-party parking study 6 months after obtaining the building certificate of occupancy. This study would determine if the provided parking is adequate for the use. If the parking is deemed inadequate, the owner can be required by Town personnel to install up to 11 additional parking spaces.

The proposed drive aisle will be 22’ wide and capable of withstanding 75,000 lbs, allowing for fire access to the site. Signage will be provided within the parking area to notify employees and visitors that the drive aisle is a provided fire lane. An exhibit illustrating fire access to an adjacent hydrant has been provided within **Appendix B**.

Stormwater Management Plan
Stormwater to serve the proposed site improvements will continue to be managed by infiltration basins and permeable pavements. The existing basins are to be resized and reshaped to account for the new building footprint. The proposed stormwater management facilities have been designed to provide for greater than 4.3” of storage, which is in agreement with the Town ten-year two-hour storm (4.3”) requirement.

The USDA NRCS Soil Survey lists the soil in the vicinity of the stormwater infiltration basin as described below. Geotechnical reports for the site indicate the seasonal high-water table is approximately at elevation 5.8’.

- DtA – Duckston fine sand
  This soil typically has 0 to 2 percent slopes. Duckston fine sand typically has a very high runoff rate and is typically well drained. This soil is categorized in Hydrologic Soil Group: A/D

- NeC—Newhan fine sand
  This soil typically has 0 to 10 percent slope. Newhan fine sand typically has a very low runoff class and is somewhat poorly drained. This soil is categorized in Hydrologic Soil Group: A.

The infiltration basin along U.S. 158 (Drainage Area #1) will remain as previously designed and permitted during the radiation therapy building site plan. This front basin 1 currently treats stormwater runoff from the parking area in between the building and U.S. 158.

Table 2: Above Grade Storage Calculations For Infiltration Basin 1

Elev (Ft.)	Area (Sf)	Avg Area (Sf)	Volume (Cf)	Cum Vol. (Cf)
6.80	2,139			
		2,235	447	
7.00	2,330			447
		4,050	4,050	
8.00	5,770			4,497 (Vg)

The above grade storage provided within the front infiltration basin is approximately 4,497 cf.

Table 3: Below Grade Storage Calculations For Infiltration Basin 1

Storage Area (A) =	5,770.00 sf
Storage Elev. (E)	8.00 ft
Season High Water Table (Wt) =	5.8 ft
Soil Depth Above Swht (Ds) = B-Wt	2.2 ft
Soil Volume (Sv) = A*Ds-Vg =	8,197 cf
Void Ratio (Vr)=	20%
Subsurface Void Vol. (Vss) = A*Ds*Vr=	1,639 cf

The below grade storage provided within infiltration basin 1 is approximately 1,639 cf. The total storage provided within the front infiltration basin is 6,136 cf. This exceeds the storage required by State regulations (1,796 cf) and Town of Nags Head requirements (5,149 cf). Assuming the minimum allowable infiltration rate for permitted basins, 0.52 in/hr, the anticipated drawdown is calculated at approximately 1.15 days.

Infiltration basins and permeable pavement within drainage area #2 have been sized to store greater than 4.3” of rainfall total (above and below grade). The provided interconnected basins are designed with the following dimensions:

TABLE 4: DIMENSION SUMMARY FOR DRAINAGE AREA #2

	Basin 2	Basin 3	Basin 4
BOTTOM	7.1’	7.1’	7.0’
TOP	9.0’	9.0’	8.5’
SIDE SLOPES	3:1	3:1	3:1
ABOVE GRADE STORAGE (CF)	2,024	1,315	2,002
BELOW GRADE STORAGE (CF)	731	374	788

Detailed calculations for the onsite stormwater storage within these basins are available within **Appendix C**.

The void space under the proposed permeable pavement within drainage area 2 contributes an additional 1,191 cf of storage. See the detailed calculations within **Appendix C** for a breakdown of storage within the aggregate base and soil under the permeable pavement.

The total storage within this drainage area is 8,427 cf. This exceeds the storage required by State regulations (2,922 cf) and Town of Nags Head requirements (8,377 cf). At an infiltration rate of 0.52 in/hr the drawdown in the rear infiltration basins is approximately 1.44 to 1.83 days.

These stormwater management facilities will provide an adequate system to meet State and local requirements for stormwater storage. As the proposed impervious coverage exceeds 10,000 sq. ft., a high-density stormwater permit is required by NC DEQ DEMLR prior to construction.

Utilities

The site has an existing meter and backflow preventer. This service connection will be reused with the existing Radiation Therapy building plumbing. The existing water supply is provided by the Town of Nags Head. The second existing service at the Urgent Care Building will be reused for the building addition. Disturbance is not proposed to the existing waterline within the right-of-way and a permit to construct from NC DEQ Public Water Supply is not required.

The proposed wastewater effluent from the existing radiation therapy building and proposed building expansion will be conveyed via gravity to the existing onsite sanitary manhole. Sanitary sewer flows have been estimated using State regulations (15 NCAC 02T.0114) at 250 gal/practitioner/shift. Twenty-two (22) total employees are anticipated at the proposed building including the expansion, which will require approximately 5,500 gallons per day. A commitment to serve letter has been obtained from Carolina Water Service, Inc. of North Carolina to confirm the system can handle this additional capacity and a copy is included with this site plan package within **Appendix D**. Two commitment to serve letters are included from CWS, Inc. this includes a commitment to serve letter for the existing radiation therapy building and a commitment to serve letter for the proposed addition.

Buffers and Site Vegetation

A 20’ landscape buffer is required adjacent to the residential properties to the East and South (zoned SF-2). This buffer has been proposed to require 50% of the buffer be planted with a minimum height of 42”. The existing landscaping buffer adjacent to U.S. 158 will remain in place. Approximately 11.5% of the vegetation throughout the site will be maintained, meeting landscaping requirements for the site.

Appendix A
Parking Study

Parking Requirements for Outpatient Cancer Care Centers

A parking demand study of outpatient cancer centers was conducted to determine the peak period range, mean, median, and 85th percentile values of parked cars per 1,000 gross square feet (GSF) of building space. Providing 3.5 or 4.5 spaces per 1,000 GSF for medium/large (≥15,000 GSF) or small (<15,000 GSF) outpatient cancer centers, respectively, is an 85th percentile recommendation consistent with recognized and published industry standards.

BY JOHN W. DORSETT, AICP, CPP

Study Purpose

The development of cancer care centers continues in response to our aging population and consequent increased demands for health care. One particular challenge for planners is to properly determine the number of parking spaces needed without any preexisting or published data regarding parking requirements for outpatient cancer care centers. In response to this challenge, Walker Parking Consultants conducted a study documenting the parking requirements of this land use type. A major component of this study includes new primary research.

This study gathers data from various cancer centers, calculates parking demand ratios per 1,000 gross square feet (GSF), and provides a database that can be used for project planning purposes.

The following are the objectives of this research project:

- To identify and report on outpatient cancer center peak hour parking demand ratios;
- To create a database of outpatient cancer center peak hour parking demand ratios that employ the number of parking spaces needed per 1,000 GSF, the variable most commonly referenced by municipal codes; and
- To summarize findings by mean, median, and 85th percentile values.

Meeting these objectives provides information useful to planners who project outpatient cancer center parking demand.

One limitation of this study is that it focuses on outpatient cancer care center parking demand and not parking demand for other types of cancer care centers. Cancer care centers can be classified into the following three categories:

- National Cancer Institute (NCI)–designated cancer centers are institutions that are dedicated to research into more effective approaches to prevent, diagnose, and treat cancer. Most of the 67 NCI-designated cancer centers are affiliated with university medical centers, while others are freestanding centers that engage only in cancer research. Their missions typically include cancer research, clinical programs, training for researchers and caregivers, and public education and outreach.
- Community-based outpatient cancer centers, which tend to be smaller, community-based treatment centers that often range from 5,000 to 50,000 ft.^{2} and in some cases are larger. All care is provided on an outpatient basis.
- Cancer hospitals, which tend to be larger, more comprehensive treatment centers that attract patients from several hundred miles and focus on clinical treatment on both an inpatient and outpatient basis. These facilities tend to be about 250,000 ft.^{2}. Typical services include surgery, radiation therapy, chemotherapy, and supportive therapies including pain management, nutrition therapy, naturopathic medicine, oncology rehabilitation, mind-body medicine, and spiritual support.

The application of this study's results should be limited to outpatient cancer care centers and should not be used for NCI-designated cancer centers or cancer hospitals.

Methodology

This study is important to health care planners and developers because prior to this study, there were no published data regarding parking requirements for outpatient cancer centers. To complete our primary research, we performed the following steps:

- Identified 53 standalone outpatient cancer centers located throughout the United States.
- Researched the following variables for each property:

  - Freestanding location dedicated exclusively to oncology care;
  - City, state, and ZIP code;
  - Building GSF; and
  - Parking space supply.
- Calculated the number of spaces provided per 1,000 GSF.
- Counted the number of parked vehicles during the peak time of a weekday.
- Determined the number of spaces per 1,000 GSF based on the occupied building GSF and the numbers of vehicles counted at the peak accumulation or occupancy.
- Summarized, by spaces per 1,000 GSF of occupied building space, the mean, median, and 85th percentile, for the following:
  - Parking space supply; and
  - Observed peak period parking occupancy.
- Developed recommendations regarding the number of spaces to be provided by outpatient cancer care centers.

Internet searches were conducted to identify freestanding cancer care centers, which in this study are defined as centers that specialize in cancer care treatment; occupy a building that exclusively houses a cancer care center; and have adjacent parking that meets the parking needs of the cancer care center, while at the same time, is not used by occupants of adjacent buildings. Freestanding centers were identified and selected for study to protect the integrity of the data. Many cancer care centers are integrated into existing medical centers, and it is not practical, and in many cases not feasible, to accurately determine the parking requirements of these integrated centers.

The Internet search focused on metropolitan areas where Walker Parking Consultants has offices. These geographic areas were selected because of the convenient proximity offered to Walker staff members, who then performed field visits to collect the following information: (a) verification of the existence of a freestanding cancer center and confirmation of the likely integrity of the data to be collected; (b) inventory of the existing on-site parking spaces; and (c) count of the number of on-site parked cars between the hours of 10:00 a.m. to noon or 1:00 to 3:00 p.m. on a weekday.

Table 1. Number of outpatient cancer centers by size.

15,000–85,000 GSF	30
< 15,000 GSF	23

Previous studies by Walker indicate that parking demand at medical centers peaks on a weekday during the late morning hours up to the lunch hour and carries on until mid-afternoon. This was confirmed through a parking accumulation study performed at St. Vincent Center for Cancer Care, Indianapolis, IN, USA, on September 25, 2012. During this study, the numbers of parked cars were counted at 9:30 and 11:00 a.m. and 1:30 and 3:00 p.m., with little difference in the four counts.

Data Collection Results

Profile of Cancer Centers Included in This Study

Fifty-three freestanding outpatient cancer centers were included within this study. These centers range in size from 3,650 to 85,000 GSF, with properties in Arizona (1), California (3), Colorado (6), Florida (14), Illinois (8), Indiana (6), Maine (1), Massachusetts (1), Michigan (8), New Jersey (1), New York (1), and Texas (3).

The median square footage of the 53 centers is 16,076 GSF. Centers focus on outpatient cancer care, which can include patient consultations and check-ups, chemotherapy, and radiation treatments.

Number of Buildings by Size

The outpatient cancer centers identified were then compared on the basis of occupied GSF. Table 1 shows that 57 percent of the buildings surveyed occupied 15,000 or more GSF of occupied floor area, and 43 percent of the buildings surveyed were less than 15,000 GSF.

Parking Supply

Each individual outpatient cancer center's parking supply was inventoried. The mean, median, and 85th percentile number of parking spaces supplied per 1,000 square feet of GSF were 5.46, 5.02, and 7.81, respectively. Figure 1 illustrates the number of parking spaces supplied per 1,000 GSF.

Most of the facilities surveyed provide an overabundance of parking and significantly more spaces than are demanded by users. The mean, median, and 85th percentile parking occupancies recorded for the 53 properties were 55 percent, 54 percent, and 74 percent.

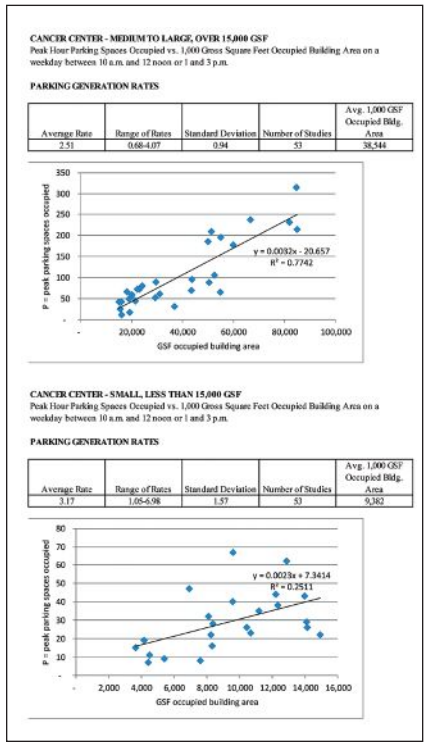


Figure 1. Data plot and statistical summary.

Parking Demand

Parking occupancy counts were recorded for the outpatient cancer center parking spaces to determine parking utilization during the peak period of 10:00 a.m. to noon or 1:00 to 3:00 p.m. Care was taken to avoid the noon lunch hour, as some employees spend their lunch hour off site and the number of patient appointments is fewer. These counts were compared with the occupied GSF of the building.

Table 2 lists the total number of parking facilities surveyed (at the peak hour) by range of occupied parking spaces per 1,000 GSF. Observed peak hour parking demand for the sample ranged from 0.68 to 6.98 spaces per 1,000 GSF. The observed mean and median peak hour parking demand rates were 2.80 and 2.76, respectively. The 85th percentile rate was 3.77 spaces per 1,000 GSF.

The data set shows a significant difference in parking generation rates depending on the size of the facility. Smaller centers, those defined as less than 15,000 GSF of

Table 2. Occupied spaces.

per 1,000 GSF	Number of Facilities
0.00 to 1.00	3
1.01 to 2.00	13
2.01 to 3.00	15
3.01 to 4.00	15
4.01 to 5.00	5
5.01 to 6.00	0
6.01 to 7.00	2

Table 3. Parked cars by size of outpatient cancer center

Type of Center	#	Ratio of Peak Period Parked Cars per 1,000 Occupied GSF		
		Mean	Median	85th Percentile
Medium/Large: 15,000–85,000 GSF	30	2.51	2.69	3.55
Small: < 15,000 GSF	23	3.17	3.08	4.44

building area, generated more parked cars per thousand square feet of GSF than medium and larger centers, those centers that exceed 15,000 GSF of building area.

Table 3 shows the mean, median, and 85th percentile statistics separated by medium/large centers and small centers.

Parking Requirements for Medical Office Buildings

Walker studies parking demand characteristics of medical office buildings as a routine course of its practice, often when it conducts hospital parking studies. Previously, Walker performed a special study of 50 medical office buildings (MOBs), and the results of this study were published by the Institute of Transportation Engineers in 2007. This study served as the basis for the recommended number of parking spaces for MOBs as documented in the second edition of *Shared Parking*, a joint publication of the Urban Land Institute (ULI) and International Council of Shopping Centers (ICSC), and an industry standard that was vetted and approved by dozens of parking and transportation consulting professionals. *Shared Parking* recommends 4.50 spaces per thousand square feet of gross floor area.[1] The observed mean peak-hour parking accumulation rate for 50 MOBs is 3.17 spaces per 1,000 GSF of occupied building area. These MOB parking generation rates are greater than those parking generation rates observed for medium and large outpatient cancer centers but comparable to the parking generation rates observed for small outpatient cancer centers.

Parking Supply at Cancer Hospitals

Although limited data on parking requirements for cancer hospitals were collected, enough information was collected to determine that cancer hospitals should be excluded from the study of outpatient cancer care centers. Five cancer hospitals operated by Cancer Treatment Centers of America (CTCA) were briefly studied, and these fit the previous profile of cancer hospitals.

Based on information obtained through the Internet, including CTCA's website and Google Maps, these facilities provide 1.80 to 2.66 spaces per thousand square feet of building area. This information suggests that this type of facility generates demand for even fewer spaces than an outpatient cancer center. Further study is recommended for this type of cancer center.

Conclusions

Fifty-three outpatient cancer centers were surveyed as part of this research. The following is a summary of findings:

- Medium- to large-sized outpatient cancer care centers, defined as those with at least 15,000 GSF of building area, generate parking demand at a rate that is less than the rate generated by the typical medical office building.
- Small outpatient cancer care centers, defined as those with less than 15,000 GSF of building area, generate parking demand at a rate that is similar to typical medical office buildings.
- An industry-standard 85th percentile-type of recommendation for medium/large and small outpatient cancer care centers is 3.5 and 4.5 parking spaces per 1,000 GSF of building area, respectively. This recommendation can be expected to provide sufficient parking for outpatient cancer centers. This recommendation includes an effective supply cushion of spaces equal to about 10 percent of the supply and is necessary for a number of reasons, including user convenience and compensation for the temporary loss of spaces due to construction, maintenance, and snow removal.
- The numbers of cars parked at outpatient cancer centers during the 10:00 a.m. to 3:00 p.m. peak hours is almost always exceeded by the number of on-site parking spaces. This suggests that most developers are building more parking spaces than most outpatient cancer centers need. The observed mean parking supply ratio for the 30 medium and large and 23 small outpatient cancer centers is 4.77 and 6.35 spaces per 1,000 GSF of occupied building area, respectively.
- The observed mean peak hour parking accumulation rate for the 30 medium and large and 23 small outpatient cancer centers is 2.51 and 3.17 spaces per 1,000 GSF of occupied building area.
- The observed 85th percentile peak hour parking accumulation rate for the 30 medium and large and 23 small outpatient cancer centers is 3.55 and 4.44 spaces per 1,000 GSF of occupied building area. ■

References

1. Smith, M.S. Urban Land Institute and International Council of Shopping Centers. *Shared Parking*, Second Edition, 2005.

JOHN W. DORSETT, *AICP, CPP, is a senior vice president and shareholder of Walker Parking Consultants. He directs the firm's Consulting Resources Group, which specializes in parking-related engagements including access and revenue control systems, airport landside planning, financial analyses, functional design, operations consulting, planning studies, and traffic engineering. He may be contacted at john.dorsett@walkerparking.com.*

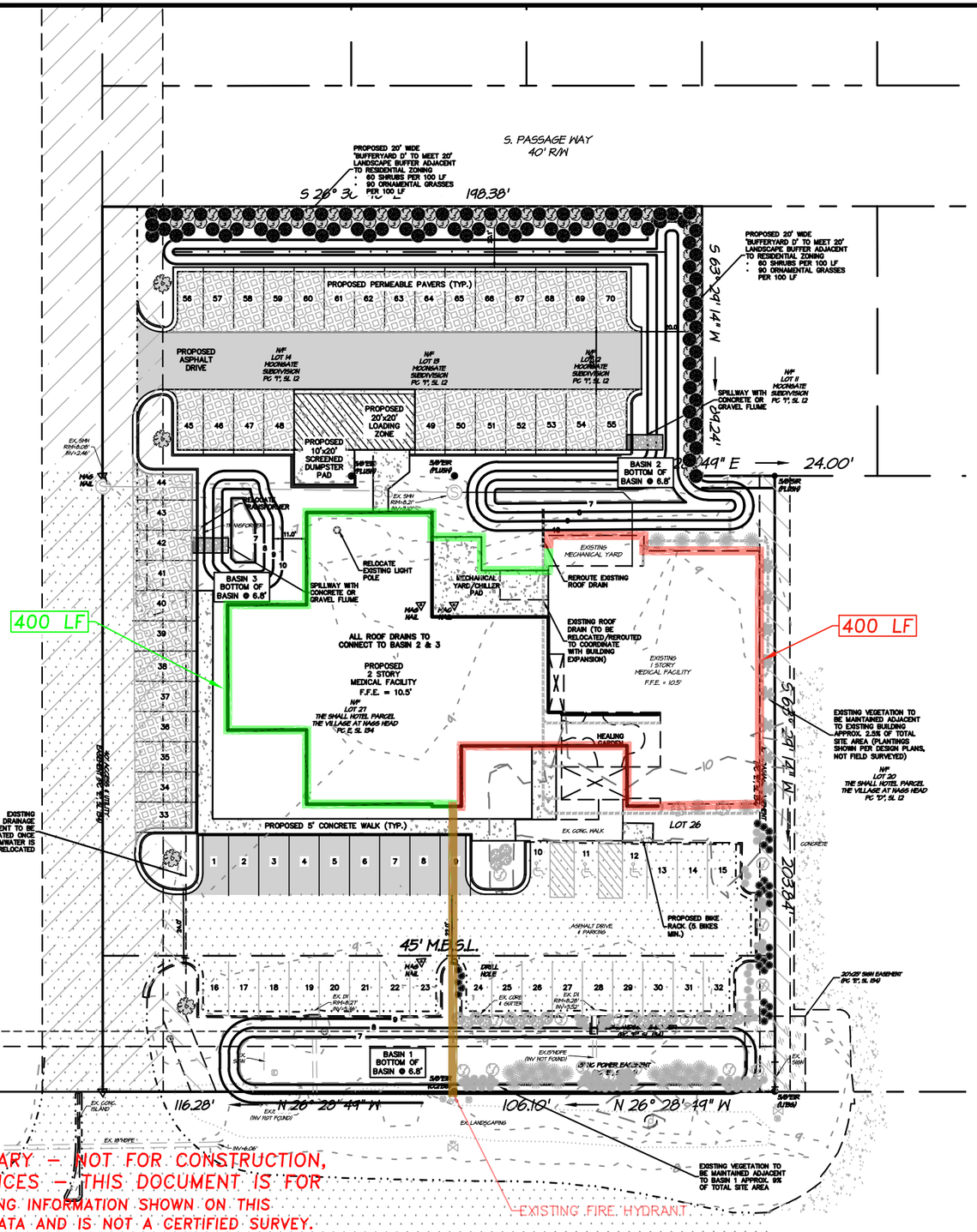
Table 4. Outpatient Cancer Center Statistical Data

#	Cancer Ctr. State	Sq. Ft.	Source	# Pkg. Spaces	Spaces/ ksf*	Occupancy	Cars/ksf	Count Date	Time of Day	% Occupancy
1	New Jersey	85,000	Assessor's Office	264	3.11	214	2.52	10/11	10:15	81%
2	Massachusetts	84,678	Assessor's Office	550	6.50	315	3.72	10/15	11:00	57%
3	Arizona	82,000	Facility website	409	4.99	231	2.82	11/1	14:00	56%
4	Illinois	66,655	Assessor's Office	416	6.24	237	3.56	10/11	13:00	57%
5	Maine	59,894	Assessor's Office	244	4.07	177	2.96	10/17	11:00	73%
6	Michigan	55,000	Online ad	230	4.18	195	3.55	10/9	15:00	85%
7	Illinois	54,838	Assessor's Office	130	2.37	65	1.19	10/18	15:00	50%
8	Indiana	52,540	Assessor's website	189	3.60	105	2.00	10/8	14:45	56%
9	Indiana	51,327	Assessor's Office	346	6.74	209	4.07	9/25	11:00	60%
10	Florida	50,426	Assessor's website	391	7.75	88	1.75	10/11	14:00	23%
11	New York	50,000	Facility website	284	5.68	185	3.70	10/10	13:00	65%
12	Michigan	43,664	Assessor's Office	184	4.21	95	2.18	10/23	10:00	52%
13	Colorado	43,460	Assessor's Office	383	8.81	69	1.59	10/11	11:00	18%
14	Illinois	36,842	Assessor's Office	92	2.50	31	0.84	10/12	11:15	34%
15	Michigan	31,068	Assessor's Office	88	2.83	61	1.96	10/23	10:30	69%
16	Michigan	29,539	Assessor's website	99	3.35	89	3.01	10/9	10:15	90%
17	Indiana	29,307	Assessor's Office	81	2.76	52	1.77	10/23	10:00	64%
18	Illinois	24,173	Assessor's Office	112	4.63	80	3.31	10/17	13:45	71%
19	Colorado	23,105	Assessor's Office	118	5.11	72	3.12	10/19	11:15	61%
20	Florida	22,216	Assessor's Office	134	6.03	72	3.24	10/24	10:30	54%
21	Florida	21,503	Assessor's Office	126	5.86	44	2.05	10/24	14:30	35%
22	California	20,100	Assessor's website	74	3.68	59	2.94	10/10	10:30	80%
23	Indiana	19,928	Assessor's Office	100	5.02	55	2.76	10/10	10:00	55%
24	Colorado	19,254	Assessor's Office	97	5.04	17	0.88	10/11	13:30	18%
25	Texas	19,000	Houston Chronicle	112	5.89	49	2.58	10/9	11:45	44%
26	Michigan	18,148	Assessor's Office	108	5.95	66	3.64	10/23	10:00	61%
27	Illinois	16,076	Assessor's Office	14	0.87	11	0.68	10/17	13:30	79%
28	Indiana	16,000	Architect factsheet	118	7.38	42	2.63	10/11	10:00	36%
29	Texas	15,514	Costar	53	3.42	25	1.61	10/9	11:00	47%
30	Michigan	15,061	Assessor's Office	68	4.51	42	2.79	10/23	15:00	62%
31	Michigan	14,929	Assessor's Office	155	10.38	22	1.47	10/23	14:45	14%
32	Colorado	14,142	Assessor's Office	71	5.02	26	1.84	10/18	13:15	37%
33	Michigan	14,100	Assessor's Office	64	4.54	29	2.06	10/9	11:00	45%
34	Illinois	13,977	Assessor's Office	112	8.01	43	3.08	10/18	11:00	38%
35	Colorado	12,882	Assessor's Office	85	6.60	62	4.81	10/11	14:15	73%
36	Indiana	12,340	Assessor's Office	71	5.75	38	3.08	10/10	11:45	54%
37	Florida	12,220	Assessor's website	61	4.99	44	3.60	10/11	14:30	72%
38	Colorado	11,185	Assessor's Office	67	5.99	35	3.13	10/11	13:15	52%
39	Illinois	10,681	Assessor's website	101	9.46	23	2.15	10/10	12:30	23%
40	Texas	10,444	Assessor's Office	46	4.40	26	2.49	10/24	11:30	57%
41	Florida	9,600	Assessor's website	83	8.65	67	6.98	10/22	10:00	81%
42	Florida	9,579	Assessor's Office	77	8.04	40	4.18	10/24	11:15	52%
43	Florida	8,372	Assessor's website	55	6.57	28	3.34	10/19	11:15	51%
44	Florida	8,324	Assessor's Office	31	3.72	16	1.92	10/22	14:00	52%
45	Florida	8,249	Assessor's Office	42	5.09	22	2.67	10/22	11:00	52%
46	Florida	8,104	Assessor's website	23	2.84	32	3.95	10/23	11:15	139%
47	California	7,600	Assessor's website	28	3.68	8	1.05	10/10	11:00	29%
48	Florida	6,923	Assessor's website	52	7.51	47	6.79	10/19	10:45	90%
49	Florida	5,401	Assessor's Office	25	4.63	9	1.67	10/24	13:15	36%
50	California	4,500	Assessor's website	19	4.22	11	2.44	10/10	10:00	58%
51	Florida	4,416	Assessor's website	22	4.98	7	1.59	10/11	14:45	32%
52	Florida	4,168	Assessor's website	42	10.08	19	4.56	10/19	11:45	45%
53	Illinois	3,650	Assessor's website	40	10.96	15	4.11	10/10	10:15	38%

* ksf = 1,000 square feet

.

Appendix B
Fire Exhibit



NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
   PO BOX 129
   NAGS HEAD, NC 27959

   DOUBLE L CORPORATION
   PO BOX 2606
   ELIZABETH CITY, NC 27906

   UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
   C/O TIM McDONNELL
   P.O. BOX 6028
   GREENVILLE, NC 27835

2. PROPERTY IDENTIFICATION:
   4928, 4926 & 4922 S. PASSAGE WAY; 4927 & 4923 SOUTH CROATAN HIGHWAY
   PIN#: 0801-1313-8895;
   0801-1313-8960;
   0801-1313-8936
   0801-13-13-7759;
   0801-1313-7809
   PID#: 02839113; 02839114;
   02839115; 027839062;
   027839063;

3. PARCEL AREA: 63,021 sq.ft. / 1.45 acres
   (AREAS BY COORDINATE METHOD)

4. ZONING CLASSIFICATION: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) (HOTEL DISTRICT OVERLAY)

5. REFERENCES: D.B. 1939, PG. 480; P.C. E, SL. 134

6. FIELD SURVEY DATES: 06-22-2017.
   (HORIZONTAL GROUND DISTANCES)

7. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAVD 1983 (2012)

8. PROPERTY IS LOCATED IN F.I.R.M. ZONES "AE" (EL. 9')
   PANEL 3730080100J, DATED 09/20/06
   FIRM ZONES SUBJECT TO CHANGE BY F.E.M.A.

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811 Know what's below. Call before you dig.

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ENVIRONMENTAL SCIENCES * SURVEYING
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Phone: (252) 491-8147
Fax: (252) 491-8146
E-Mail: administrator@quible.com

PRELIMINARY NOT FOR CONSTRUCTION

FIRE HYDRANT EXHIBIT
CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL

DARE COUNTY
NAGS HEAD NORTH CAROLINA

GRAPHIC SCALE IN FEET 1"=20
0 20 40

PROJECT	DRAWN BY	CHECKED BY	DATE
P17012.1	CMS	MWS	10/03/19

Appendix C
Stormwater Calculations

OBH Cancer Center

date 12/4/2019
page 1

NCDEQ Stormwater Calculations

Storage Calculations

	DA #1 (FRONT)		DA #2 (REAR)	
	(sq.ft.)	(acre)	(sq.ft.)	(acre)
Drainage Area =	22,266	0.51	41,895	0.96
Open Space =	9,278	0.21	18,259	0.42
Permeable Walks/Parking =	0	0.00	4,514	0.10
Building =	0	0.00	12,105	0.28
Parking =	12,125	0.28	6,431	0.15
Walks =	863	0.02	587	0.01
Offsite Impervious =	0	0.00	0	0.00
Impervious =	12,988	0.30	23,637	0.54
Total Impervious =	12,988	0.30	23,637	0.54

Runoff generated by Rainfall Event (NCDEQ Simplified Method)

Ia = Impervious Percentage = Impervious Area/Drainage Area
Rv= Runoff Coefficient, 0.05+0.9Ia
Rd= Rain fall depth
V= Runoff Volume, 3630*Rd*Rv*A

	1 (1.5")	2 (1.5")	1 (4.3")	2 (4.3")
Ia =	58.3%	56.4%	58.3%	56.4%
Rv=	0.58	0.56	0.58	0.56
Rd (in.)=	1.5	1.5	4.3	4.3
A (ac.) =	0.51	0.96	0.51	0.96
V (cf.)=	**1600**	**2922**	**4588**	**8377**

Total Storage Required by NCDEQ = 4523 cf
Total Storage Required by Nags Head = 12965 cf

Infiltration Basin Stormwater Calculations for NCDEQ

Above Grade Storage Provided In Infiltration Basin

1 (FRONT) - Above Grade Storage				
Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
6.80	2139			
		2235	447	
7.00	2330			447
		4050	4050	
8.00	5770			4497 (Vg)

Above Grade Storage Provided = 4497 cf

1 (FRONT)- Below Grade Storage	
Storage Area (A) =	5770.00 sf
Storage Elev. (E)	8.00 ft
Season High Water Table (Wt) =	5.80 ft
Soil Depth Above SWHT (Ds) = B-Wt	2.20 ft
Soil Volume (Sv) = A*Ds-Vg =	8197 cf
Void Ratio (Vr)=	20%
Subsurface Void Vol. (Vss) = A*Ds*Vr=	1639 cf

Below Grade (Voids) Storage Provided = 1639 cf

Total Storage Provided (above & below) = 6136 cf
Total Storage Rainfall Equivalent Storage = 5.8 in

2 (REAR) - Above Grade Storage				
Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
7.10	399			0
		703	633	
8.00	1007			633
		1391	1391	
9.00	1775			2024

Above Grade Storage Provided = 2024 cf

2 (REAR)- Below Grade Storage	
Storage Area (A) =	1775.00 sf
Storage Elev. (E)	9.00 ft
Season High Water Table (Wt) =	5.80 ft
Soil Depth Above SWHT (Ds) = B-Wt	3.20 ft
Soil Volume (Sv) = A*Ds-Vg =	3656 cf
Void Ratio (Vr)=	20%
Subsurface Void Vol. (Vss) = A*Ds*Vr=	731 cf

Below Grade (Voids) Storage Provided = 731 cf

3 (SIDE) - Above Grade Storage				
Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
7.10	419			0
		541	486	
8.00	662			486
		829	829	
9.00	996			1315

Above Grade Storage Provided = 1315 cf

3 (SIDE)- Below Grade Storage	
Storage Area (A) =	996.00 sf
Storage Elev. (E)	9.00 ft
Season High Water Table (Wt) =	5.80 ft
Soil Depth Above SWHT (Ds) = B-Wt	3.20 ft
Soil Volume (Sv) = A*Ds-Vg =	1872 cf
Void Ratio (Vr)=	20%
Subsurface Void Vol. (Vss) = A*Ds*Vr=	374 cf

Below Grade (Voids) Storage Provided = 374 cf

Outer Banks Hospital - Cancer Center
NCDEQ Stormwater Calculations (Cont.)

4 (REAR) - Above Grade Storage				
Elev	Area (sf)	Avg area (sf)	Volume (cf)	Cum Vol. (cf)
7.00	492			0
		1050	1050	
8.00	1608			1050
		1905	952	
8.50	2201			2002 (Vg)

4 (REAR)- Below Grade Storage	
Storage Area (A) =	2201.00 sf
Storage Elev. (E)	8.50 ft
Season High Water Table (Wt) =	5.80 ft
Soil Depth Above SWHT (Ds) = B-Wt	2.70 ft
Soil Volume (Sv) = A*Ds-Vg =	3940 cf
Void Ratio (Vr)=	20%
Subsurface Void Vol. (Vss) = A*Ds*Vr=	788 cf

Above Grade Storage Provided = 2002 cf

Below Grade (Voids) Storage Provided = 788 cf

Permeable Pavement Storage	
Storage Area (A) =	4513.00 sf
Storage Elev. (E)	9.00 ft
Season High Water Table (Wt) =	5.80 ft
Bedding Thickness (Ds) =	0.66 ft
Soil Volume (Sv) = A*Ds =	2979 cf
Void Ratio (Vr)=	40%
Subsurface Void Vol. (Vss) = A*Ds*Vr=	1191 cf

Bedding (Voids) Storage Provided = 1191 cf

Total Storage Provided (above & below) = 8427 cf
Total Storage Rainfall Equivalent Storage = 4.3 in

Infiltration Basin 1 Drawdown Calculations

Hydraulic Conductivity =	0.52	in/hr	(minimum for permitted basin)		
Max Stored Depth =	14.4	in			
Drawdown Time = Stored Depth / Hydraulic Conductivity					
Drawdown Time =	**27.69**	**hrs**	**or**	**1.15**	**days**

Infiltration Basin 2 Drawdown Calculations

Hydraulic Conductivity =	0.52	in/hr	(minimum for permitted basin)		
Max Stored Depth =	22.8	in			
Drawdown Time = Stored Depth / Hydraulic Conductivity					
Drawdown Time =	**43.85**	**hrs**	**or**	**1.83**	**days**

Infiltration Basin 3 Drawdown Calculations

Hydraulic Conductivity =	0.52	in/hr	(minimum for permitted basin)		
Max Stored Depth =	22.8	in			
Drawdown Time = Stored Depth / Hydraulic Conductivity					
Drawdown Time =	**43.85**	**hrs**	**or**	**1.83**	**days**

Infiltration Basin 4 Drawdown Calculations

Hydraulic Conductivity =	0.52	in/hr	(minimum for permitted basin)		
Max Stored Depth =	18	in			
Drawdown Time = Stored Depth / Hydraulic Conductivity					
Drawdown Time =	**34.62**	**hrs**	**or**	**1.44**	**days**

Appendix D
Wastewater Commitment to Serve

Carolina Water Service
of North Carolina™

24 September 2019

Outer Banks Hospital
4800 S. Croatan Hwy.
Nags Head, NC 27959

Re: New Cancer Treatment Center
Sanitary Sewer Service
4,000 Gallons Per Day

To Whom It Many Concern:

Carolina Water Service, Inc. of North Carolina (CWSNC) is a franchised and regulated public utility company in the State of North Carolina that provides sanitary sewer utility service to the Village of Nags Head.

CWSNC is willing and able to provide sanitary sewer utility service to the above referenced property; any and all fees apply.

Our Customer Service Department can be reached at 1-800-525-7990 to make arrangements for service and account setup. If I can be of any assistance, please contact me directly at 252-269-2540 or dana.hill@carolinawaterservicenc.com.

Respectfully,

Dana Hill
Director of Operations

Cc: Bryce Mendenhall
Anthony Chilton
Matthew Palmiter
Donna Stegall

Carolina Water Service
of North Carolina™

The Outer Banks Hospital, Inc.

4800 S. Croatan Hwy

Nags Head, NC 27959

Re: New Radiation Therapy Building

4927 S. Croatan Hwy.

Sanitary Sewer Utility Service

1,750 Gallons Per Day

To Whom it may concern,

Carolina Water Service, Inc. of North Carolina ("CWS") provides sanitary sewer utility service to the Village of Nags Head. CWS is a franchised and regulated public utility company in the state of North Carolina.

CWS is willing and able to provide sanitary sewer utility service to the above referenced property (any and all applicable fees apply).

Our Customer Service Department may be reached at 1-800-525-7990 to make arrangements for service and account set up. If I may be of assistance, please do not hesitate to contact me directly at 252-240-1398 or by email at DWLassiter@uiwater.com. Thank you.

Sincerely,

Danny Lassiter

Danny Lassiter

Regional Manager

Cc: Bryce Mendenhall, Ronnie Stanis, Vanessa Robinson, Eddie Baldwin

Geotechnical Engineering Report

OBH Radiation Treatment Center

South Croatan Highway

Nags Head, North Carolina

September 6, 2017

Project No. 72175062

Prepared for:
Vidant Health
Greenville, North Carolina

Prepared by:
Terracon Consultants, Inc.
Winterville, North Carolina

September 6, 2017

Vidant Health
Facilities + Properties
PO Box 6028
Greenville, North Carolina 27835-6028

Attn: Mr. J. Todd Skinner
Project Director

Re: Geotechnical Engineering Report
OBH Radiation Treatment Center
South Croatan Highway
Nags Head, North Carolina
Terracon Project No. 72175062

Dear Mr. Skinner:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the above referenced project. This study was performed in general accordance with our proposal P72175062 dated July 21, 2017.

This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, and pavements for the proposed treatment facility.

We appreciate the opportunity to be of service to you on this project. Materials testing services are provided by Terracon. We would be pleased to discuss these services with you. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,

Terracon Consultants, Inc.

Andrew J. Gliniak, P.E.
Geotechnical Project Engineer
Registered NC 042183

For: Philip C. Lambe, P.E.
Senior Geotechnical Engineer

Enclosures

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The following items represent a brief summary of the findings of our subsurface exploration and recommendations for the proposed treatment facility to be located on South Croatan Highway in Nags Head, North Carolina. A total of 5 borings were advanced to depths of 20 and 40 feet below the existing ground.

- The borings generally encountered loose to medium dense sands underlain by consistently denser sands at depths greater than 13 to 18 feet. Groundwater ranged from 3 to 5 feet below the existing ground surface.

- The majority of the building can be supported by shallow foundations with the exception of the linear accelerator. Deep foundations such as driven timber or concrete piles installed to a depth of about 30 feet below the existing ground surface into the medium dense sands are recommended to support the large wall loads for the linear accelerator

- After site stripping, the exposed subgrade soils in the building footprint and pavement areas should be densified in place using a medium weight vibratory roller.

- After completing the recommended earthwork, shallow foundations bearing on approved native soils or new engineered fill compacted as recommended and sized for a maximum net allowable soil bearing pressure of 2,000 psf.

- An IBC seismic site classification of “D” is appropriate for this site.

- It is the opinion of Terracon that field monitoring of the pile installation is a direct extension of the design process. Driven pile installation techniques must be observed, weighed against the pile driving criteria and evaluated to determine the acceptance of each pile.

- We recommend Terracon be retained to observe and test the foundation bearing materials as well as other construction materials at the site.

This summary should be used in conjunction with the entire report for design purposes. Details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **GENERAL COMMENTS** should be read for an understanding of report limitations.

GEOTECHNICAL ENGINEERING REPORT
OBH RADIATION TREATMENT CENTER
SOUTH CROATAN HIGHWAY
NAGS HEAD, NORTH CAROLINA

Terracon Project No. 72175062
September 6, 2017

1.0 INTRODUCTION

We have completed the geotechnical engineering report for the proposed treatment facility to be located on South Croatan Highway in Nags Head, North Carolina. A total of 5 borings were advanced to depths of 20 and 40 feet below the existing ground. Logs of the borings along with site location and boring location plans are included in Appendix A of this report.

The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface Soil Conditions
- Groundwater Conditions
- Earthwork
- Floor slab design and construction
- Foundation recommendations
- Seismic considerations

2.0 PROJECT INFORMATION

2.1 Project Description

ITEM	DESCRIPTION
Site Location	See Appendix A, Exhibit A-1, Site Location Plan
Site layout	See Appendix A, Exhibit A-2, Boring Location Plan
Structure	The proposed single-story radiation treatment facility will have an approximate footprint of 4,000 square feet. The project includes modifications to an existing parking lot located on the side and in front of the facility.
Building Construction	Wood framed with a concrete slab on grade on shallow foundations. Isolated interior steel columns may be required. The project includes a linear acceleration room with 3.5-foot-thick concrete walls.

ITEM	DESCRIPTION
Maximum loads	Columns: 30 kips (assumed) Walls: 16 kips/linear foot (per the structural engineer of the linear accelerator) Floor Slab: 100 psf (assumed)
Finished Floor Elevation	Unknown, no grading plan was provided.
Grading	Not provided, up to two feet of fill required (assumed).

2.2 Site Location and Description

ITEM	DESCRIPTION
Location	The proposed cancer treatment facility will be located on the South Croatan Highway in Nags Head, North Carolina.
Site Coordinates	Latitude: 35.9390° Longitude: -75.6151°
Existing improvements	Undeveloped in the footprint of the proposed building. A building and parking lot adjoin the proposed facility to the northwest.
Current ground cover	Grass.
Existing topography	Relatively level.

3.0 SUBSURFACE CONDITIONS

3.1 Site Geology

The subject site is located in the Coastal Plain Physiographic Province. The Coastal Plain soils consist mainly of marine sediments that were deposited during successive periods of fluctuating sea level and moving shoreline. The soils include sands, silts, and clays with irregular deposits of shells, which are typical of those lain down in a shallow sloping sea bottom. Recent alluvial sands, silts, and clays are typically present near rivers and creeks.

According to USGS Mineral Resources On-Line Spatial Data based on the 1998 digital equivalent of the 1985 Geologic Map of North Carolina updated in 1998, the site is mapped within the Surficial Deposits, Undivided (Quaternary).

3.2 Typical Profile

Based on the results of the borings, subsurface conditions on the project site can be generalized as shown on the following table:

Description	Approximate Depth to Bottom of Stratum (feet)	Material Encountered	Consistency/Density
Stratum 1	13 to 18	Poorly Graded Sand (SP)	Loose to Medium Dense
Stratum 2	Boring Terminated – 40	Poorly Graded Sand (SP), Silty Sand (SM)	Medium Dense

Laboratory tests for moisture content, Atterberg limits, and grain size were conducted on selected soil samples. The test results are presented in the Appendix B of this report and in the boring logs. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual. For a comprehensive description of the conditions encountered in the borings, refer to the boring logs in Appendix A of this report.

3.3 Groundwater

Mud rotary drilling techniques which can obscure water levels were used to advance the borings. Groundwater during drilling were recorded at a depth of 3 feet and at depths of 4 to 5 feet after 24 hours. Groundwater at the site is anticipated to range in depths from 4 to 5 feet below the existing ground surface.

The groundwater level can change due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 Geotechnical Considerations

The borings generally encountered loose to medium dense sands underlain by consistently denser sands at depths greater than 13 to 18 feet below the ground surface. The majority of the building can be supported by shallow foundations with the exception of the linear accelerator. Deep foundations such as driven timber or concrete piles installed to a depth of about 30 feet below the existing ground surface into the medium dense sands are recommended to support the large wall loads for the linear accelerator.

After site stripping, the subgrade should be densified in place using a medium weight vibratory roller. The purpose of the vibratory rolling is to densify the loose, near surface soils and potentially improve floor slab and foundation support.

Following the recommended site preparation, shallow foundations bearing on approved native soils or new engineered fill compacted as recommended and sized for a maximum net allowable soil bearing pressure of 2,000 psf.

A more complete discussion of these points and additional information is included in the following sections.

4.2 Earthwork

Site preparation should begin with the complete removal of surface vegetation and topsoil within the footprints of the proposed building and pavement areas. A Terracon representative should field verify the stripping depth during construction. Topsoil may be reused in areas of the site to be landscaped but should not be used as structural fill or backfill.

Deeper utility excavations or overexcavation will likely encounter groundwater. The water should be pumped out with well points. Pumping water, as required, should continue until excavations are completely backfilled.

After site stripping, the exposed subgrade soils in the building and pavement footprints should be densified in place using a vibratory roller. The purpose of the vibratory rolling is to densify the exposed subgrade soils for floor slab and pavement support and to potentially improve the foundation bearing soils. The roller should make at least 6 passes across the site, with the second set of 3 passes perpendicular to the first set of 3 passes. If water is brought to the surface by the vibratory rolling, the operation should be discontinued until the water subsides. Vibratory rolling should be completed during dry weather.

After the vibratory rolling, pore pressures should be allowed to dissipate for a minimum of 16 hours prior to placing fill. After the waiting period, proofrolling should be performed on the exposed subgrade soils in areas to receive fill or at the subgrade elevation with fully loaded, tandem-axle dump truck or similar rubber-tired construction equipment. Proofrolling is recommended as a means of detecting areas of soft or unstable subgrade soils. The proofrolling should be performed during a period of dry weather to avoid degrading an otherwise suitable subgrade. The proofrolling operations should be observed by a representative of the geotechnical engineer. Subgrade soils that exhibit excessive rutting or deflection during proofrolling should be repaired as directed by the field representative. Typical repairs include overexcavation followed by replacement with either properly compacted fill or by a subgrade stabilization fabric in conjunction with a sand fill or crushed stone.

Engineered fill should meet the following material property requirements:

Fill Type [1]	USCS Classification	Acceptable Location for Placement
Imported Soil	Sand: SM, SC, SP	All locations and elevations.
On-site Soils [2]	Sand: SP	All locations and elevations.

1. Controlled, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the geotechnical engineer for evaluation.
2. On site soils that meet the above soil classifications are generally suitable for fill if properly moisture conditioned.

4.2.1 Compaction Requirements

We recommend that the engineered fill be placed as recommended in the following table:

ITEM	DESCRIPTION
Fill Lift Thickness	9-inches or less in loose thickness (4" to 6" lifts when hand-operated equipment is used).
Compaction Requirements [1]	Compact to a minimum of 95% of the material's standard Proctor maximum dry density (ASTM D 698). [2]
Moisture Content – Structural Fill	Within the range of -2% to +2% of optimum moisture content as determined by the standard Proctor test at the time of placement and compaction.

1. Engineered fill should be tested for moisture content and compaction during placement. If in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the tests should be reworked and retested as required until the specified moisture and compaction requirements are achieved.
2. It is not necessary to achieve 95% compaction on the existing ground prior to placing fill or beginning construction. However, the subgrade should be evaluated by a representative of the geotechnical engineer prior to placing fill or beginning construction.

4.2.2 Grading and Drainage

During construction, grades should be sloped to promote runoff away from the construction area. Final surrounding grades should be sloped away from the structure on all sides to prevent ponding of water. If gutters / downspouts for the proposed building do not discharge directly onto pavement, they should not discharge directly adjacent to the building. This can be accomplished through the use of splash-blocks, downspout extensions, and flexible pipes that are designed to attach to the end of the downspout. Flexible pipe should only be used if it is daylighted in such a manner that it gravity-drains collected water. Splash-blocks should also be considered below hose bibs and water spigots.

4.2.3 Construction Considerations

Performing earthwork operations during warmer periods of the year (May through October) will reduce the potential for problems associated with wet unstable subgrades. Site drying conditions are typically enhanced when it is warm. The moisture sensitivity of the on-site soils does not preclude performing earthwork at other times of the year, but does lead to an increased potential for having to perform some other form of remedial work.

The site should be graded to prevent ponding of surface water on the prepared subgrades or in excavations. If the subgrade should become frozen, desiccated, saturated, or disturbed, the affected material should be removed or these materials should be scarified, moisture conditioned, and recompacted.

As a minimum, all temporary excavations should be sloped or braced as required by Occupational Safety and Health Administration (OSHA) regulations to provide stability and safe working conditions. Temporary excavations will most likely be required during grading operations. The grading contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations as required, to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state and federal safety regulations, including the current OSHA Excavation and Trench Safety Standards.

The geotechnical engineer should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during subgrade preparation; vibratory rolling, proofrolling; placement and compaction of controlled compacted fills; and backfilling of excavations.

4.3 Shallow Foundation Recommendations

The column and wall foundations of the building can be designed on shallow foundations following recommend site grading. The foundations of the room for the linear accelerator should bear on driven piles.

4.3.1 Shallow Foundations

The shallow foundations can consist of either isolated column and wall footings or thickened portions of a monolithic slab. Foundations should be independent of the recommended deep foundation system for the linear accelerator. Design recommendations are presented in the following table and paragraphs.

DESCRIPTION	VALUE
Maximum Net allowable bearing pressure [1]	2,000 psf
The required embedment below lowest adjacent finished grade for frost protection and protective embedment [2]	12 inches
Minimum width for continuous wall footings	12 inches for thickened slab 16 inches for isolated strip footings
Minimum width for isolated column footings	24 inches
Approximate total settlement [3]	Up to 1 inch
Estimated differential settlement [3]	Up to 1/2 inch between columns and along 40 feet of wall
Ultimate coefficient of sliding friction [4]	0.35

1. The recommended net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. The maximum net allowable bearing pressure may be increased by 1/3 for temporary wind loads.
2. For frost protection and to reduce effects of seasonal moisture variations in subgrade soils. For perimeter footings and footings beneath unheated areas.
3. The actual magnitude of settlement that will occur beneath the foundations will depend upon the variations within the subsurface soil profile, the structural loading conditions and the quality of the foundation excavation. The estimated total and differential settlements listed assume that the foundation-related earthwork and the foundation design are completed in accordance with our recommendations.
4. For uplift resistance, use the weight of the foundation concrete plus the weight of the soil over the plan area of the footings. 110 pounds per cubic foot should be used for the density of the soil.

4.3.2 Construction Considerations

The foundation bearing materials should be evaluated at the time of the foundation excavation. This is an essential part of the construction process. A representative of the geotechnical engineer should use a combination of hand auger borings and dynamic cone penetrometer (DCP) testing to determine the suitability of the bearing materials for the design bearing pressure. DCP testing should be performed to a depth of 3 to 5 feet below the bottom of footing excavation. Excessively soft, loose or wet bearing soils should be overexcavated to a depth recommended by the geotechnical engineer. The excavated soils should be replaced with compacted engineered fill or washed, crushed stone (NCDOT No. 57) wrapped in a geotextile fabric (Mirafi 140 N or equivalent). However, footings could bear directly on these soils at the lower level if approved by the geotechnical engineer.

The base of all foundation excavations should be free of water and loose soil prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Should the soils at bearing level become excessively disturbed or saturated, the affected soil should be removed prior to placing concrete.

4.4 Driven Pile Recommendations

We recommend that the linear accelerator be supported on a deep foundation system using driven timber or pre-cast concrete piles. The piles should be installed to an embedment depth of 25 to 30 feet below the existing ground surface into the medium dense sands.

Static pile analyses were used to estimate axial compressive and uplift load capacities of single vertical piles based on a factor of safety of 2 for compression and 2.5 for uplift. The compressive capacity is developed from skin friction and end bearing on the dense/hard layer. The design capacities for the piles are shown on the following table.

Description	Design Axial Capacity	
	Compressive (tons)	Uplift (tons)
Timber Pile with 8 inch minimum tip diameter	30	14
Square, 12-Inch Pre-Cast Concrete Piles	60	20

A lateral load capacity was estimated using a computer generated L-Pile analysis. We have assumed a free-head boundary condition (pile top free to rotate) for a lateral load applied to the top of the pile at the ground surface and a maximum allowable lateral deflection of 1/2-inch. A higher design lateral capacity can be achieved if the pile is allowed to have a higher deflection or if the pile to cap connection is designed to create a “fixed head” condition in which the top of the pile can translate but is not allowed to rotate. Typically, the true condition is between these two design assumptions. For piles acting as a group, the lateral capacity of an individual trailing pile should be reduced 50% to consider group effects. Based on the above assumptions, we recommend design lateral capacities as shown on the following table:

Description	Design Lateral Capacity	
	Fixed Head (kips)	Free Head (kips)
Timber Pile with 8 inch minimum tip diameter	13	5
Square, 12-Inch Pre-Cast Concrete Piles	24	9

The piles should be spaced on-center no closer than the three times the pile butt diameter; a center-to-center spacing of approximately 3 feet. The minimum spacing should be maintained to prevent the pile group compression load capacity from being significantly less than the summation of individual pile capacities. This spacing restriction also serves to limit surface heave and to reduce the possibility of damaging previously installed piles.

Timber piles should be Southern Yellow Pine and CCA pressure treated in accordance with the requirements of AWPA C3.

4.4.1 Construction Considerations

In our opinion, that field monitoring of the pile installation is a direct extension of the design process. Pile installation techniques must be observed, weighed against the pile installation criteria and driving resistance recorded and evaluated to determine the acceptance of each pile.

A series of indicator piles should be installed at the site prior to ordering production piles. We recommend at least three indicator piles be installed around the linear accelerator footprint. The results of the indicator pile installation can be used to evaluate installation methods, driving resistance, develop appropriate termination criteria, and determine pile length. The indicator piles should be installed at design pile locations and are expected to be part of the final pile layout. We recommend that 35 foot long indicator piles be used. Production piles should not be ordered until their length has been determined by the results of driving the indicator piles. Installation of the indicator piles should be observed by a qualified geotechnical engineer or technician.

The timber piles should be driven with a hammer with a minimum energy rating of 15,000 foot-pounds. The timber piles could be damaged driving deeper into the very dense sands encountered in the borings. Timber pile installation should be closely monitored and discontinued after reaching this layer to help prevent damage to the piles. Concrete piles should be driven with a hammer with a minimum energy rating of 22,000 foot-pounds.

For timber piles, we recommend dynamic driving criteria required for the recommended design capacity be developed once the rated energy of the hammer is known. The driving resistance may be determined by either the Engineering News Record Formula or by a wave equation driving analysis performed by the geotechnical engineer.

For concrete piles, we recommend using a pile drive analyzer (PDA) and case pile wave analysis program (CPWAP) analysis for a dynamic strain analysis to determine the pile capacity. .

Driving should be terminated immediately if refusal (i.e., 4 blows per inch for timber) is reached to reduce damaging the piles. In the event the driving criteria are not being reached during the installation of an individual pile, we recommend the pile be left 2 to 3 feet high to allow a “re-strike” 48 hours after the initial driving may be performed. The development of the pile skin friction may be delayed by the build-up of pore water pressures in the soil during driving.

The installation of a pile foundation system should be in accordance with the local and state building code requirements. In addition, pile installation should be monitored by the Geotechnical Engineer’s representative. In general, the representative should:

1. Prepare criteria for final driving.
2. Be present continuously during installation.
3. Record the dimensions of each pile, locate, and report obvious defects.
4. Count and record the blows for each foot of driving, and for the final 6 inches.
5. Record energy rating of hammer.

6. Have knowledge of soil conditions at the site and the minimum required penetration of each pile.
7. Be cognizant of intended support mechanisms of piles on which to base acceptance or rejection, the need to pre-drill, or evaluating the presence of obstructions.
8. Have authority to suspend driving when unanticipated difficulties or conditions are encountered.

4.5 Seismic Considerations

Code Used	Seismic Parameters
2009 International Building Code (IBC) referenced in the 2012 North Carolina State Building Code	Seismic Site Class D Ss = 0.095 S_1 = 0.045 S_{ms} = 0.151 S_{m1} = 0.107 S_{DS} = 0.101 S_{D1} = 0.071

Based on our experience with the geology of the area, it is our opinion that the subsurface characteristics reflect those of Site Class D as described in the 2012 North Carolina State Building Code. Based on the results of the borings, liquefaction is not expected based on the relatively low level of ground motions associated with the design earthquake.

5.0 GENERAL COMMENTS

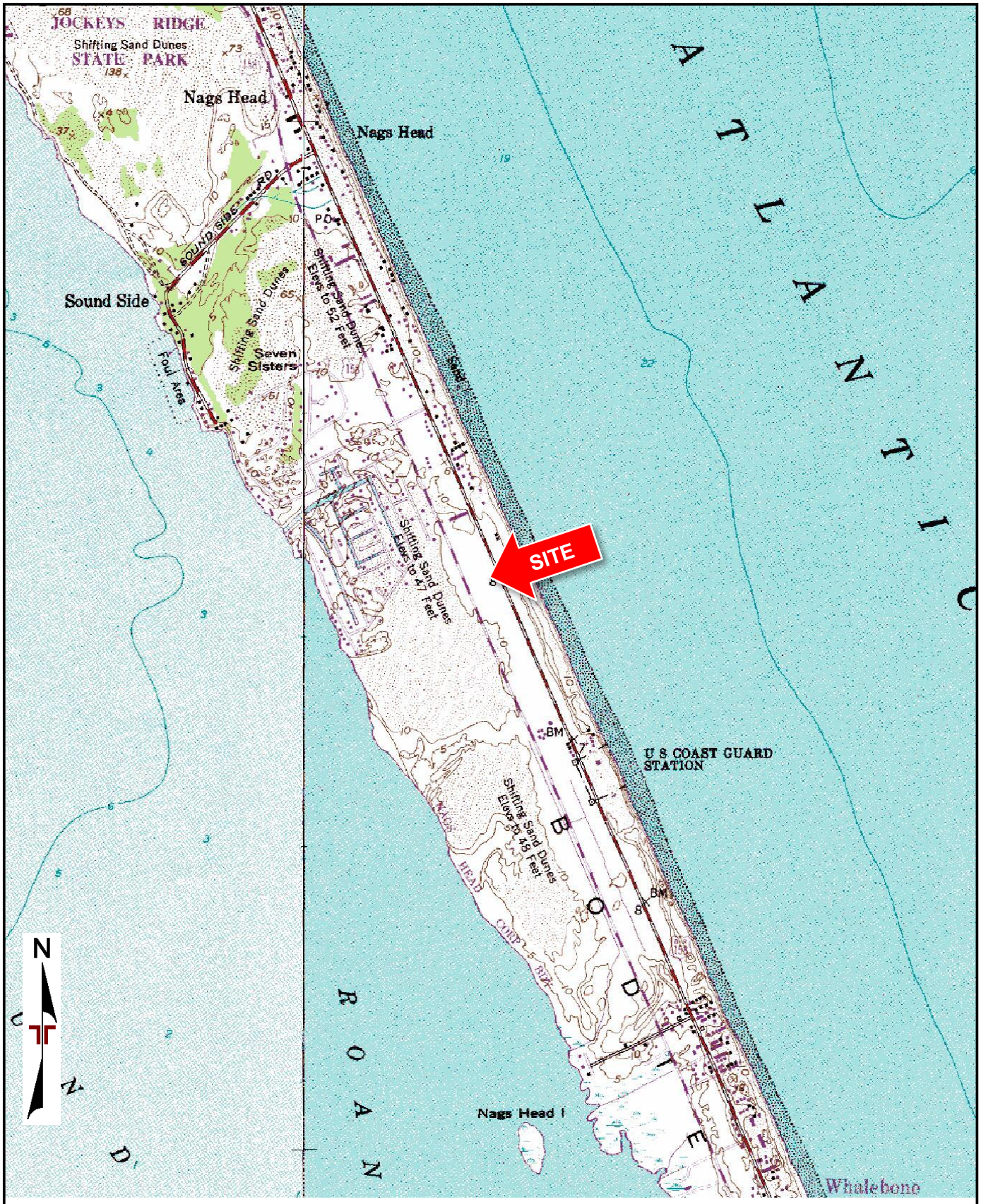
Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A
FIELD EXPLORATION



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: MANTEO, NC (1/1/1983) and ROANOKE ISLAND NE, NC (1/1/1983).

Project Manager: AJG	Project No. 72175062	Terracon 314 Beacon Dr Winterville, NC 28590-7956	SITE LOCATION PLAN	Exhibit
Drawn by: AJG	Scale: 1"=2,000'		OBH Radiation Treatment Center S Croatan Hwy Nags Head, NC	A-1
Checked by: PCL	File Name: 72175062 EXA			
Approved by: AJG	Date: 9/1/17			

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

Project Manager: AJG	Project No. 72175062	Terracon 314 Beacon Dr Winterville, NC 28590-7956	BORING LOCATION PLAN	Exhibit
Drawn by: AJG	Scale: AS SHOWN		OBH Radiation Treatment Center S Croatan Hwy Nags Head, NC	A-2
Checked by: PCL	File Name: 72175062 EXA			
Approved by: AJG	Date: 9/1/17			

Field Exploration Description

Coordinates of the borings were determined by plotting the points provided on the site plan and referencing existing site features on aerial photography. The boring locations were marked in the field by Terracon using a handheld GPS. The location of the borings should be considered accurate only to the degree implied by the means and methods used to define it.

The soil test borings were performed by a trailer mounted power drilling rig utilizing mud rotary drilling procedures to advance the boreholes. Representative soil samples were obtained at intervals of 2.5 feet above a depth of 10 feet and at 5 foot intervals below 10 feet using split-barrel sampling procedures. In the split barrel sampling procedure, the number of blows required to advance a standard 2 inch O.D. split barrel sampler the 12 inches after the first 6 inches by means of a 140 pound automatic hammer with a free fall of 30 inches, is the standard penetration resistance value (SPT-N). This value is used to estimate the in-situ relative density of cohesionless soils and consistency of cohesive soils.

An automatic SPT hammer was used to advance the split-barrel sampler in the borings performed on this site. A greater efficiency is typically achieved with the automatic hammer compared to the conventional safety hammer operated with a cathead and rope. Published correlations between the SPT values and soil properties are based on the lower efficiency cathead and rope method. This higher efficiency affects the standard penetration resistance blow count (N) value by increasing the penetration per hammer blow over what would be obtained using the cathead and rope method. The effect of the automatic hammer's efficiency has been considered in the interpretation and analysis of the subsurface information for this report.

The samples were tagged for identification, sealed to reduce moisture loss, and taken to our laboratory for further examination, testing, and classification. Information provided on the boring logs attached to this report includes soil descriptions, consistency evaluations, boring depths, sampling intervals, and groundwater conditions.

A field log of each boring was prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller’s interpretation of the subsurface conditions between samples. Final boring logs included with this report represent the engineer's interpretation of the field logs and include modifications based on laboratory observation and tests of the samples. Additional information provided on the boring logs attached to this report includes soil descriptions, consistency evaluations, boring depths, sampling intervals, and groundwater conditions.

BORING LOG NO. B-1

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939153° Longitude: -75.615057°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), tannish brown, tannish gray and dark gray, loose to medium dense								
			▽		3-3-3 N=6	1			
		5			3-4-4 N=8	2			
					3-4-5 N=9	3			
		10			5-5-6 N=11	4			
		15			3-4-4 N=8	5			
					6-7-8 N=15	6			
	20.0 Boring Terminated at 20 Feet	20							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 Boring Completed: 08-25-2017

Drill Rig: Trailer Driller: Carolina Drilling, Inc.

Project No.: 72175062 Exhibit: A-4

BORING LOG NO. B-2

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939055° Longitude: -75.614986°

DEPTH

GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
POORLY GRADED SAND (SP), tannish brown, light tan, tannish gray and dark gray, loose to medium dense								
		▽	X	1-2-2 N=4	1	4		
	5		X	3-4-5 N=9	2	23		
			X	3-2-4 N=6	3	26		
	10		X	4-5-7 N=12	4	26		
	15		X	3-4-5 N=9	5	23	NP	1
	20		X	4-6-9 N=15	6	23		

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 | Boring Completed: 08-25-2017

Drill Rig: Trailer | Driller: Carolina Drilling, Inc.

Project No.: 72175062 | Exhibit: A-5

BORING LOG NO. B-2

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939055° Longitude: -75.614986°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), tannish brown, light tan, tannish gray and dark gray, loose to medium dense *(continued)*								
		25		X	6-7-6 N=13	7	26		
	28.0								
	SILTY SAND (SM), trace mica, dark gray, medium dense	30		X	10-11-9 N=20	8	28		
		35		X	7-9-10 N=19	9	26		
	40.0	40		X	8-11-13 N=24	10	26		
	Boring Terminated at 40 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 | Boring Completed: 08-25-2017

Drill Rig: Trailer | Driller: Carolina Drilling, Inc.

Project No.: 72175062 | Exhibit: A-5

BORING LOG NO. B-3

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939077° Longitude: -75.615147°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), tannish brown, tannish gray, dark gray and dark brown, loose to medium dense								
				X	2-2-2 N=4	1			
		5	▽	X	4-4-4 N=8	2			
				X	3-3-4 N=7	3	24	NP	1
		10		X	3-4-4 N=8	4			
		15		X	5-6-7 N=13	5			
		20		X	6-7-7 N=14	6			
	20.0 ***Boring Terminated at 20 Feet***								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *After 24 hours*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 | Boring Completed: 08-25-2017

Drill Rig: Trailer | Driller: Carolina Drilling, Inc.

Project No.: 72175062 | Exhibit: A-6

BORING LOG NO. B-4

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939096° Longitude: -75.615277°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), gray to dark gray and tannish brown, loose to medium dense								
				X	3-3-3 N=6	1			
			▽	X	3-2-2 N=4	2			
		5		X	2-3-2 N=5	3			
				X	2-4-5 N=9	4			
		10							
				X	6-6-8 N=14	5			
		15							
				X	4-5-8 N=13	6			
	20.0	20							
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *After 24 hours*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 Boring Completed: 08-25-2017

Drill Rig: Trailer Driller: Carolina Drilling, Inc.

Project No.: 72175062 Exhibit: A-7

BORING LOG NO. B-5

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.938999° Longitude: -75.615219°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), gray brown to dark gray and tannish brown, loose to medium dense								
			▽	X	3-3-4 N=7	1			
		5		X	2-2-2 N=4	2			
				X	2-3-3 N=6	3			
		10		X	4-4-5 N=9	4			
		15		X	6-6-6 N=12	5			
				X	5-6-6 N=12	6			
	20.0	20							
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 Boring Completed: 08-25-2017

Drill Rig: Trailer Driller: Carolina Drilling, Inc.

Project No.: 72175062 Exhibit: A-8

APPENDIX B
LABORATORY TESTING

Laboratory Test Description

Descriptive classifications of the soils indicated on the boring logs are in accordance with the enclosed General Notes and the Unified Soil Classification System. Also shown are estimated Unified Soil Classification Symbols. A brief description of this classification system is attached to this report. Soils laboratory testing was performed under the direction of a geotechnical engineer and included visual classification, moisture content, grain size analysis, and Atterberg limits testing as appropriate. The results of the laboratory testing are shown on the borings logs and in Appendix B.

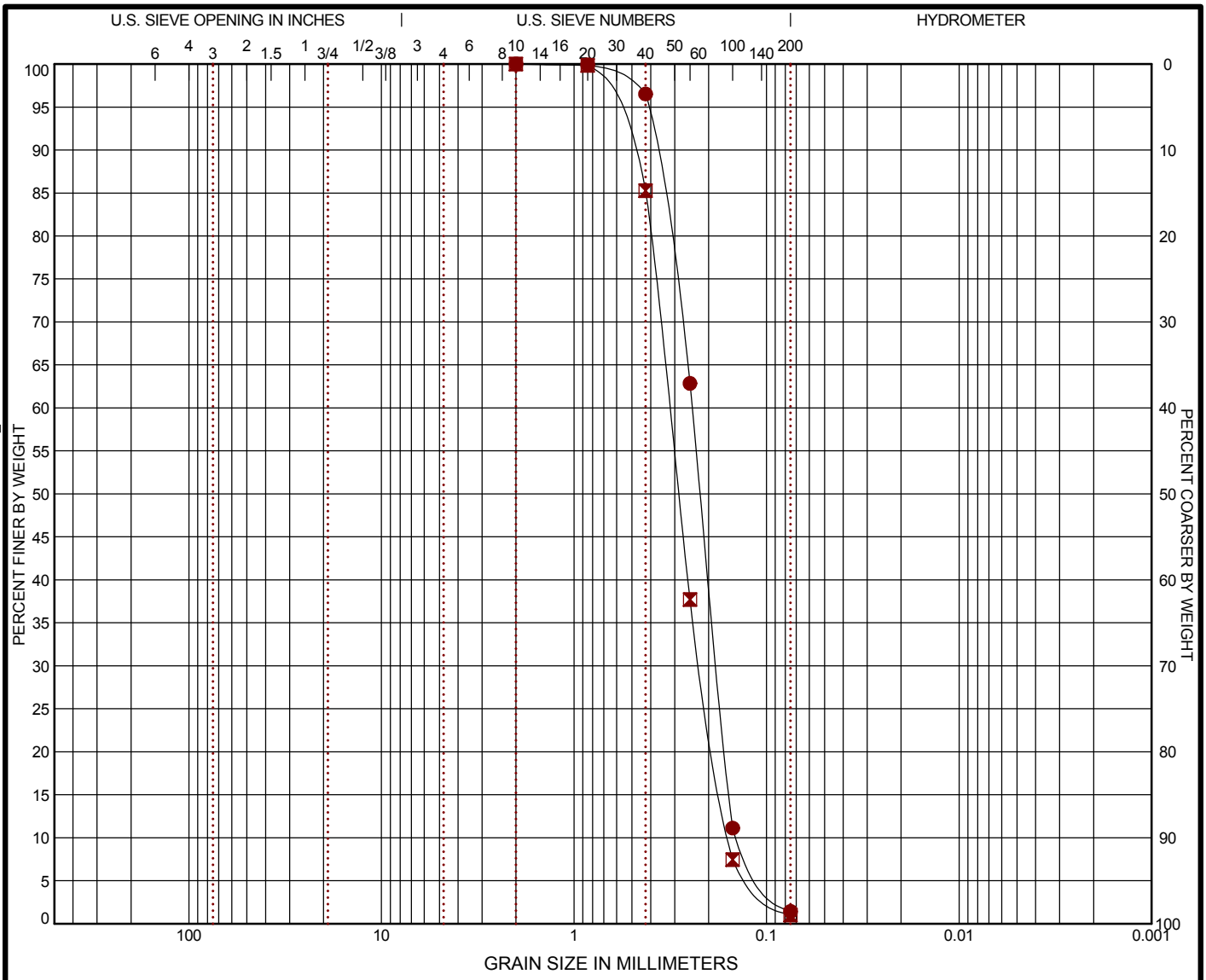
The laboratory test methods are described in the ASTM Standards listed below:

ASTM D2216 Standard Test Method of Determination of Water Content of Soil and Rock by Mass
ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D2488 Standard Practice of Description and Identification of Soils (Visual Manual Method)
ASTM D422 Standard Test Method for Particle-Size Analysis of Soils
ASTM D1140 Standard Test Methods for Determining the Amount of Material Finer than No. 200 Sieve in Soils by Washing
ASTM D4318 Standard Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils

Procedural standards noted above are for reference to methodology in general. In some cases variations to methods are applied as a result of local practice or professional judgment.

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BORING ID	DEPTH	% COBBLES	% GRAVEL	% SAND	% SILT	% FINES	% CLAY	USCS
●	**B-2**	**13.5 - 15**	**0.0**	**0.0**	**98.6**		**1.4**		**SP**
⊠	**B-3**	**6 - 7.5**	**0.0**	**0.0**	**99.0**		**1.0**		**SP**

	GRAIN SIZE	
	●	⊠
D_{60}	**0.243**	**0.321**
D_{30}	**0.181**	**0.219**
D_{10}	**0.138**	**0.157**
	COEFFICIENTS	
C_C	**0.97**	**0.96**
C_U	**1.76**	**2.05**

●		⊠			
Sieve	% Finer	Sieve	% Finer	Sieve	% Finer
#10	100.0	#10	100.0		
#20	99.92	#20	99.85		
#40	96.52	#40	85.27		
#60	62.85	#60	37.7		
#100	11.13	#100	7.47		
#200	1.43	#200	1.02		

SOIL DESCRIPTION

● POORLY GRADED SAND (SP)

⊠ POORLY GRADED SAND (SP)

REMARKS

●

⊠

PROJECT: OBH Radiation Treatment Center

SITE: S Croatan Hwy
Nags Head, NC

Terracon
314 Beacon Dr
Winterville, NC

PROJECT NUMBER: 72175062

CLIENT: Vidant Health
Greenville, NC

EXHIBIT: B-2

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS 1 72175062 OBH RADIATION TREATMENT CENTER; NAGS HEAD, NC.GPJ TERRACON_DATATEMPLATE.GDT 9/5/17

APPENDIX C

SUPPORTING DOCUMENTS

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING


Auger


Split Spoon


Shelby Tube


Macro Core


Ring Sampler


Rock Core


Grab Sample


No Recovery

WATER LEVEL


Water Initially Encountered


Water Level After a Specified Period of Time


Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, psf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 500	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	500 to 1,000	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	4,000 to 8,000	15 - 30	19 - 42
			Hard	> 8,000	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel [F,G,H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G,H,I]
			Fines classify as CL or CH		SC	Clayey sand [G,H,I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A" line [J]		CL	Lean clay [K,L,M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K,L,M,N]
			Liquid limit - not dried			Organic silt [K,L,M,O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K,L,M]
			PI plots below "A" line		MH	Elastic Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K,L,M,P]
			Liquid limit - not dried			Organic silt [K,L,M,Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

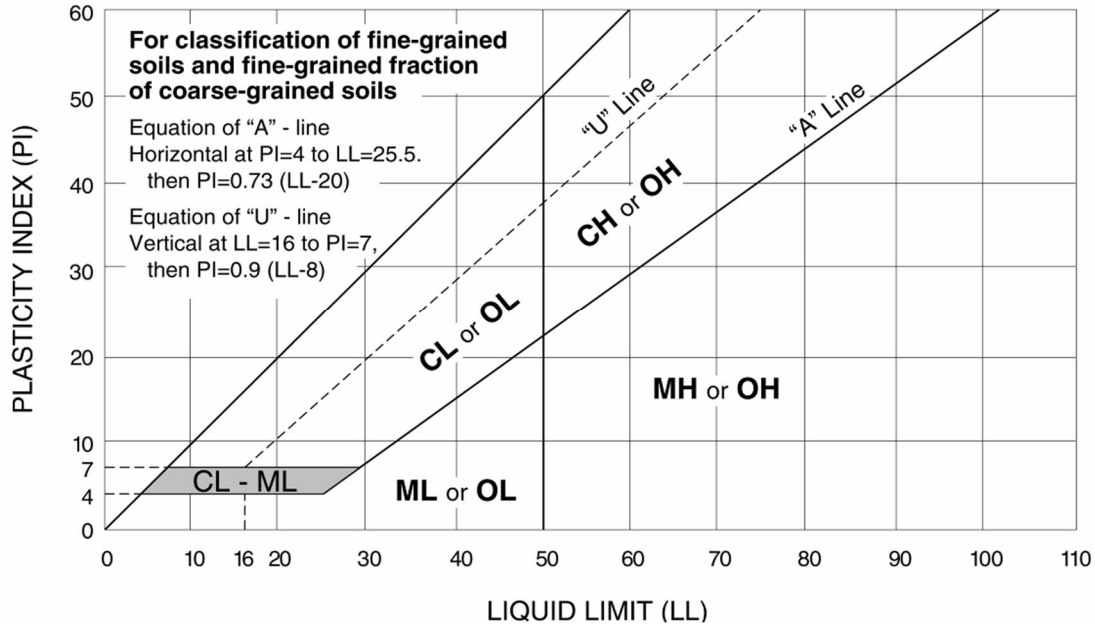
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



Terracon

Exhibit C-2

SHEET INDEX

NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
PO BOX 129
NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
C/O TIM McDONNELL
P.O. BOX 6028
GREENVILLE, NC 27835

2. PROPERTY IDENTIFICATION: 4928, 4926 & 4922 S. PASSAGE WAY
4927 & 4923 SOUTH CROATAN HIGHWAY
PIN#: 0801-1313-8895; 0801-1313-8960; 0801-1313-8936
0801-13-13-7759; 0801-1313-7809
PID#: 028839113; 028839114; 028839115
027839062; 027839063;

3. PARCEL AREA: 63,021 sq.ft. / 1.45 acres
(AREAS BY COORDINATE METHOD)

4. ZONING CLASSIFICATION: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) (HOTEL DISTRICT OVERLAY)

5. PROPOSED REZONING FOR 4928, 4926 & 4922 S. PASSAGE WAY:SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) FROM SF2 (SINGLE FAMILY) ZONING

6. REFERENCES: D.B. 1939, PG. 480; P.C. E, SL. 134

7. FIELD SURVEY BY QUIBLE & ASSOCIATE, P.C. DATES: 06-22-2017, 09-10-2019, & 10-21-2019.
(HORIZONTAL GROUND DISTANCES)

8. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAVD 1983 (2012)

9. PROPERTY IS LOCATED IN F.I.R.M. ZONES "AE" (EL. 9')
PANEL 3730008100J, DATED 09/20/06
FIRM ZONES SUBJECT TO CHANGE BY F.E.M.A.

10. SETBACKS SHOWN ARE PER TOWN OF NAGS HEAD AND DO NOT REFLECT ANY RESTRICTIVE COVENANTS THAT MAY EXIST.

11. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A ±10,400 SQ.FT. ADDITION TO THE EXISTING CANCER CENTER WITH ASSOCIATED PARKING AND APPURTENANCES.

12. WASTEWATER: 22 EMPLOYEES @ 250 GPD/EMPLOYEE = 5,500 GPD (WASTEWATER IS PROPOSED TO BE CONVEYED TO CWS WWTP)

13. WATER SUPPLY PER TOWN OF NAGS HEAD. WATER CONNECTION MUST BE MADE IN ACCORDANCE WITH TOWN OF NAGS HEAD SPECIFICATIONS AND SHALL BE PERFORMED BY A LICENSED WATER UTILITY CONTRACTOR. NOTIFY TOWN PRIOR TO INSTALLATION.

14. ALL UTILITIES TO BE PLACED UNDERGROUND UNLESS OTHERWISE NOTED

15. LANDSCAPING AND BUFFERYARDS TO BE IN ACCORDANCE WITH ARTICLE 10 OF THE TOWN OF NAGS HEAD UNIFORM DEVELOPMENT ORDINANCES.

16. SITE WILL BE LIGHTED IN ACCORDANCE WITH ARTICLE 10, PART IV "OUTDOOR LIGHTING" OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.

17. PRIOR TO LAND DISTURBANCE, A TOWN APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS REQUIRED.

18. NO U.S.A.C.O.E. SECTION 404 JURISDICTIONAL WETLANDS EXIST ON SITE.

19. EXISTING VEGETATION TO BE PRESERVED WHERE POSSIBLE.

20. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.

21. ALL WORK WITHIN THE NC DOT RIGHT-OF-WAY REQUIRES AN APPROVED NC DOT RIGHT-OF-WAY ENCROACHMENT AGREEMENT.

22. A STATE HIGH DENSITY STORMWATER PERMIT IS REQUIRED IN ADVANCE OF ANY ONSITE DISTURBANCE.

23. THIS PLAN SET TO BE UTILIZED FOR THE INSTALLATION OF SITE LAYOUT IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO, GRADING & DRAINAGE, INSTALLATION OF SEDIMENT CONTROL MEASURES, WATER SYSTEM AND WASTEWATER CONNECTION. FOR BUILDING DESIGN AND ASSOCIATED PLUMBING, SEE APPROPRIATE SEPARATE PLANS.

DEMOLITION NOTES:

1. CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND SERVICES – TO INCLUDE BUT NOT LIMITED TO ELECTRIC, CABLE, TELEPHONE, GAS, SANITARY SEWER AND WATER – AND SHALL COORDINATE PROPER PROTECTION AND/OR RELOCATE WITH APPROPRIATE OWNER/UTILITY COMPANY.

2. CONTRACTOR SHALL WALK THE SITE AND BE FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND BE UNCLASSIFIED EXCAVATION.

3. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE CURBS AND GUTTERS, BITUMINOUS CONCRETE PAVEMENTS AND ALL MATERIALS OR VEGETATION CLEARED AND STRIPPED TO THE EXTENT NECESSARY FOR THE INSTALLATION OF NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING. COORDINATE WITH APPROPRIATE DRAWINGS.

4. THE CONTRACTOR SHALL PROTECT ALL PROPERTY AND STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED. DAMAGE TO THE PROPERTY DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO THE OWNER.

5. ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM PROJECT AREA.

6. THE CONTRACTOR SHALL PRODUCE A PHOTOGRAPHIC RECORD OF DEVELOPMENT COMMENCING WITH A RECORD OF THE SITE AS IT APPEARS BEFORE DEMOLITION IS BEGUN. AFTERWARDS A PHOTOGRAPHIC RECORD SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS.

7. EXISTING PAVEMENT, CURB AND GUTTER, LIGHTS, FENCES, TREE/VEGETATION AND UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED, AND UNDISTURBED DURING DEMOLITION. CONTRACTOR SHALL COORDINATE THE REMOVAL OF BITUMINOUS CONCRETE PAVEMENTS AND CURB AND GUTTER WITH THE SITE PLAN.

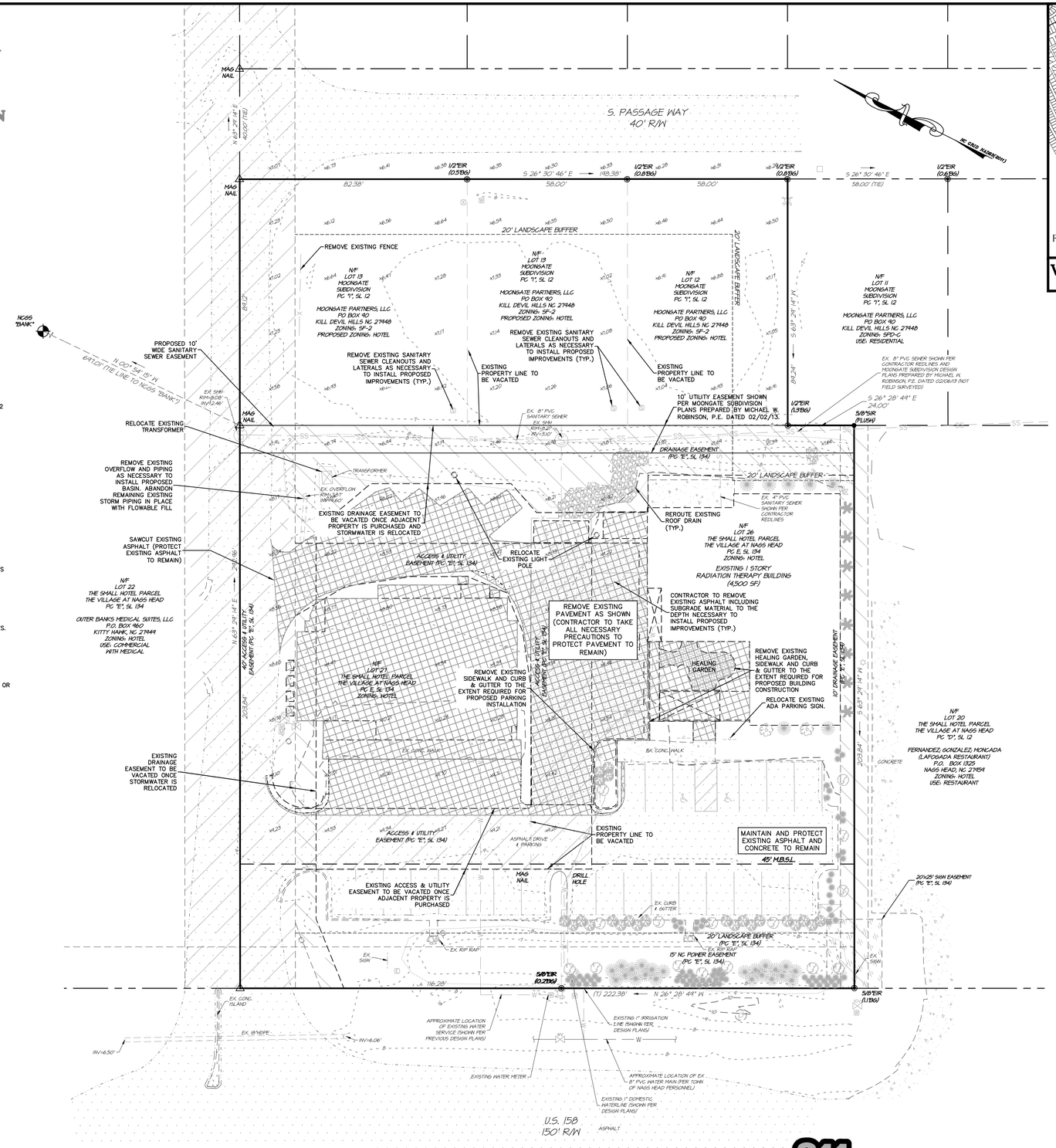
8. SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND CURBS AND GUTTERS TO BE DEMOLISHED SHALL BE PROVIDED.

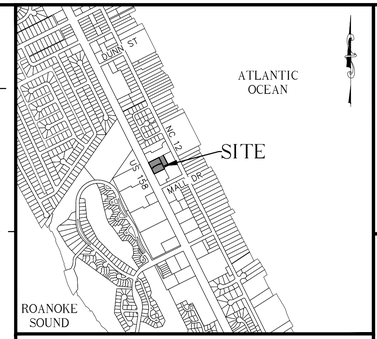
9. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS AS WELL AS OSHA REGULATIONS.

10. CONTRACTOR'S ACTIVITIES SHALL NOT IMPEDE USAGE OR INGRESS/EGRESS TO ADJACENT PROPERTIES. COORDINATE WITH OWNER MAINTENANCE OF TRAFFIC/PEDESTRIAN CIRCULATION DURING CONSTRUCTION.

11. MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS AT ALL TIMES DURING DEMOLITION.

12. A DEMOLITION PERMIT MUST BE OBTAINED FROM THE TOWN OF NAGS HEAD PRIOR TO DEMOLITION WORK.





VICINITY MAP (Town of Nags Head)
N.T.S.

LEGEND

- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE
- PROPOSED DEMOLITION
- EX. IRON ROD
- EX. DRILL HOLE
- EX. MAG NAIL
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. SEWER MANHOLE
- EX. WATER METER
- EX. ELECTRICAL CONNECTION
- EX. EXTERIOR LIGHT
- EX. LIGHT POLE
- EXISTING CONTOUR
- EXISTING SPOT GRADE

Know what's below. Call before you dig.

NOTE:
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GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

Quible & Associates, P.C.
NC License# C-0208 SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
**ALL SERVICES NOT PERFORMED BY QUIBLE & ASSOCIATES, P.C. ARE SUBCONTRACTED
8466 CARATOKE HWY.
POWELLS POINT, NC 27966
Phone: (252) 491-8146
Fax: (252) 491-8146
adminoffice@quible.com
90 CHURCH STREET, SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 419-9345
Fax: (252) 491-8146
adminbm@quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040767 MICHAEL W. SPENCER — CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

EXISTING CONDITIONS/DEMOLITION PLAN

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL

NAGS HEAD TOWNSHIP — DARE COUNTY — NORTH CAROLINA

COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

SHEET NO. 1 OF 6 SHEETS

G:\2017\P17012\Drawings\P17012 V1.VWX 12.1 Sheets.dwg 12/10/2019 10:58 AM ChaseAdams

NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
PO BOX 129
NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
C/O TIM McDONNELL
P.O. BOX 6028
GREENVILLE, NC 27835

2. PROPERTY IDENTIFICATION: 4928, 4926 & 4922 S. PASSAGE WAY
4927 & 4923 SOUTH CROATAN HIGHWAY
PIN#: 0801-1313-8895; 0801-1313-8960; 0801-1313-8936
0801-13-13-7759; 0801-1313-7809
PID#: 02839113; 02839114; 02839115
027839062; 027839063;

3. PARCEL AREA: 63,021 sq.ft. / 1.45 acres
(AREAS BY COORDINATE METHOD)

4. ZONING CLASSIFICATION: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) (HOTEL DISTRICT OVERLAY)

5. PROPOSED REZONING FOR 4928, 4926 & 4922 S. PASSAGE WAY:SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) FROM SF2 (SINGLE FAMILY) ZONING

6. REFERENCES: D.B. 1939, PG. 480; P.C. E, SL. 134

7. FIELD SURVEY BY QUIBLE & ASSOCIATE, P.C. DATES: 06-22-2017, 09-10-2019, & 10-21-2019.
(HORIZONTAL GROUND DISTANCES)

8. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAVD 1983 (2012)

9. PROPERTY IS LOCATED IN F.I.R.M. ZONES "AE" (EL. 9')
PANEL 3730080100J, DATED 09/20/06
FIRM ZONES SUBJECT TO CHANGE BY F.E.M.A.

10. SETBACKS SHOWN ARE PER TOWN OF NAGS HEAD AND DO NOT REFLECT ANY RESTRICTIVE COVENANTS THAT MAY EXIST.

11. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A ±10,400 SQ.FT. ADDITION TO THE EXISTING CANCER CENTER WITH ASSOCIATED PARKING AND APPURTENANCES.

12. EXISTING BUILDING COVERAGE..... 9,552 SQ.FT.
VEHICULAR USE AREAS COVERAGE..... 20,017 SQ.FT.
EXISTING CONC. WALKS, & DUMPSTER PAD..... 1,072 SQ.FT.
TOTAL EXISTING LOT COVERAGE..... 30,641 SQ.FT.

EXISTING COVERAGE REMOVED..... 13,817.5 SQ.FT.
TOTAL EXISTING LOT COVERAGE TO REMAIN:..... 16,823.5 SQ.FT.

PROPOSED COVERAGE:
BUILDING (INCLUDES OVERHANG)..... 7,243 SQ.FT. (19%) [25% MAX]
PERMEABLE PAVEMENT (4,514 SQ.FT. * 0.67)..... 3,024.4 SQ.FT.
CONCRETE & ASPHALT..... 8,044.5 SQ.FT.
TOTAL PROPOSED COVERAGE..... 18,311.9 SQ.FT.

TOTAL COVERAGE (EXISTING & PROPOSED) ..... 35,135 SQ.FT. (55.7%) [30% MIN. LANDSCAPING]
TOTAL PROPOSED VEHICULAR USE AREA COVERAGE*..... 19,819 SQ.FT. (31%) [45% MAX]

*NO REDUCTION FOR PERMEABLE PAVEMENTS HAS BEEN TAKEN FROM THE VEHICULAR USE AREA COVERAGE

13. PARKING:
RADIATION THERAPY CENTER MEDICAL FACILITY

PARKING REQUIRED = 1 SPACE PER 300 SQ.FT. * 4,500 SQ.FT. = 15 SPACES
1 SPACE PER EMPLOYEE * 7 EMPLOYEES = 7 SPACES
RADIATION THERAPY PARKING REQUIRED =22 SPACES

CANCER CENTER EXPANSION
PARKING REQUIRED = 1 SPACE PER 300 SQ.FT. * 10,400 SQ.FT. = 35 SPACES
1 SPACE PER EMPLOYEE * 15 EMPLOYEES = 15 SPACES
EXPANSION PARKING REQUIRED =50 SPACES

*CONDITIONAL USE PERMIT FOR REDUCED PARKING DUE TO CAPACITY/TYPE OF USE AND ACCESS TO PUBLIC TRANSIT.
TOTAL PARKING REQUIRED = 72 SPACES
TOTAL PARKING PROVIDED = 57 SPACES

SITE SUBJECT TO INDEPENDENT STUDY TO EVALUATE PARKING 6 MONTHS AFTER OBTAINING CERTIFICATE OF OCCUPANCY. SITE SUBJECT TO PROVIDING 11 ADDITIONAL SPACES IF PARKING IS FOUND TO BE INSUFFICIENT DURING INDEPENDENT STUDY.

14. WASTEWATER: 22 EMPLOYEES @ 250 GPD/EMPLOYEE = 5,500 GPD (WASTEWATER IS PROPOSED TO BE CONVEYED TO CWS WWTP)

15. WATER SUPPLY PER TOWN OF NAGS HEAD. WATER CONNECTION MUST BE MADE IN ACCORDANCE WITH TOWN OF NAGS HEAD SPECIFICATIONS AND SHALL BE PERFORMED BY A LICENSED WATER UTILITY CONTRACTOR. NOTIFY TOWN PRIOR TO INSTALLATION.

16. ALL UTILITIES TO BE PLACED UNDERGROUND UNLESS OTHERWISE NOTED

17. LANDSCAPING AND BUFFERYARDS TO BE IN ACCORDANCE WITH ARTICLE 10 OF THE TOWN OF NAGS HEAD UNIFORM DEVELOPMENT ORDINANCES.

18. SITE WILL BE LIGHTED IN ACCORDANCE WITH ARTICLE 10, PART IV "OUTDOOR LIGHTING" OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.

19. PRIOR TO LAND DISTURBANCE, A TOWN APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS REQUIRED.

20. NO U.S.A.C.O.E. SECTION 404 JURISDICTIONAL WETLANDS EXIST ON SITE.

21. EXISTING VEGETATION TO BE PRESERVED WHERE POSSIBLE.

22. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.

23. ALL WORK WITHIN THE NC DOT RIGHT-OF-WAY REQUIRES AN APPROVED NC DOT RIGHT-OF-WAY ENCROACHMENT AGREEMENT.

24. A STATE HIGH DENSITY STORMWATER PERMIT IS REQUIRED IN ADVANCE OF ANY ONSITE DISTURBANCE.

25. THE ENTIRE SITE WILL BE IN FULL COMPLIANCE WITH ALL APPLICABLE NFPA REGULATIONS PERTAINING TO FIRE PROTECTION INCLUDING BUT NOT LIMITED TO NFPA 30 AS WELL AS VOLUME V OF THE NC STATE BUILDING CODE.

26. ALL BUILDING SIGNAGE SHALL BE IN ACCORDANCE WITH ARTICLE VIII SECTION 48-284 OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.

27. THIS PLAN SHALL COMPLY WITH VOLUME 1C OF THE NC BUILDING CODE.

28. THE PROPOSED BUILDING SHALL COMPLY WITH CHAPTER 10 OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.

29. BUILDING CONSTRUCTION TO CONFORM TO 2018 NC FIRE PREVENTION CODE OR LATEST EDITION.

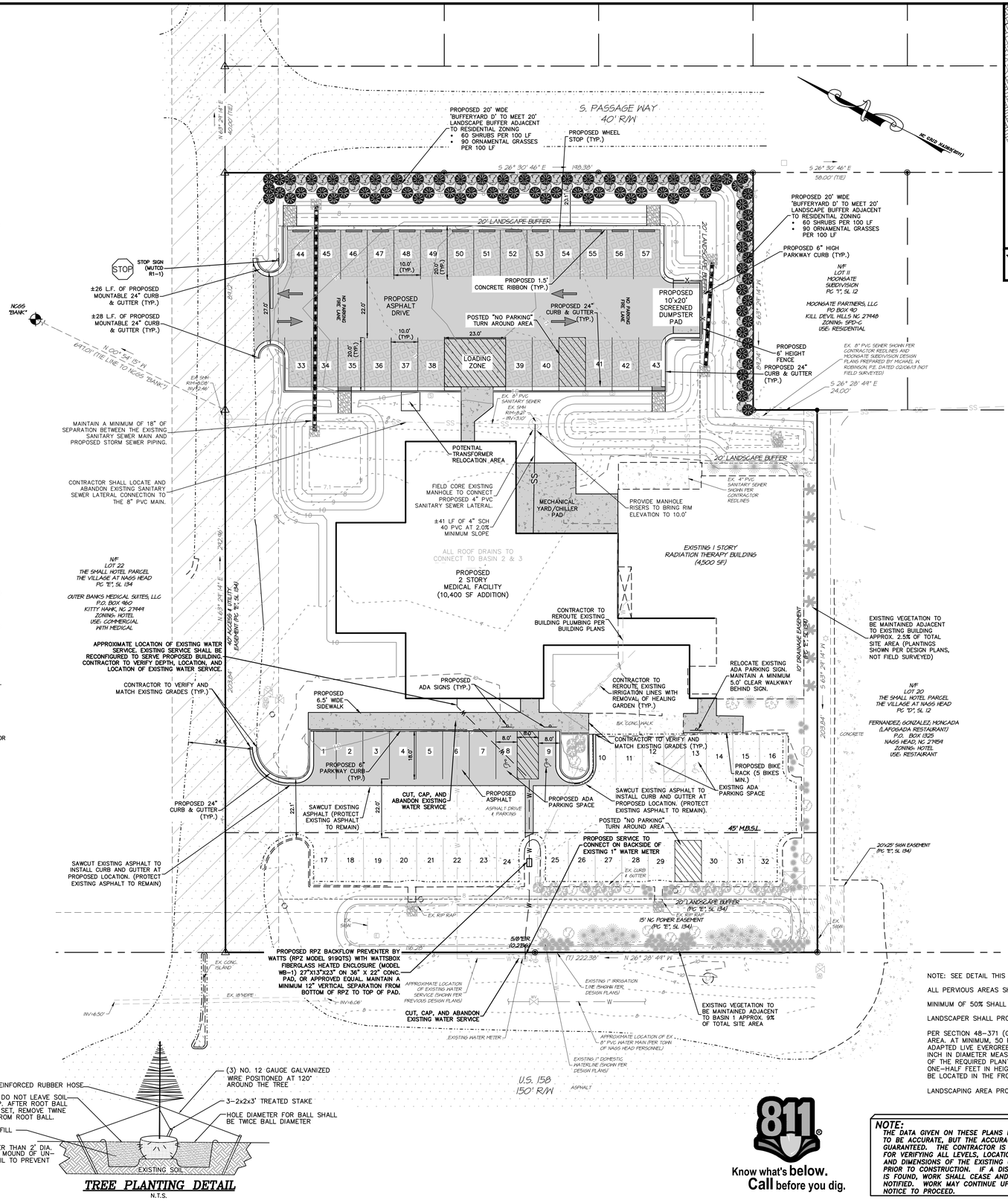
30. THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS/HER OWN SATISFACTION. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE-CALL AT TELEPHONE NO. 1-800-632-4949, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.

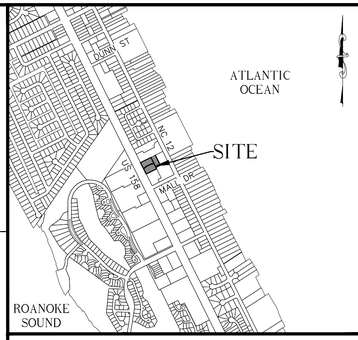
31. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.

32. THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.

33. ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

34. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.





VICINITY MAP (Town of Nags Head)
N.T.S.

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED RIP RAP
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- EX. IRON ROD
- EX. DRILL HOLE
- EX. MAG NAIL
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. SEWER MANHOLE
- EX. WATER METER
- EX. ELECTRICAL CONNECTION
- EX. EXTERIOR LIGHT
- EX. LIGHT POLE
- EX. TREES/SHRUBS
- PROPOSED 6" CURB (NO GUTTER)
- PROPOSED CURB AND GUTTER
- PROPOSED 1.5' CONCRETE RIBBON
- PROPOSED SPILL CURB AND GUTTER
- PROPOSED STORM PIPE
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER
- PROPOSED TREES/SHRUBS

NOTE: SEE DETAIL THIS SHEET FOR PLANTING DETAILS.

ALL PERVIOUS AREAS SHALL BE LANDSCAPED AND RECEIVE SOD WHERE PRACTICAL.

MINIMUM OF 50% SHALL BE LOCALLY ADAPTIVE NATIVE EVERGREEN SPECIES

LANDSCAPER SHALL PROVIDE IRRIGATION THROUGHOUT LANDSCAPE AREAS.

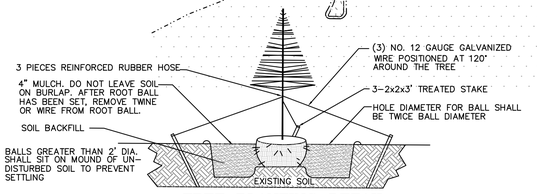
PER SECTION 48-371 (G) (2) THE PLANTING OF A MINIMUM OF 15 PERCENT OF THE LOT'S TOTAL AREA. AT MINIMUM, 50 PERCENT OF THE REQUIRED LANDSCAPING SHALL CONSIST OF LOCALLY ADAPTED LIVE EVERGREEN TREE SPECIES THAT ARE A MINIMUM HEIGHT OF THREE FEET AND ONE INCH IN DIAMETER MEASURED AT ONE-HALF FOOT ABOVE GRADE WHEN PLANTED. THE REMAINDER OF THE REQUIRED PLANTINGS MAY BE LIVE FORBS AND SHRUBS MEASURING AT LEAST ONE AND ONE-HALF FEET IN HEIGHT WHEN PLANTED. A MINIMUM OF ONE-HALF OF THIS VEGETATION MUST BE LOCATED IN THE FRONT OR SIDE YARDS OF THE PROPOSED DEVELOPMENT.

LANDSCAPING AREA PROVIDED: 26,396 SQ.FT. (41.8% OF LOT AREA)

LANDSCAPING NOTES

SYMBOL	QUANTITY	COMMON NAME	HEIGHT	SPREAD	MIN. SIZE @ PLANTING
	168	INDIAN HAWTHORN	4' - 5' HT.	3' O.C.	1.5 FT HT.
	259	PINK MUHLY GRASS	3' - 5' HT.	3' O.C.	1.5 FT HT.

* COORDINATE INSTALLATION WITH OWNER. ORNAMENTAL SHRUB/GRASS SPECIES MAY BE SUBSTITUTED AS APPROVED BY THE TOWN OF NAGS HEAD



TREE PLANTING DETAIL
N.T.S.

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(IN FEET)
1 inch = 20 ft.

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NC License# C-0208 SINCE 1959
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ENVIRONMENTAL SCIENCES * SURVEYING**
**NOT PERFORMED ON THIS PROJECT
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Phone: (252) 491-8146
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contactus@quible.com
90 CHURCH STREET, SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 669-8048
Fax: (252) 491-8146
contactus@quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040181 MICHAEL W. SMITH
PRELIMINARY NOT FOR CONSTRUCTION OR RECORDATION
CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

SITE, UTILITY, & LANDSCAPING PLAN

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL
NAGS HEAD TOWNSHIP DARE COUNTY NORTH CAROLINA

COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

SHEET NO. 2 OF 6 SHEETS

NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
PO BOX 129
NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
C/O TIM MCDONNELL
PO BOX 6028
GREENVILLE, NC 27835

2. PROPERTY IDENTIFICATION: 4928, 4926 & 4922 S. PASSAGE WAY
4927 & 4923 SOUTH CROATAN HIGHWAY
PIN#: 0801-1313-8895; 0801-1313-8960; 0801-1313-8936
0801-13-13-7759; 0801-1313-7809
PID#: 02839113; 02839114; 02839115
027839062; 027839063;

3. PARCEL AREA: 63,021 SQ.FT. / 1.45 ACRES
(AREAS BY COORDINATE METHOD)

4. ZONING CLASSIFICATION: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) (HOTEL DISTRICT OVERLAY)

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6. REFERENCES: D.B. 1939, PG. 480; P.C. E, SL. 134

7. FIELD SURVEY BY QUIBLE & ASSOCIATE, P.C. DATES: 06-22-2017, 09-10-2019, & 10-21-2019.
(HORIZONTAL GROUND DISTANCES)

8. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAVD 1983 (2012)

9. PROPERTY IS LOCATED IN F.I.R.M. ZONES "AE" (EL. 9')
PANEL 3730080100J, DATED 09/20/06
FIRM ZONES SUBJECT TO CHANGE BY F.E.M.A.

10. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A ±10,400 SQ.FT. ADDITION TO THE EXISTING CANCER CENTER WITH ASSOCIATED PARKING AND APPURTENANCES.

11. SETBACKS SHOWN ARE PER TOWN OF NAGS HEAD AND DO NOT REFLECT ANY RESTRICTIVE COVENANTS THAT MAY EXIST.

12. HANDICAP PARKING SPACES SHALL NOT EXCEED 2% GRADE.

13. AREAS OF FILL SHALL BE EXCAVATED TO COMPACTED SUBGRADE AND BACKFILLED IIN 6" LIFTS.

14. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.

15. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS, APPLICABLE TOWN OF NAGS HEAD CODES AND ORDINANCES, AND NCDEQ DIVISION OF ENERGY, MINERAL AND LAND RESOURCES REGULATIONS.

16. THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS/HER OWN SATISFACTION. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE-CALL AT TELEPHONE NO. 1-800-632-4949, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.

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18. THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.

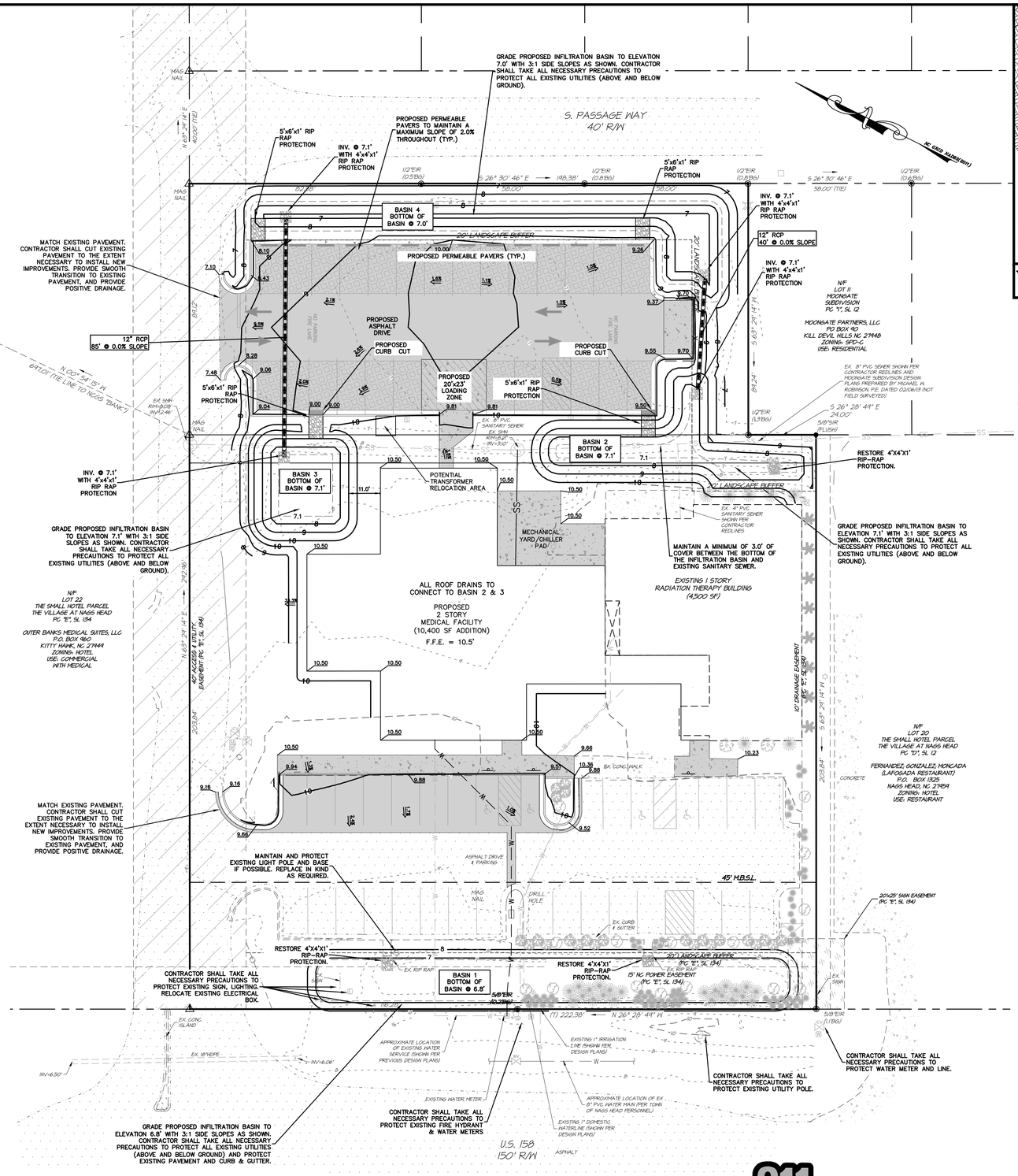
19. ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

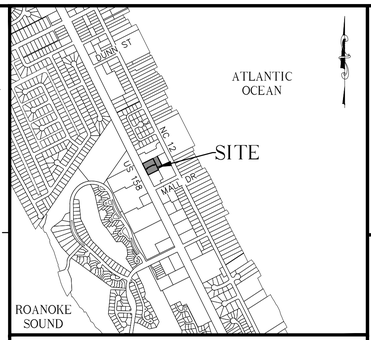
20. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.

21. ALL PORTIONS OF ROOF DRAIN COLLECTION SYSTEM WITH LESS THAN 36" OF COVER IN TRAFFIC RATED CONDITIONS SHALL BE DUCTILE IRON PIPE.

22. TEMPORARY CONSTRUCTION EASEMENT MUST BE OBTAINED PRIOR TO ANY WORK ON ADJACENT PROPERTIES.

23. A STATE HIGH DENSITY STORMWATER PERMIT IS REQUIRED IN ADVANCE OF ANY ONSITE DISTURBANCE.





VICINITY MAP (Town of Nags Head)
N.T.S.

LEGEND

- EX. IRON ROD
- EX. DRILL HOLE
- EX. MAG NAIL
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. SEWER MANHOLE
- EX. WATER METER
- EX. ELECTRICAL CONNECTION
- EX. EXTERIOR LIGHT
- EX. LIGHT POLE
- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED RIP RAP
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE (TOP OF ASPHALT/FLOW LINE UNLESS OTHERWISE NOTED)
- PROPOSED TOP OF CONCRETE ELEV.
- PROPOSED FLOW DIRECTION AND SLOPE

Know what's **below.** **Call** before you dig.

NOTE:
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GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

Quible & Associates, P.C.
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
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8445 CARATOKE HWY
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Phone: (828) 419-1063
Fax: (252) 491-8146
quiblesurvey@quible.com
NC License# C-0208 SINCE 1959

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036681 MICHAEL W. SHEETS
PRELIMINARY NOT FOR CONSTRUCTION
CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

GRADING & DRAINAGE PLAN

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL
NAGS HEAD TOWNSHIP DARE COUNTY NORTH CAROLINA

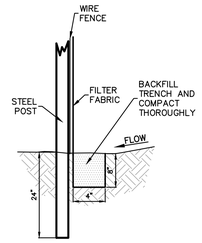
COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

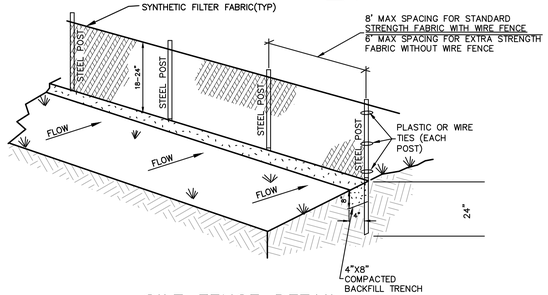
SHEET NO. **3** OF 6 SHEETS

SOIL EROSION & SEDIMENTATION CONTROL PLAN NOTES:

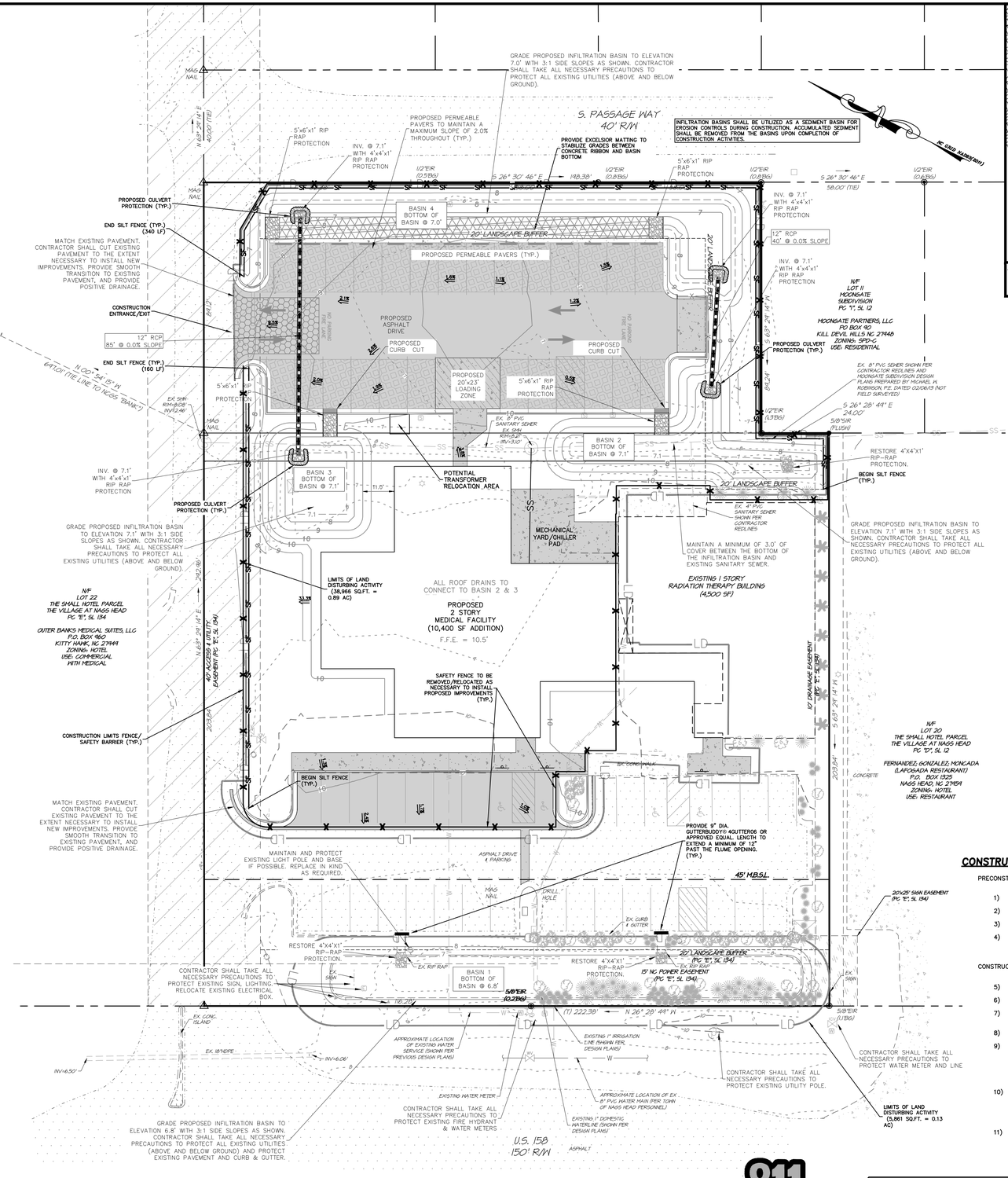
1. AREA TO BE DISTURBED: ±44,827 SQ.FT. (±1.02 ACRES)
2. PROVIDE A GROUNDCOVER STABILIZATION (TEMPORARY OR PERMANENT) ON ALL DENUDED DOWNSTREAM SURFACES FOLLOWING THE COMPLETION OF LAND DISTURBING ACTIVITIES PER THE CRITERIA LISTED BELOW:
   a. PERIMETER DIKES, BERMS, SWALES, DITCHES AND SLOPES SHALL BE STABILIZED IN 7 DAYS.
   b. HIGH QUALITY WATER (HQW) ZONES SHALL BE STABILIZED IN 7 DAYS.
   c. DOWNSTREAM SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED IN 7 DAYS. IF SLOPES ARE 10' OR LESS AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
   d. DOWNSTREAM SLOPES 3:1 OR FLATTER AND LESS THAN 50' IN LENGTH SHALL BE STABILIZED IN 14 DAYS. SLOPES 3:1 OR FLATTER EXCEEDING 50' IN LENGTH SHALL BE STABILIZED IN 7 DAYS.
   e. ALL OTHER DOWNSTREAM AREAS WITH SLOPES 4:1 OR FLATTER SHALL BE STABILIZED WITHIN 14 DAYS.
   f. GROUND COVER SHALL BE PROVIDED ON CUT AND FOR FILL SLOPES WITHIN 21 CALENDAR DAYS AFTER COMPLETION OF ANY PHASE OF GRADING. GROUND COVER OVER OTHER AREAS SHALL BE PROVIDED WITHIN SHORTER OF 15 WORKING OR 90 CALENDAR DAYS (60 DAYS IN HQW ZONES) OF COMPLETION OF CONSTRUCTION OF DEVELOPMENT.
3. IF LAND DISTURBING ACTIVITIES OCCUR OUTSIDE THE PERMANENT VEGETATION SEEDING DATES (APR. 1– SEP.30) THEN TEMPORARY VEGETATION SEEDING SPECIFICATIONS SHALL BE FOLLOWED FOR PLANTING UNTIL THE NEXT APPROPRIATE PERMANENT SEEDING PERIOD, AT WHICH TIME PERMANENT VEGETATION SHALL BE ESTABLISHED ACCORDING TO PERMANENT VEGETATION SEEDING SPECIFICATIONS (SEE PERM. & TEMP. SEEDING SPECIFICATIONS).
4. IF EXCESSIVE WIND EROSION OR STORMWATER RUNOFF EROSION DEVELOPS DURING TIME OF CONSTRUCTION ANY LOCATION ON THE PROJECT SITE, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IMMEDIATELY AS DIRECTED BY THE ENGINEER TO ADDRESS THE PROBLEM AREA AND PREVENT DAMAGE TO ADJACENT PROPERTIES.
5. SOIL EROSION AND SEDIMENTATION CONTROLS TO BE INSPECTED, MAINTAINED AND REPAIRED AS NECESSARY UNTIL PERMANENT CONTROLS ARE ESTABLISHED.
   a. A RAIN GAUGE MUST MUST BE KEPT ON SITE.
   b. DEDICATED DEMOLITION AND OTHER WASTE AREAS AND EARTHEN MATERIAL STOCKPILES MUST BE LOCATED AT LEAST 50 FEET FROM DRAINS OR STREAMS UNLESS NO ALTERNATIVE IS FEASIBLE.
   c. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSPECTED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN A HALF INCH (DURING A 24 HOUR PERIOD). IMMEDIATE CORRECTIVE ACTION MUST BE TAKEN FOR ANY DEVICE FAILURE.
   d. INSPECT ALL OUTLETS WHERE RUNOFF LEAVES SITE AND EVALUATE EFFECT ON NEARBY STREAMS. TAKE CORRECTIVE ACTION IF NECESSARY.
   e. MAINTAIN RECORDS OF INSPECTIONS AND CORRECTIVE ACTIONS.
   f. EARTHWORK NOTE: OFFSITE BORROW MATERIAL SHALL COME FROM AN NCDENR LAND QUALITY SECTION APPROVED SITE. OFFSITE DISPOSAL OF EXCESS MATERIAL SHALL BE TO AN NCDENR LAND QUALITY SECTION APPROVED SITE.

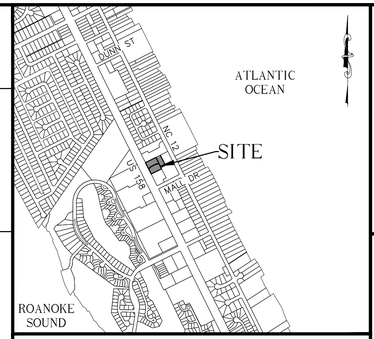
NOTE: ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER EACH MAJOR STORM EVENT; FAILURE TO KEEP ORDER MAY RESULT IN ISSUANCE OF A STOP WORK ORDER.





SILT FENCE DETAIL
N.T.S





VICINITY MAP (Town of Nags Head)
N.T.S.

LEGEND

- EX. IRON ROD
- EX. DRILL HOLE
- EX. MAG NAIL
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. SEWER MANHOLE
- EX. WATER METER
- EX. ELECTRICAL CONNECTION
- EX. EXTERIOR LIGHT
- EX. LIGHT POLE
- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED EXCELSIOR MATTING
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED FLOW DIRECTION AND SLOPE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED CULVERT INLET PROTECTION
- PROPOSED FENCE
- PROPOSED SILT FENCE
- PROPOSED CONSTRUCTION LIMITS FENCE/SAFETY BARRIER

PERMANENT VEGETATION

SEEDING DATES: APRIL 1 – AUGUST 31:

SEED MIXTURE	APPLICATION RATES/ACRE
REBEL II FESCUE	130 LBS.
COMMON BERMUDA 'SAHARA' (HULLED)	215 LBS.

SEEDING DATES: SEPT. 1 – MARCH 31:

SEED MIXTURE	APPLICATION RATES/ACRE
REBEL II FESCUE	250 LBS.
COMMON BERMUDA 'SAHARA' (UNHULLED)	215 LBS.

TEMPORARY VEGETATION

SEEDING DATES: AUG. 16 – APRIL 15:

SEED MIXTURE	APPLICATION RATES/ACRE
RYE GRAIN	120 LBS

SEEDING DATES: APRIL 16 – AUG. 15:

SEED MIXTURE	APPLICATION RATES/ACRE
GERMAN MILLET	40 LBS

SEEDBED PREPARATION:
LOOSEN SOILS TO A DEPTH OF 6–8 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW, BREAK UP CLODS, REMOVE UNACCEPTABLE GROWTH (STICKS, ROOTS), STONES (>3"), AND OTHER MATERIALS, AND WORK THE TOP 3–4 INCHES OF THE SOIL INTO A SEEDBED. THE AREA TO BE SEEDED SHALL BE RE–COMPACTED UTILIZING A CULTIPACKER ROLLER AND A SMOOTH EVEN SOIL SURFACE WITH A LOOSE, UNIFORMLY FINE TEXTURE SHALL BE THE FINISHED GRADE.

SOIL AMENDMENTS:
OBTAIN A SOIL TEST TO DETERMINE APPLICATION RATES AND FOLLOW RECOMMENDATIONS OF SOIL TESTS. WHEN A SOIL TEST IS NOT POSSIBLE, APPLY 3,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10–10–10 STARTER FERTILIZER.

MULCHING:
APPLY 4,000 LB/ACRE GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, ROVING OR BY CRIMPING WITH A MULCH ANCHORING TOOL.

MAINTENANCE:
SATISFACTORY STABILIZATION AND EROSION CONTROL REQUIRES A COMPLETE VEGETATIVE COVER. EVEN SMALL BREACHES IN VEGETATIVE COVER CAN EXPAND RAPIDLY AND, IF LEFT UNATTENDED, CAN ALLOW SERIOUS SOIL LOSS FROM AN OTHERWISE STABLE SURFACE. A SINGLE HEAVY RAIN IS OFTEN SUFFICIENT TO GREATLY ENLARGE BARE SPOTS, AND THE LONGER REPAIRS ARE DELAYED, THE MORE COSTLY THEY BECOME. PROMPT ACTION WILL KEEP SEDIMENT LOSS AND REPAIR COST DOWN. NEW SEEDLINGS SHOULD BE INSPECTED FREQUENTLY AND MAINTENANCE PERFORMED AS NEEDED. IF RILLS AND GULLIES DEVELOP, THEY MUST BE FILLED IN, RE–SEEDED, AND MULCHED AS SOON AS POSSIBLE. DIVERSIONS MAY BE NEEDED UNTIL NEW PLANTS TAKE HOLD.

MAINTENANCE REQUIREMENTS EXTEND BEYOND THE SEEDING PHASE. (COMPLETE VEGETATIVE COVER IS REQUIRED REGARDLESS OF COUNTY ISSUANCE OF A CERTIFICATE OF OCCUPANCY AND FINAL PAYMENT WILL NOT BE AWARDED UNTIL COMPLETE ESTABLISHMENT OF VEGETATIVE COVER.)
WEAK OR DAMAGED SPOTS MUST BE RELIMED, FERTILIZED, MULCHED, AND RESEEDED AS PROMPTLY AS POSSIBLE. REFERTILIZATION MAY BE NEEDED TO MAINTAIN PRODUCTIVE STANDS.

CONSTRUCTION SEQUENCE:

PRECONSTRUCTION:
1) OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2) FLAG AND/OR ROUGH STAKE WORK LIMITS.
3) FLAG EXISTING VEGETATION TO REMAIN/PROTECT.
4) HOLD PRECONSTRUCTION CONFERENCE (OWNER, CONTRACTOR, ENGINEER, AND APPROPRIATE GOVERNMENT OFFICIALS) AT LEAST ONE WEEK PRIOR TO START OF CONSTRUCTION ACTIVITIES.

CONSTRUCTION:
5) INSTALL SILT FENCING AT LOCATIONS SHOWN ON PLAN
6) COMPLETE CLEARING, GRUBBING AND DEMOLITION PROCEDURES.
7) GRADE SITE ACCORDING TO PLAN AND BEGIN CONSTRUCTION OF PROPOSED IMPROVEMENTS, INCLUDING UTILITY RECONNECTIONS.
8) INSTALL CONTRIBUTING STORM CONVEYANCES AND ASSOCIATED EROSION CONTROLS.
9) ALL EROSION & SEDIMENTATION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER HEAVY RAINFALL EVENT. NEEDED REPAIRS AND MAINTENANCE WILL BE MADE IMMEDIATELY. FURTHERMORE, IF ANY WIND OR STORMWATER RUNOFF EROSION DEVELOPS DURING THE CONSTRUCTION OF THE PROJECT, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO ADDRESS THE PROBLEM AREA.
10) ONCE THE SITE CONSTRUCTION IS COMPLETE AND DENUDED SURFACES ARE FULLY STABILIZED; ALL STORMWATER CONVEYANCES, STRUCTURES AND PIPING SHALL BE CLEANED OF ALL SILT/DEBRIS WHICH MAY HAVE ACCUMULATED DURING CONSTRUCTION. CONTRACTOR SHALL VERIFY DESIGN GRADES OF ALL STORMWATER CONVEYANCES AND RESTORE TO DESIGN SPECIFICATIONS AS NECESSARY.
11) UPON THE REMOVAL OF ACCUMULATED SEDIMENTS AND SITE STABILIZATION, ALL REMAINING EROSION CONTROLS MAY BE REMOVED FROM THE DEVELOPMENT. ALL DOWNSTREAM EROSION CONTROLS SHALL REMAIN IN PLACE UNTIL THE COMPLETION OF ALL OTHER DEVELOPMENT CONSTRUCTION ACTIVITIES.

Know what's **below.** **Call** before you dig.

NOTE:
THE DATA GIVEN ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATIONS, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.

GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

Quible & Associates, P.C.
NC License# C-0208 SINCE 1959
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ENVIRONMENTAL SCIENCES * SURVEYING**
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POWELLS POINT, NC 27966 BLACK MOUNTAIN, NC 28711
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Fax: (252) 491-8146
admin@quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040787 CHRISTOPHER M. SMITH — CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

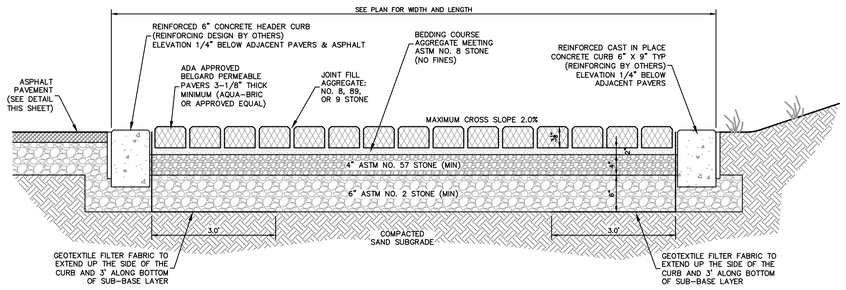
SOIL EROSION & SEDIMENT CONTROL PLAN

CANCER TREATMENT CENTER OUTER BANKS HOSPITAL

NAGS HEAD TOWNSHIP — DARE COUNTY — NORTH CAROLINA

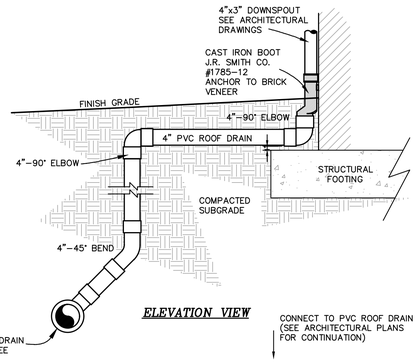
COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

SHEET NO. 4 OF 6 SHEETS

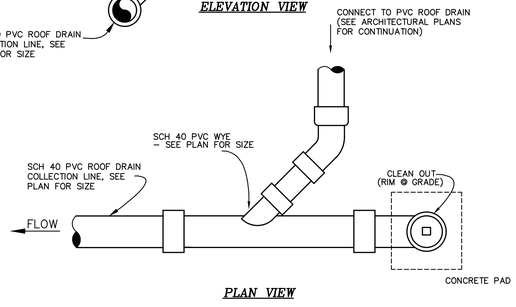


TYPICAL BELGARD® PERMEABLE PAVER INSTALLATION DETAIL

N.T.S.



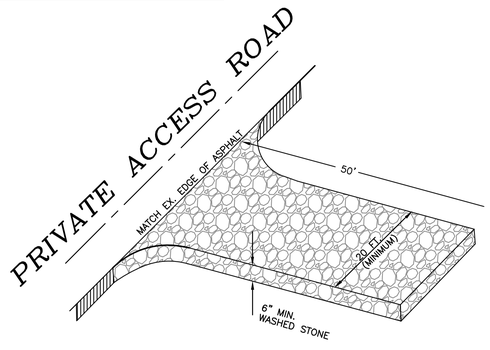
ELEVATION VIEW



PLAN VIEW

ROOF DRAIN COLLECTION LATERAL

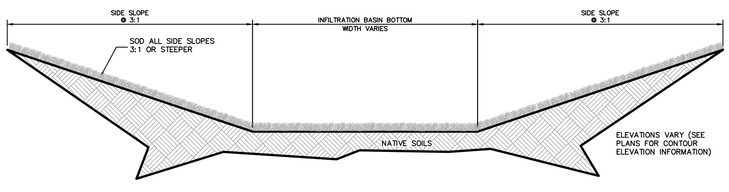
N.T.S.



GRAVEL CONSTRUCTION ENTRANCE/EXIT DETAIL

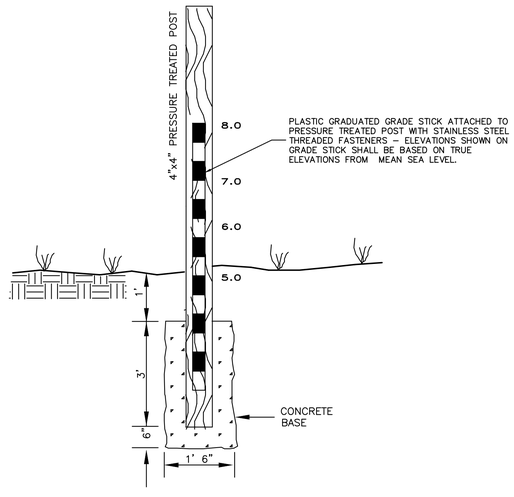
N.T.S

BASIN	BOTTOM ELEVATION	SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES:	TOP ELEVATION
1 (FRONT)	6.8'	7.3'	8.0'
2 (BLDG)	7.1'	7.6'	9.0'
3 (SIDE)	7.1'	7.6'	9.0'
4 (REAR)	7.0'	7.5'	8.5'



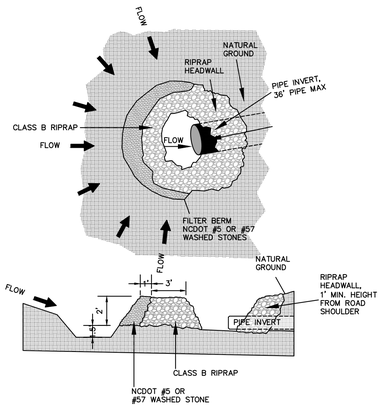
TYPICAL INFILTRATION BASIN CROSS-SECTION DETAIL

N.T.S.



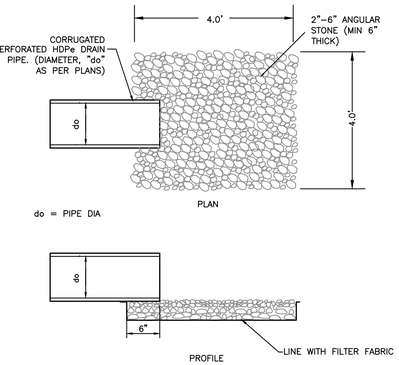
DEPTH BENCHMARK

N.T.S.



CULVERT INLET PROTECTION

N.T.S.

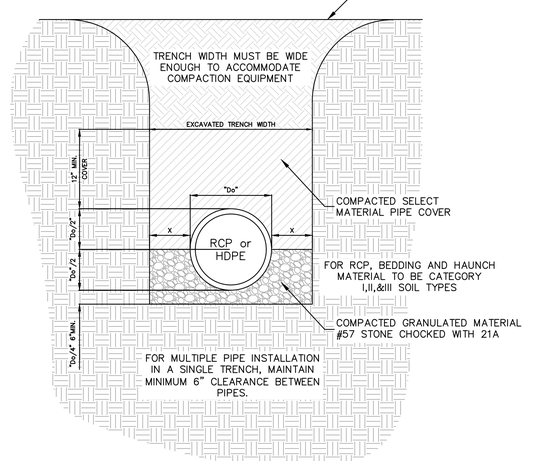


DRAIN PIPE OUTLET DETAIL

N.T.S.

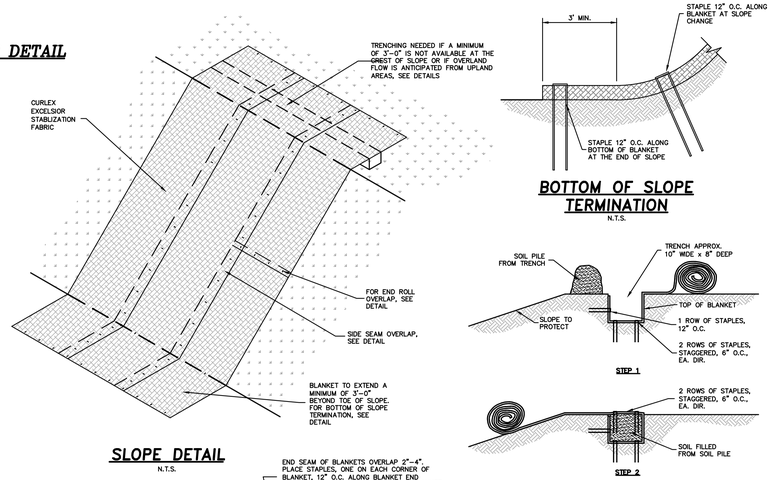
HDPE NOTES:
1. ALL PIPE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS OR AS MODIFIED BY THE OWNER.
2. TRENCH BOX OR OTHER SHORING METHODS SHALL NOT DISTURB THE PIPE BEDDING AND BACKFILL MATERIAL AFTER THEIR COMPACTION.
3. WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH INDICATED ON THE DRAWING OR AS DIRECTED BY THE OWNER AND REPLACE WITH BEDDING MATERIAL.
4. BEDDING MATERIAL SHALL BE CRUSHED STONE OR WASHED #67 STONE, UNLESS OTHERWISE NOTE ON THE DRAWINGS OR REQUIRED BY THE OWNER. MINIMUM BEDDING THICKNESS SHALL BE 6-INCHES.
5. BACKFILL MATERIAL SHALL CONFORM TO THE FOLLOWING:
   A. INITIAL BACKFILL:
      AGGREGATE NO. 25, 26, 21A, OR 21 B; AS INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER, SHALL BE INSTALLED AS INITIAL BACKFILL IN THE PIPE ZONE EXTENDING NOT LESS THAN 12-INCHES ABOVE THE CROWN OF PIPE. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM 02321, LATEST EDITION.
   B. FINAL BACKFILL:
      FINAL BACKFILL MATERIALS SHALL BE THE SAME AS THE INITIAL BACKFILL UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR DIRECTED BY THE OWNER.
6. MINIMUM COVER:
   TRAFFIC APPLICATIONS - MINIMUM COVER SHALL BE 24", MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF FLEXIBLE PAVEMENT OR TO THE TOP OF RIGID PAVEMENT.
   NON-TRAFFIC APPLICATIONS - MINIMUM COVER IN GRASS OR LANDSCAPE AREA IS 12-INCHES FROM THE TOP OF THE PIPE TO GROUND SURFACE.

NOTES:
1. SELECT MATERIAL PIPE COVER SHALL BE 12" (MINIMUM) DEEP OVER TOP OF PIPE.
2. SELECT MATERIAL BACKFILL SHALL BE CBR 20 COMPACTED TO 95% DENSITY. BACKFILL COMPACTED IN 12" LIFTS.



STORM PIPE TRENCH SECTION

N.T.S.



SLOPE DETAIL

N.T.S.

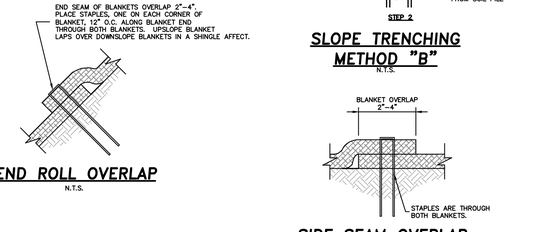
CURLEX® SLOPE APPLICATION DETAIL
AMERICAN EXCELSIOR COMPANY
ARLINGTON, TEXAS

BOTTOM OF SLOPE TERMINATION

N.T.S.

SLOPE TRENCHING METHOD "B"

N.T.S.



END ROLL OVERLAP

N.T.S.

SIDE SEAM OVERLAP STAPLE DETAIL

N.T.S.

NOTES:
1. STAPLE PATTERNS ARE DEPENDENT ON SITE CONDITIONS. SEE CURLEX® STAPLE PATTERN GUIDE FOR DETAILS.

Quible & Associates, P.C.
NC License# C-0208 SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035766 CHRISTOPHER M. SCHOENBACHLER
CERTIFICATION

REVISIONS

NO.	DATE	
1	12/05/19	PER TOWN COMMENTS

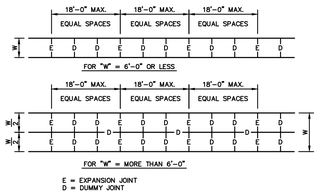
DRAINAGE & SESC DETAILS

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL

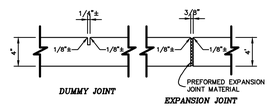
NAGS HEAD TOWNSHIP DARE COUNTY NORTH CAROLINA

COMMISSION NO. P17012.1
DESIGNED BY CMS
DRAWN BY JMH/CMS
CHECKED BY MWS
ISSUE DATE 11/12/19

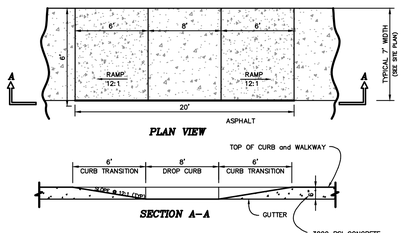
SHEET NO. 5 OF 6 SHEETS



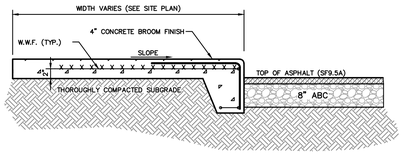
NOTES:
EXCEPT WHERE SHOWN IN THE PLAN, ALL NEW CONC. WALKS SHALL HAVE JOINTS SPACED AS SHOWN IN THESE DETAILS. AN EXPANSION JOINT SHALL BE USED TO SEPARATE THE NEW CONC. WALK FROM OTHER NEW OR EXISTING CONCRETE CONSTRUCTION.



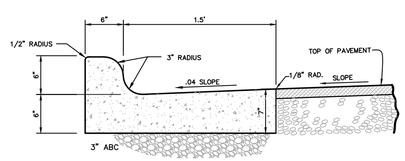
SIDEWALK JOINTS
N.T.S.



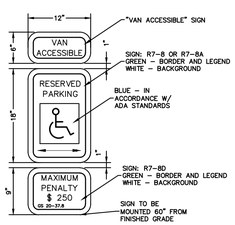
WHEELCHAIR RAMP
N.T.S.
1. USE ADJACENT TO ALL HANDICAPPED SPACES



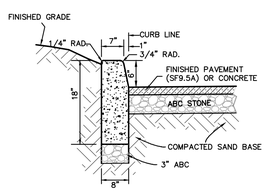
RAISED CURB SIDEWALK/ASPHALT SECTION
N.T.S.



CURB & GUTTER CROSS SECTION (1.5' GUTTER)
N.T.S.



ADA RESERVED PARKING SIGN DETAIL
N.T.S.



PARKWAY CURB
N.T.S.

TYPICAL SPECIFICATIONS

SPECIFICATIONS FOR SIDEWALKS, CURBS, ALLEYS, CONCRETE PAVEMENT

ALL REINFORCING STEEL SHALL BE GRADE 60 (ASTM A615)

ALL WELDED WIRE FABRIC SHALL BE 6 x 6, W1.4 x W1.4 (ASTM A185)

A 1-1/2" CLEAR CONCRETE COVER SHALL BE MAINTAINED ON ALL REINFORCEMENT

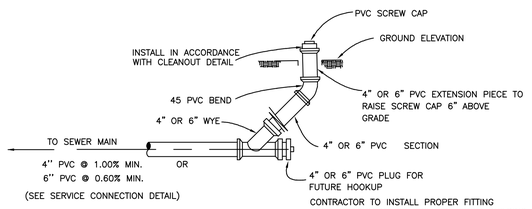
ALL CONCRETE SHALL BE 3000 PSI FIBER MESH UNLESS OTHERWISE NOTED SPECIFICATIONS OF ASPHALT

ALL ABC STONE SHALL BE COMPACTED TO 100% OF STANDARD PROCTOR (ASTM D698)

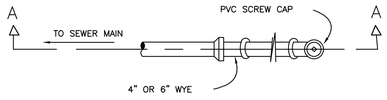
ASPHALT SHALL BE 2" SF9.5A

SPECIFICATIONS FOR SUBBASE

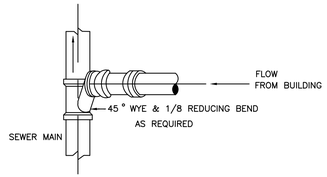
ALL SUBBASE SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR (ASTM D698)



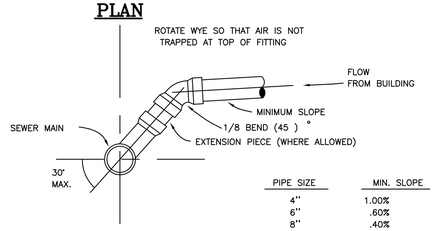
SECTION A



PLAN VIEW
SINGLE SERVICE LATERAL CONNECTION
N.T.S.

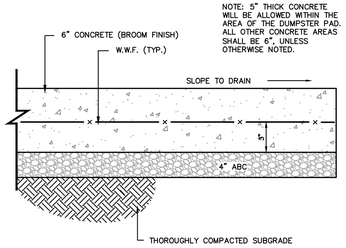


PLAN

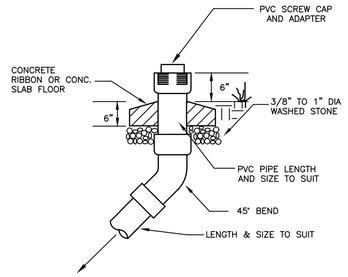


PIPE SIZE	MIN. SLOPE
4"	1.00%
6"	.60%
8"	.40%
12"	.22%

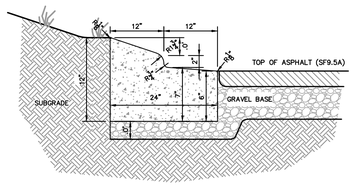
SECTION
SERVICE CONNECTION
N.T.S.



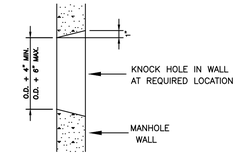
CONCRETE PAVEMENT SECTION
N.T.S.



TYPICAL SEWER CLEAN-OUT
N.T.S.

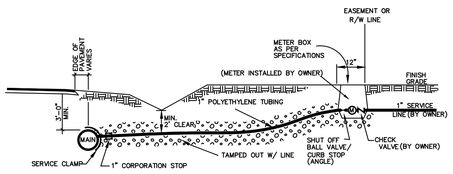


2' CONCRETE MOUNTABLE CURB & SPILL GUTTER
NTS
MODIFIED NCDOT STANDARD 846.01



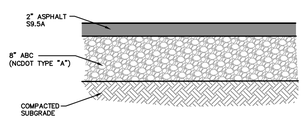
IN FIELD PIPE OPENINGS
N.T.S.

NOTES:
1. THIS APPLIES TO ALL PIPES 6" DIAMETER OR LESS UNLESS OTHERWISE SPECIFIED.
2. CLOSE WITH NON-SHRINK GROUT AFTER PIPE INSTALLATION.



NOTE:
CONTRACTOR TO CONSULT WITH OWNER'S WATER SYSTEM MANAGING ENTITY AND OWNER'S ENGINEER PRIOR TO ORDERING METER BOX AND SHUT OFF BALL VALVE/ CURB STOP TO MAKE SURE THEY MEET THEIR REQUIREMENTS.

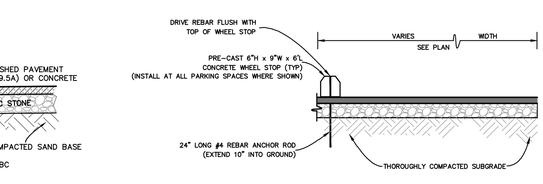
STANDARD 1" SERVICE LINE AND METER BOX INSTALLATION
N.T.S.



TYPICAL ASPHALT SECTION
N.T.S.

COMPACTION NOTES:
1. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.
2. COMPACT BACKFILL AND SUBGRADE TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) ALL BACKFILL MATERIAL SHALL BE SELECT BACKFILL UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. SELECT FILL SHALL CONSIST OF SAND OR GRAVEL CONTAINING LESS THAN 20% BY WEIGHT OF FINES [SP, SM, SW, GP, GW] HAVING A LIQUID LIMIT LESS THAN 20 AND PLASTIC LIMIT LESS THAN 6, AND FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL.

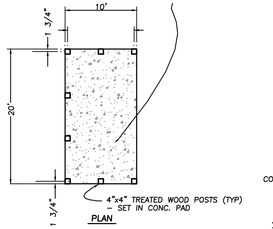
COMPACTION NOTES



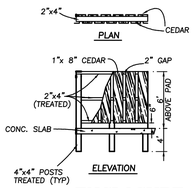
WHEEL STOP DETAIL
N.T.S.

Know what's below. Call before you dig.

NOTE:
THE DATA GIVEN ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATIONS, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.

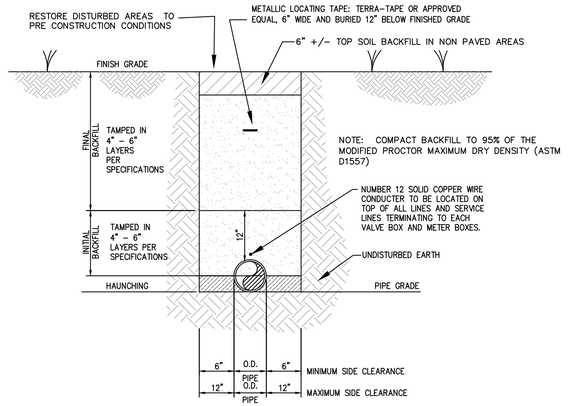


DUMPSTER PAD



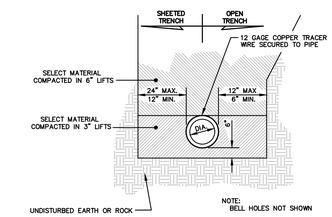
ENCLOSURE

CONCRETE DUMPSTER PAD AND ENCLOSURE
N.T.S.
(NOTE: DUMPSTER PAD DRAIN NOT SHOWN)



NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING
2. NO ROCKS OR BOULDERS 4" AND LARGER SHALL BE USED IN INITIAL BACKFILL AREA.
3. ALL BACKFILL MATERIAL SHALL BE SATISFACTORY SOIL MATERIALS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER. (SATISFACTORY SOIL FILL SHALL CONSIST OF SAND OR GRAVEL CONTAINING LESS THAN 20% BY WEIGHT OF FINES [SW, SP, SP–SM, SM] HAVING A LIQUID LIMIT LESS THAN 20 AND PLASTIC LIMIT LESS THAN 6, AND FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL.)

TYPICAL WATERLINE BACKFILLING REQUIREMENTS AND TRENCH BOTTOM DIMENSIONS
N.T.S.



STANDARD EXCAVATION

NOTES:
1. CROSSING A WATER MAIN OVER A SEWER; WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION; IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
2. CROSSING A WATER MAIN UNDER A SEWER; WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

NOTE:
MINIMUM 30" COVER IN PIEDMONT AND COASTAL AREAS

TYPICAL SANITARY SEWER TRENCHING
N.T.S.

GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

Quible & Associates, P.C.
NC License# C-0208 SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
**NOT OFFERED AT THIS OFFICE
8445 CARATOKE HWY. POWELLS POINT, NC 27966 Phone: (252) 491-8146 Fax: (252) 491-8146
90 CHURCH STREET, SUITE B BLACK MOUNTAIN, NC 28711 Phone: (828) 419-9349 Fax: (252) 491-8146
admin@quible.com www.quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040787 CHRISTOPHER M. SCHMITT
CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

SITE & UTILITY DETAILS

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL
NAGS HEAD TOWNSHIP DARE COUNTY NORTH CAROLINA

COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

SHEET NO. 6 OF 6 SHEETS

NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
PO BOX 129
NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
C/O TIM MCDONNELL
PO BOX 6028
GREENVILLE, NC 27835

2. PROPERTY IDENTIFICATION: 4928, 4926 & 4922 S. PASSAGE WAY
4927 & 4923 SOUTH CROATAN HIGHWAY
PIN#: 0801-1313-8895; 0801-1313-8960; 0801-1313-8936
0801-13-13-7759; 0801-1313-7809
PID#: 02839113; 02839114; 02839115
027839062; 027839063;

3. PARCEL AREA: 63,021 SQ.FT. / 1.45 ACRES
(AREAS BY COORDINATE METHOD)

4. ZONING CLASSIFICATION: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) (HOTEL DISTRICT OVERLAY)

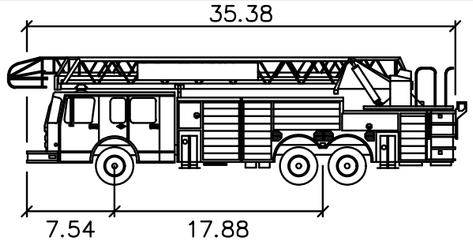
5. PROPOSED REZONING FOR 4928, 4926 & 4922 S. PASSAGE WAY: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) FROM SF2 (SINGLE FAMILY) ZONING

6. REFERENCES: D.B. 1939, PG. 480; P.C. E, SL. 134

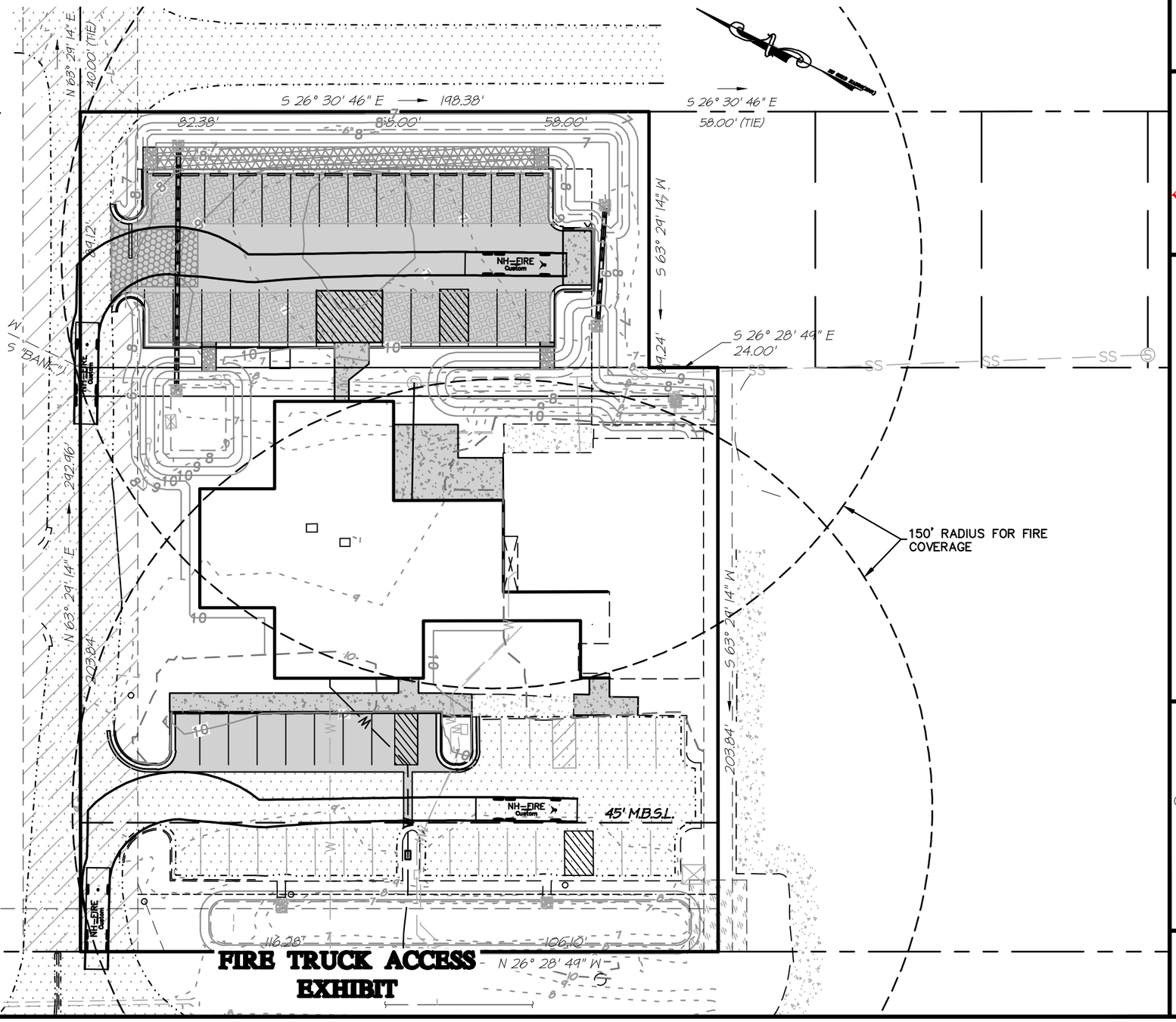
7. FIELD SURVEY BY QUIBLE & ASSOCIATE, P.C. DATES: 06-22-2017, 09-10-2019, & 10-21-2019.
(HORIZONTAL GROUND DISTANCES)

8. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAVD 1983 (2012)

9. PROPERTY IS LOCATED IN F.I.R.M. ZONES "AE" (EL. 9')
PANEL 3730080100J, DATED 09/20/06
FIRM ZONES SUBJECT TO CHANGE BY F.E.M.A.



FIRE TRUCK	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.00
Steering Angle	: 40.00



GRAPHIC SCALE

80' 0 40' 80' 160'

(IN FEET)
1 inch = 80' ft.

NC License#: C-0208
Quible & Associates, P.C. SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENG./SUR. NOT OFFERED AT BLACK MTN. OFFICE
8466 Caratoke Hwy, Powells Point, NC 27966
Phone: (252) 491-8147 Fax: (252) 491-8146
90 Church St., Ste. B, Black Mountain, NC 28711
Phone: (828) 793-0398 Fax: (252) 491-8146
administrator@quible.com

PRELIMINARY NOT FOR CONSTRUCTION

FIRE ROUTING EXHIBIT

CANCER CENTER
OUTER BANKS HOSPITAL

TOWN OF NAGS HEAD — DARE COUNTY
NORTH CAROLINA

0 40 80
GRAPHIC SCALE IN FEET 1"=40

PROJECT	DRAWN BY	CHECKED BY	DATE
P17012.1	CMS	CMS/MWS	12/04/19

Q:\2017\P17012\Drawings\P17012.1\P17012.1-base.dwg 12/4/2019 9:35 PM Csaunders

NOTES:

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NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
C/O TIM MCDONNELL
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PID#: 02839113; 02839114; 02839115
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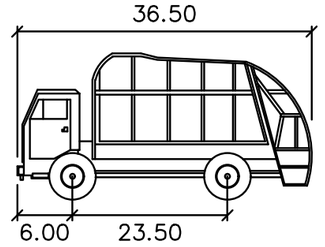

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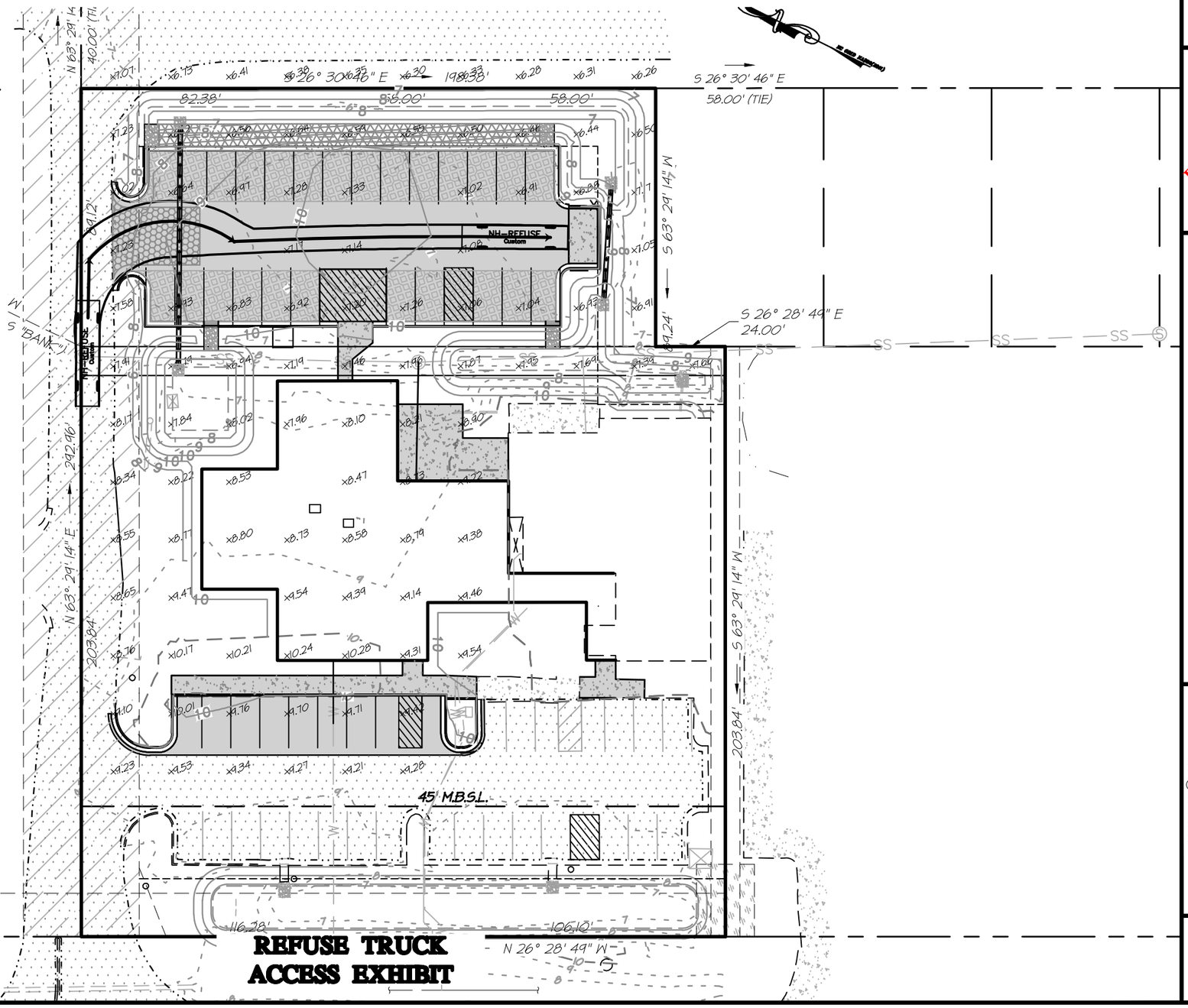
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.0



GRAPHIC SCALE

80' 0 40' 80' 160'

(IN FEET)
1 inch = 80' ft.

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PRELIMINARY NOT FOR CONSTRUCTION

REFUSE ROUTING EXHIBIT

CANCER CENTER
OUTER BANKS HOSPITAL

TOWN OF NAGS HEAD — DARE COUNTY — NORTH CAROLINA

GRAPHIC SCALE IN FEET 1"=40
0 40 80

PROJECT	DRAWN BY	CHECKED BY	DATE
P17012.1	CMS	CMS/MWS	11/14/19

A

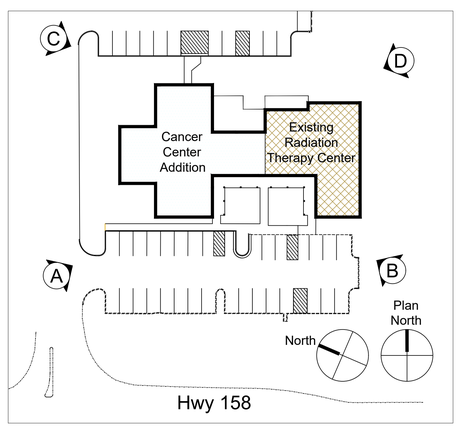
B

C

D

Exterior Sketch Images

Materials, colors, profiles, and details will match the existing Radiation Therapy Center



THE EAST GROUP

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  324 Evans Street
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  www.eastgroup.com
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  Raleigh, NC 27607
  Tel 919.784.9330 Fax 919.784.9331
- NC Engineering License No. C-0206
- NC Architectural License No. 50213
- NC Landscape Architectural License No. C-427

VIDANT HEALTH™

THE OUTER BANKS HOSPITAL
4800 South Croatan Highway
Nags Head, NC 27959
252-489-9111

THE EAST GROUP, P.A. REGISTERED ARCHITECTURAL COMPANY 50213 NORTH CAROLINA GREENVILLE, NC

PRELIMINARY DESIGN DOCUMENTS

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
0	12-06-2019	PRELIMINARY DRAWING - NOT FOR CONSTRUCTION	CDL	CDL

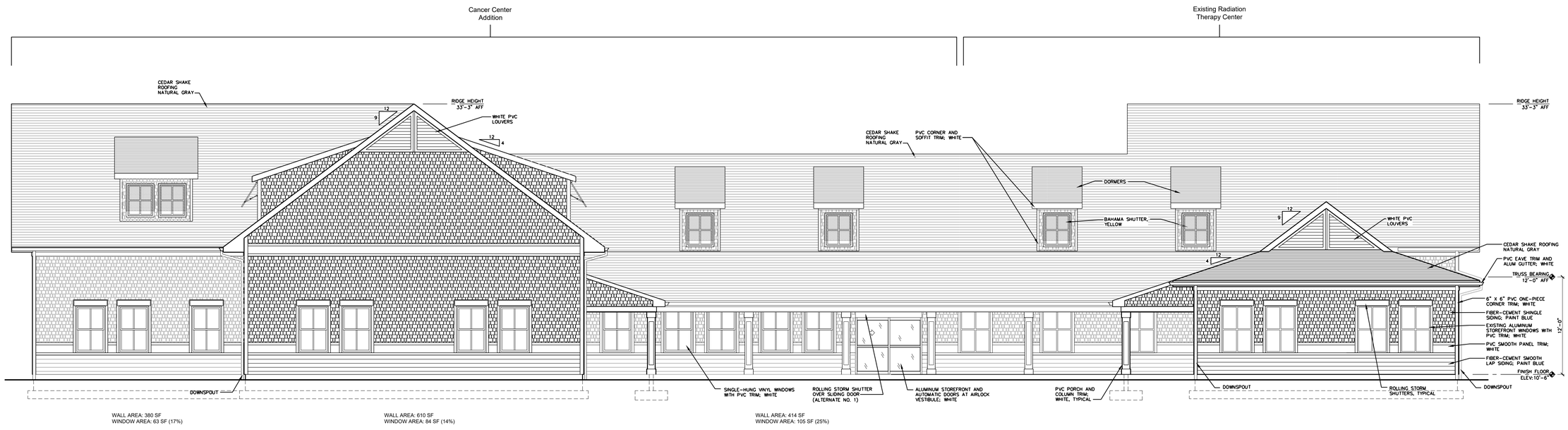
TEG PROJECT NO.
20190179

CLIENT PROJECT NO.
-

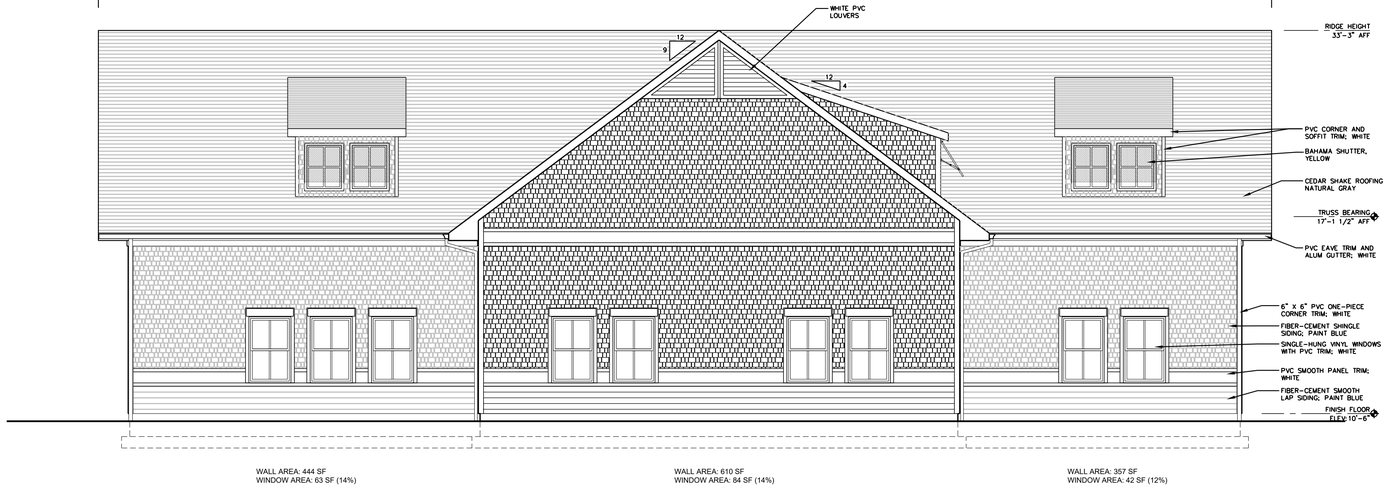
PROJECT TITLE
OBH CANCER CENTER

DRAWING TITLE
EXTERIOR IMAGES

DRAWING NO.
A6.3



1 PLAN-SOUTH ELEVATION
SCALE: 3/16" = 1'-0"



2 PLAN-WEST ELEVATION
SCALE: 3/16" = 1'-0"

Exterior Appearance:

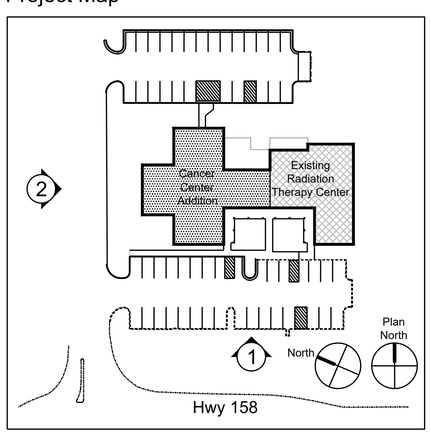
Materials, colors, profiles, and details will match the existing Radiation Therapy Center

Town of Nags Head
Architectural Style Points Schedule

(applied to building addition only)

Design Element	Formula/Element Provided	Points Earned
Porches	1st Floor Porch - p1/b1 x 150 = p1 = perimeter of 1st floor with Porch = 72' b1 = perimeter of 1st floor = 379'	28
Dormers	n = number of dormers = 9 9 x 5 = 45 1 - 17-foot wide shed dormer (1 x 10) + 5 = 15 45 + 15 = 60 25 point maximum score	25
Roofs	Compliant Form and Pitch (Minimum 6:12 pitch for commercial buildings)	25
Building Form	Combination Base Form	40
Siding Materials	Simulated Shingle Siding	12
Miscellaneous Details	Beauty Bands - 5 Porch Column Trim - 5 Windows (single-hung) - 20	30
	Total Points Earned	160

Project Map



THE EAST GROUP

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■ *Surveying* ■ *Technology*

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Tel 252.758.3746 Fax 252.830.3954
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■ *NC Engineering License No. C-0206*
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■ *NC Landscape Architectural License No. C-427*

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NOT FOR CONSTRUCTION

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0	12-06-2019	PRELIMINARY DRAWING - NOT FOR CONSTRUCTION	CDL	CDL

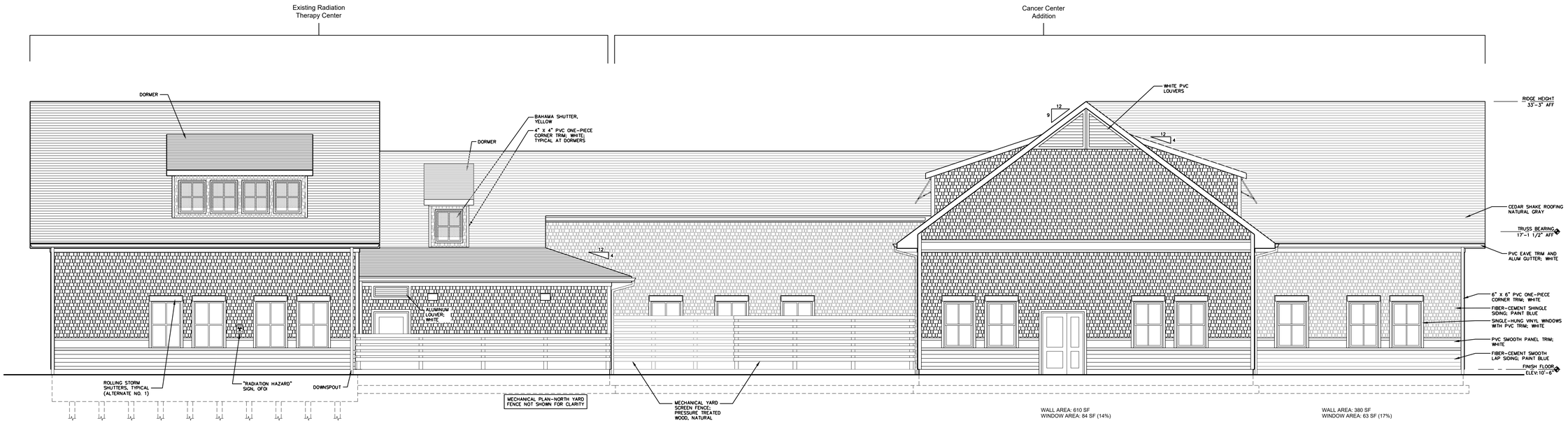
TEG PROJECT NO.
20190179

CLIENT PROJECT NO.
-

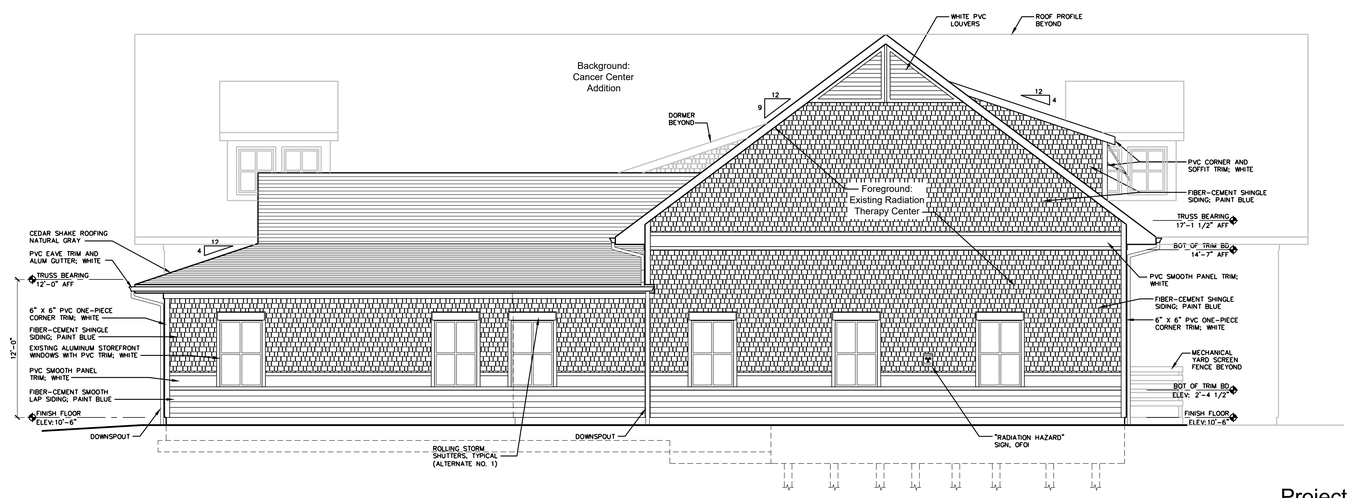
PROJECT TITLE
OBH CANCER CENTER

DRAWING TITLE
BUILDING ELEVATIONS

DRAWING NO.
A6.1



1 PLAN-NORTH ELEVATION
SCALE: 3/16" = 1'-0"



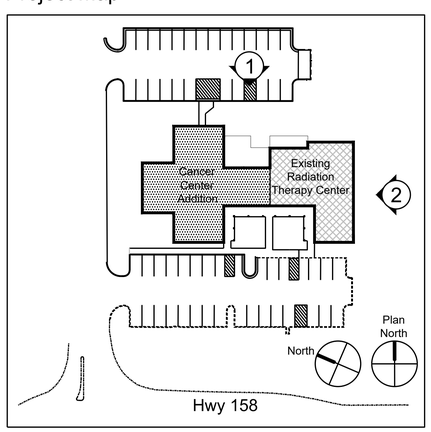
Existing Radiation Therapy Center Elevation

2 PLAN-EAST ELEVATION
SCALE: 3/16" = 1'-0"

Exterior Appearance:

Materials, colors, profiles, and details will match the existing Radiation Therapy Center

Project Map



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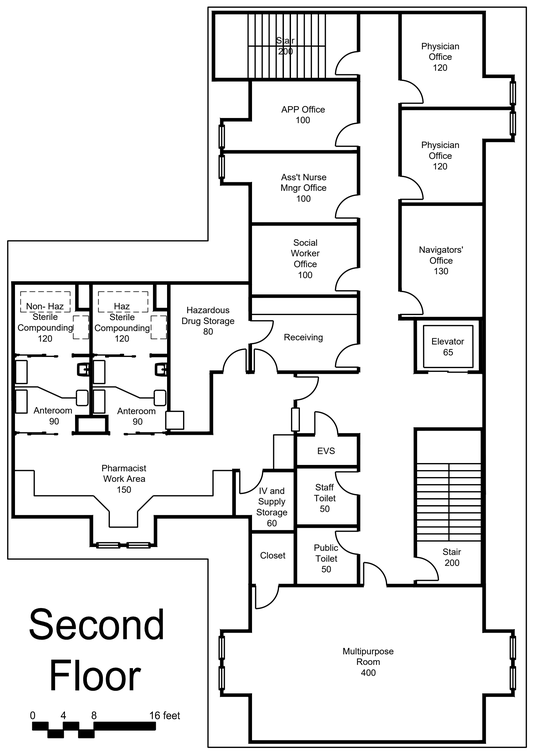
PRELIMINARY DESIGN DOCUMENTS
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
0	12-06-2019	PRELIMINARY DRAWING - NOT FOR CONSTRUCTION	CDL	CDL

TEG PROJECT NO.
20190179
CLIENT PROJECT NO.
-
PROJECT TITLE
OBH CANCER CENTER
DRAWING TITLE
BUILDING ELEVATIONS
DRAWING NO.
A6.2



Second Floor

0 4 8 16 feet

First Floor

0 4 8 16 feet

Building Area

Radiation Therapy:	4,500 SF
Addition First Floor:	6,414 SF
Addition Second Floor:	3,966 SF
Total:	14,880 SF

Allowable Area Calculation:

NCSBC Table 506.2, B occupancy, Type V-B Construction, Non-sprinklered: 9,000 SF allowable area

NCSBC 506.2.3: Area for Single-occupancy Multistory Buildings

[9000 + (9000 x 41%)] x 2 = 25,380 SF allowable area

A_t NS I_f S_a A_a

NCSBC 506.3: Frontage Increase

(427 / 647 - 0.25) x 30 / 30 = 41% increase

F P W I_f

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■ Surveying ■ Technology

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Tel 252.758.3746 Fax 252.830.3954
www.eastgroup.com

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■ NC Engineering License No. C-0206
■ NC Architectural License No. 50213
■ NC Landscape Architectural License No. C-427

VIDANT HEALTH™

THE OUTER BANKS HOSPITAL
4800 South Croatan Highway
Nags Head, NC 27959
252-489-9111

THE EAST GROUP, P.A. REGISTERED ARCHITECTURAL COMPANY 50213 NORTH CAROLINA GREENVILLE, NC

PRELIMINARY DESIGN DOCUMENTS

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
0	11-14-2019	PRELIMINARY DRAWING - NOT FOR CONSTRUCTION	CDL	CDL

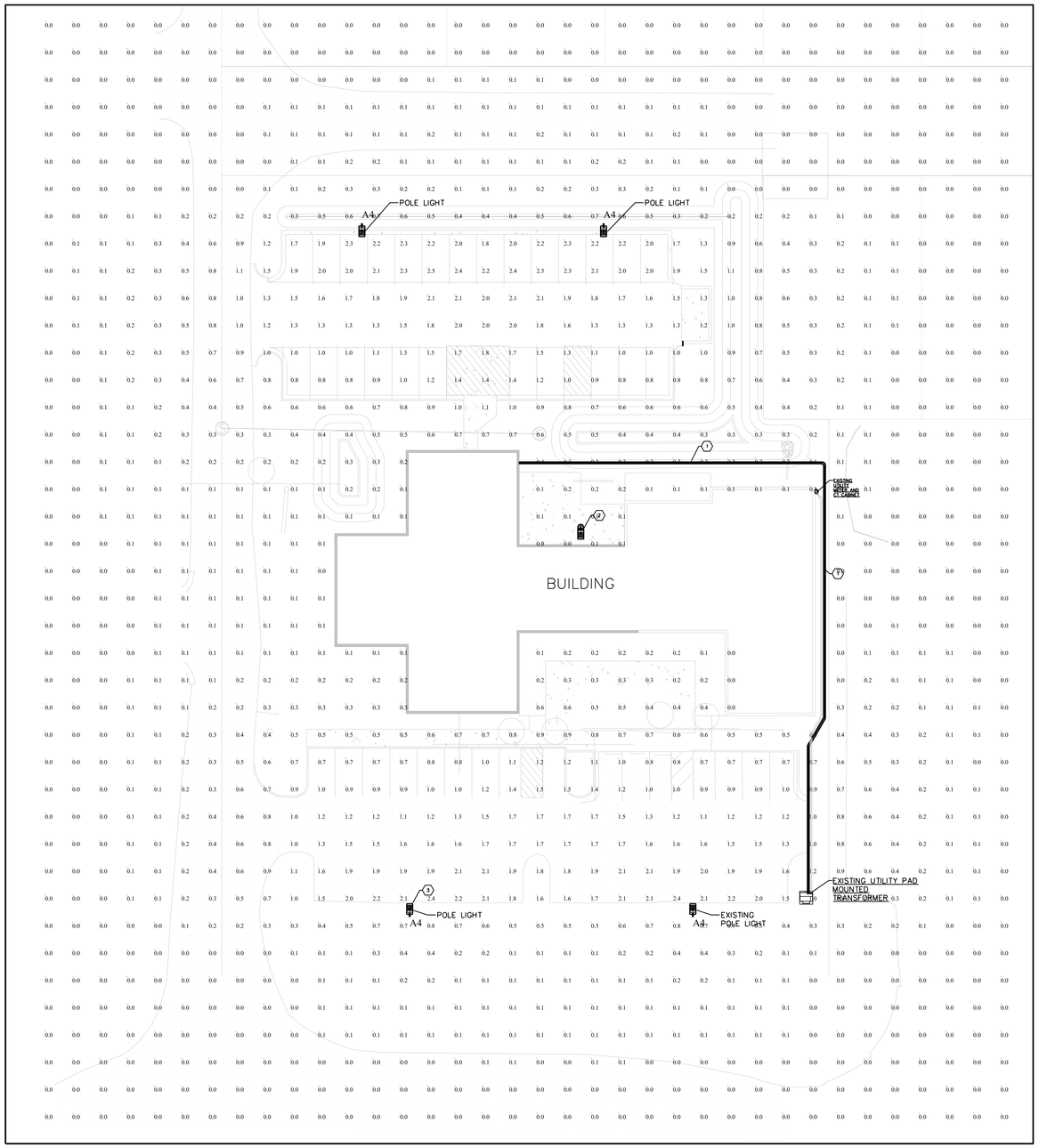
TEG PROJECT NO.
20190179

CLIENT PROJECT NO.
-

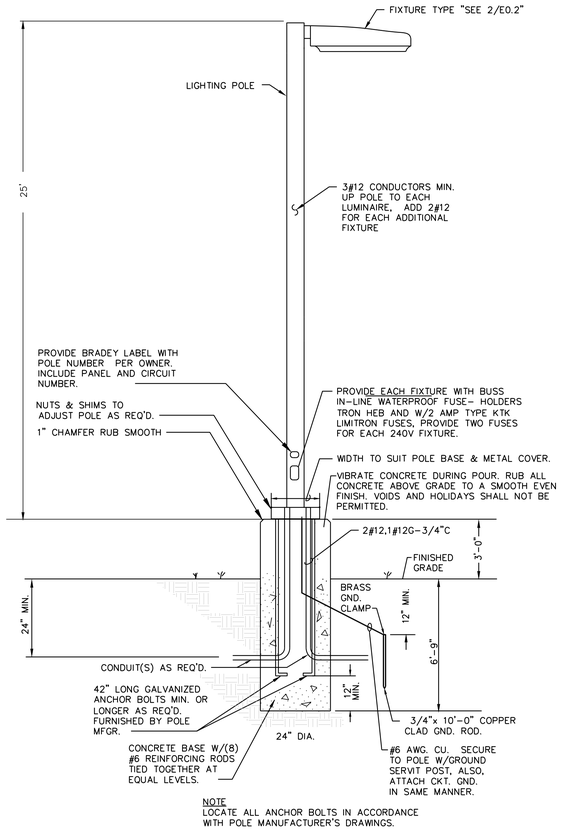
PROJECT TITLE
OBH CANCER CENTER

DRAWING TITLE
FLOOR PLANS: FIRST FLOOR AND SECOND FLOOR

DRAWING NO.
A2.1



1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'



NOTE
LOCATE ALL ANCHOR BOLTS IN ACCORDANCE WITH POLE MANUFACTURER'S DRAWINGS.

2 AREA POLE LIGHT DETAIL
SCALE: N.T.S.

GENERAL NOTES:

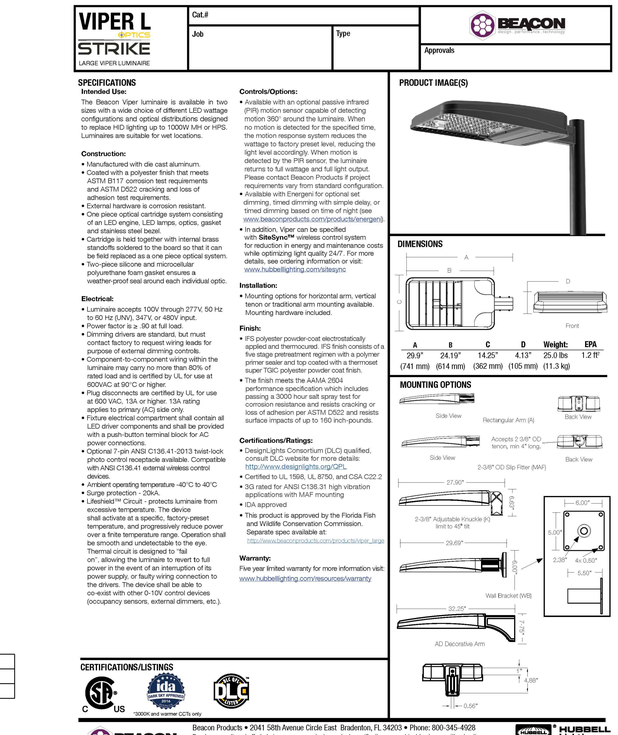
1. PLANS ARE GENERALLY DIAGRAMMATIC. NECESSARY OFFSETS IN CONDUITS, ETC., REQUIRED TO INSTALL EQUIPMENT SHALL BE PROVIDED WITH NO ADDITIONAL EXPENSE TO THE OWNER.
2. PROVIDE ALL CUTTING AND REPAIRING OF SIDEWALKS, PAVEMENT, ETC. NECESSARY FOR THE INSTALLATION OF WORK. ANY CUTTING OF STRUCTURAL MEMBERS OR FINISHED WORK SHALL HAVE PRIOR APPROVAL OF ARCHITECT/ENGINEER.
3. ALL JUNCTION BOX COVERS AND POLE BASES ARE TO BE LABELED TO IDENTIFY SYSTEM. BOXES CONTAINING POWER CIRCUITS ARE TO BE LABELED USING PANELBOARD DESIGNATION AND CIRCUIT NUMBER (I.E., "BHMA-10"). OUTSIDE OF BOX COVER SHALL BE LABELED WITH BLACK PLASTIC LAMINOLD TAGS WITH 1/4" HIGH WHITE LETTERS FASTENED WITH BRASS SCREWS. THIS LABELING SHALL BE PROVIDED BY THE CONTRACTOR.
4. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. ALL UNDERGROUND ELBOWS SHALL BE SCHEDULE 40 PVC. ALL UNDERGROUND CONDUIT SHALL BE A MINIMUM OF 24" DEPTH TO TOP OF CONDUIT. ALL ABOVE GROUND CONDUIT SHALL BE ALL FLEX SHALL BE SEALTITE G.R.C.
5. ALL SPLICES IN UNDERGROUND JUNCTION BOXES SHALL BE WATERPROOF.
6. GROUNDING SHALL BE IN ACCORDANCE WITH NEC, ARTICLE 250. ALL CONDUITS AND LIGHT POLES SHALL HAVE A GREEN EQUIPMENT GROUNDING CONDUCTOR, #12 MINIMUM.
7. ALL INGROUND HANDHOLE/PULLBOXES AND COVERS SHALL BE QUAZITE, ANSI TIER 15 MINIMUM, UL LISTED, WITH COVERS MARKED ELECTRICAL OR DATA. ALL COVERS SHALL BE LOCKABLE AND REQUIRE A SPECIAL TOOL TO OPEN. ALL BOXES SHALL BE SET ON A MINIMUM 8" DEEP BED OF GRAVEL SPREAD 6" IN ALL DIRECTIONS AROUND HANDHOLE/PULLBOX.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON ELECTRICAL SITE PLANS.
9. IF REQUIRED, ALL EXISTING ASPHALT SHALL BE NEATLY SAW CUT.
10. IF REQUIRED, ALL EXISTING ASPHALT AND CONCRETE SHALL BE PATCHED TO MATCH EXISTING. REPAINT ANY EXISTING PARKING LOT STRIPING DISTURBED BY TRENCHING.
11. DO NOT TRENCH IN EXISTING TREE ROOT ZONES.
12. KEEP PANELS, PULLBOXES, AND CONTACTORS CLOSED AND LOCKED AT ALL TIMES.

NOTES KEYED TO PLAN:

1. REFER TO ELECTRICAL RISER
2. REMOVE AND RELOCATE EXITING SITE LIGHT ASSEMBLY.
3. RELOCATED SITE LIGHT ASSEMBLY.

Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	4	A4	25' - 0" AFG	0.900	14931	136	VP-L-64L-136-3K7-4W

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.37	2.5	0.0	N.A.	N.A.
Parking Area	Illuminance	Fc	1.53	2.5	0.7	2.19	3.57



3 POLE LIGHT
SCALE: N.T.S.

THE EAST GROUP
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252-489-9111

PRELIMINARY DESIGN DOCUMENTS
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
0	11-14-2019	PRELIMINARY DRAWING - NOT FOR CONSTRUCTION	CCM	DJD

TEG PROJECT NO.
20190179
CLIENT PROJECT NO.
-
PROJECT TITLE
OBH CANCER CENTER
DRAWING TITLE
ELECTRICAL SITE PLAN
DRAWING NO.
E0.2

Town of Nags Head
Post Office Box 99
Nags Head, NC 27959
Telephone 252-441-5508
Fax 252-441-0776
www.nagsheadnc.gov

Date: December 13, 2019

To: Kelly Wyatt, Deputy Planning Director

From: David Ryan, P.E.

RE: OB Hospital Cancer Center -Town Engineer Plan Review Comments

---

Internal Traffic Circulation Review

1. Vehicle pathing exhibits have been provided which depict the routing of emergency and sanitation vehicles. The internal traffic circulation approval is contingent on the Public Works/Fire Department approval for access of sanitation and emergency vehicle access.

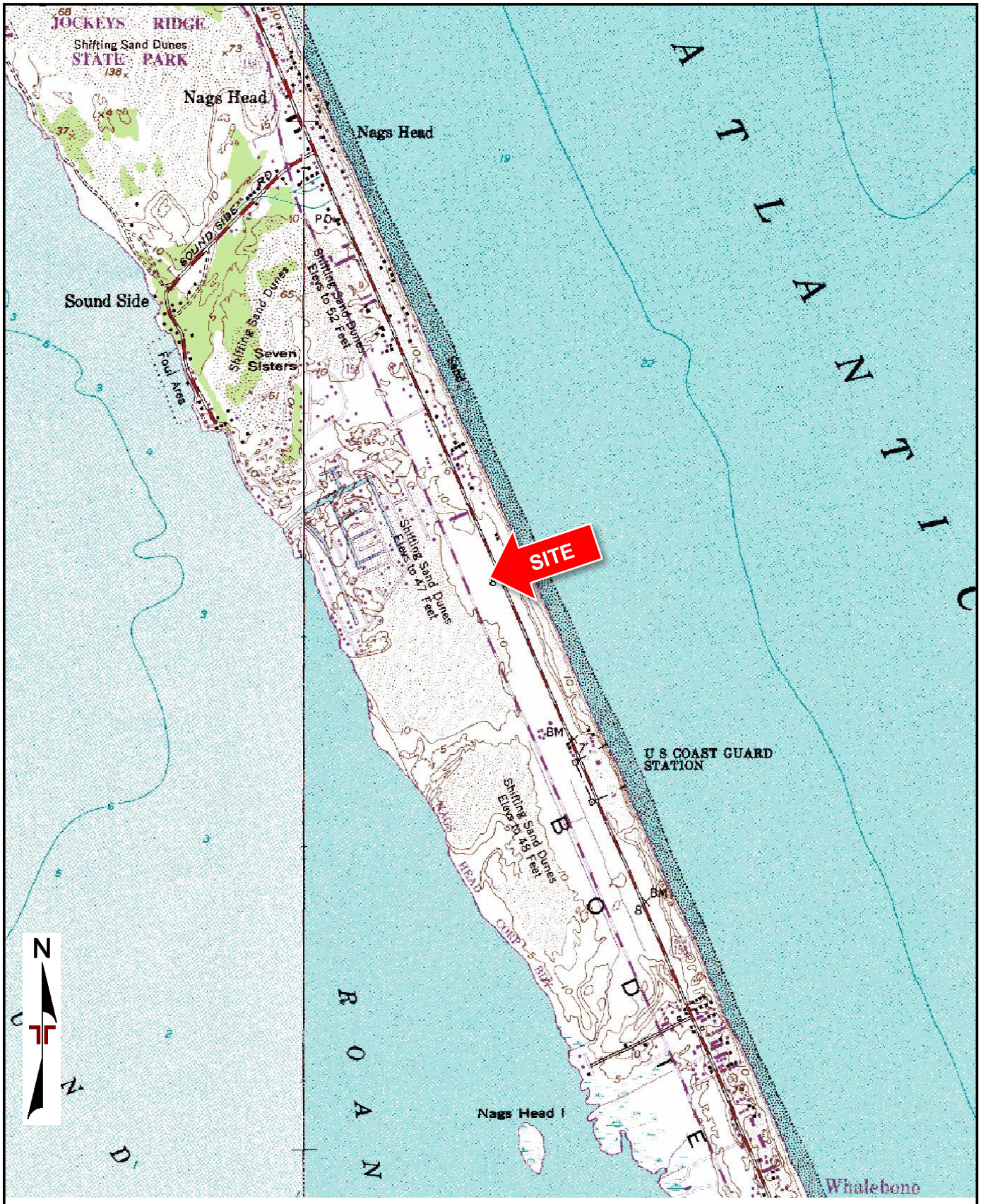
Stormwater Management Review

1. A NCDEQ high-density stormwater management permit shall be acquired for this application and submitted to the Town upon issuance. **This shall be a condition of approval.**

2. The project shall be designed, constructed, operated and maintained in accordance with Article 11. Environmental Regulations of the Town of Nags Head Unified Development Ordinance. **This shall be a condition of approval.**

3. The submitted site development plan has been determined to be in accordance with Article 11. Environmental Regulations of the Unified Development Ordinance**.**

APPENDIX A
FIELD EXPLORATION



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: MANTEO, NC (1/1/1983) and ROANOKE ISLAND NE, NC (1/1/1983).

Project Manager: AJG	Project No. 72175062	Terracon 314 Beacon Dr Winterville, NC 28590-7956	SITE LOCATION PLAN	Exhibit
Drawn by: AJG	Scale: 1"=2,000'		OBH Radiation Treatment Center S Croatan Hwy Nags Head, NC	A-1
Checked by: PCL	File Name: 72175062 EXA			
Approved by: AJG	Date: 9/1/17			

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

Project Manager: AJG	Project No. 72175062	Terracon 314 Beacon Dr Winterville, NC 28590-7956	BORING LOCATION PLAN	Exhibit
Drawn by: AJG	Scale: AS SHOWN		OBH Radiation Treatment Center S Croatan Hwy Nags Head, NC	A-2
Checked by: PCL	File Name: 72175062 EXA			
Approved by: AJG	Date: 9/1/17			

Field Exploration Description

Coordinates of the borings were determined by plotting the points provided on the site plan and referencing existing site features on aerial photography. The boring locations were marked in the field by Terracon using a handheld GPS. The location of the borings should be considered accurate only to the degree implied by the means and methods used to define it.

The soil test borings were performed by a trailer mounted power drilling rig utilizing mud rotary drilling procedures to advance the boreholes. Representative soil samples were obtained at intervals of 2.5 feet above a depth of 10 feet and at 5 foot intervals below 10 feet using split-barrel sampling procedures. In the split barrel sampling procedure, the number of blows required to advance a standard 2 inch O.D. split barrel sampler the 12 inches after the first 6 inches by means of a 140 pound automatic hammer with a free fall of 30 inches, is the standard penetration resistance value (SPT-N). This value is used to estimate the in-situ relative density of cohesionless soils and consistency of cohesive soils.

An automatic SPT hammer was used to advance the split-barrel sampler in the borings performed on this site. A greater efficiency is typically achieved with the automatic hammer compared to the conventional safety hammer operated with a cathead and rope. Published correlations between the SPT values and soil properties are based on the lower efficiency cathead and rope method. This higher efficiency affects the standard penetration resistance blow count (N) value by increasing the penetration per hammer blow over what would be obtained using the cathead and rope method. The effect of the automatic hammer's efficiency has been considered in the interpretation and analysis of the subsurface information for this report.

The samples were tagged for identification, sealed to reduce moisture loss, and taken to our laboratory for further examination, testing, and classification. Information provided on the boring logs attached to this report includes soil descriptions, consistency evaluations, boring depths, sampling intervals, and groundwater conditions.

A field log of each boring was prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller’s interpretation of the subsurface conditions between samples. Final boring logs included with this report represent the engineer's interpretation of the field logs and include modifications based on laboratory observation and tests of the samples. Additional information provided on the boring logs attached to this report includes soil descriptions, consistency evaluations, boring depths, sampling intervals, and groundwater conditions.

BORING LOG NO. B-1

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939153° Longitude: -75.615057°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), tannish brown, tannish gray and dark gray, loose to medium dense								
			▽		3-3-3 N=6	1			
		5			3-4-4 N=8	2			
					3-4-5 N=9	3			
		10			5-5-6 N=11	4			
		15			3-4-4 N=8	5			
					6-7-8 N=15	6			
	20.0 Boring Terminated at 20 Feet	20							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 Boring Completed: 08-25-2017

Drill Rig: Trailer Driller: Carolina Drilling, Inc.

Project No.: 72175062 Exhibit: A-4

BORING LOG NO. B-2

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939055° Longitude: -75.614986°

DEPTH

GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
POORLY GRADED SAND (SP), tannish brown, light tan, tannish gray and dark gray, loose to medium dense								
		▽	X	1-2-2 N=4	1	4		
	5		X	3-4-5 N=9	2	23		
			X	3-2-4 N=6	3	26		
	10		X	4-5-7 N=12	4	26		
	15		X	3-4-5 N=9	5	23	NP	1
	20		X	4-6-9 N=15	6	23		

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 | Boring Completed: 08-25-2017

Drill Rig: Trailer | Driller: Carolina Drilling, Inc.

Project No.: 72175062 | Exhibit: A-5

BORING LOG NO. B-2

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939055° Longitude: -75.614986°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), tannish brown, light tan, tannish gray and dark gray, loose to medium dense *(continued)*								
		25		X	6-7-6 N=13	7	26		
	28.0								
	SILTY SAND (SM), trace mica, dark gray, medium dense	30		X	10-11-9 N=20	8	28		
		35		X	7-9-10 N=19	9	26		
	40.0	40		X	8-11-13 N=24	10	26		
	Boring Terminated at 40 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 | Boring Completed: 08-25-2017

Drill Rig: Trailer | Driller: Carolina Drilling, Inc.

Project No.: 72175062 | Exhibit: A-5

BORING LOG NO. B-3

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939077° Longitude: -75.615147°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), tannish brown, tannish gray, dark gray and dark brown, loose to medium dense								
				X	2-2-2 N=4	1			
		5	▽	X	4-4-4 N=8	2			
				X	3-3-4 N=7	3	24	NP	1
		10		X	3-4-4 N=8	4			
		15		X	5-6-7 N=13	5			
		20		X	6-7-7 N=14	6			
	20.0 ***Boring Terminated at 20 Feet***								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *After 24 hours*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 | Boring Completed: 08-25-2017

Drill Rig: Trailer | Driller: Carolina Drilling, Inc.

Project No.: 72175062 | Exhibit: A-6

BORING LOG NO. B-4

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.939096° Longitude: -75.615277°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), gray to dark gray and tannish brown, loose to medium dense								
				X	3-3-3 N=6	1			
			▽	X	3-2-2 N=4	2			
		5		X	2-3-2 N=5	3			
				X	2-4-5 N=9	4			
		10							
				X	6-6-8 N=14	5			
		15							
				X	4-5-8 N=13	6			
	20.0	20							
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *After 24 hours*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 Boring Completed: 08-25-2017

Drill Rig: Trailer Driller: Carolina Drilling, Inc.

Project No.: 72175062 Exhibit: A-7

BORING LOG NO. B-5

PROJECT: OBH Radiation Treatment Center

CLIENT: Vidant Health
Greenville, NC

SITE: S Croatan Hwy
Nags Head, NC

LOCATION See Exhibit A-2

Latitude: 35.938999° Longitude: -75.615219°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	POORLY GRADED SAND (SP), gray brown to dark gray and tannish brown, loose to medium dense								
			▽	X	3-3-4 N=7	1			
		5		X	2-2-2 N=4	2			
				X	2-3-3 N=6	3			
		10		X	4-4-5 N=9	4			
		15		X	6-6-6 N=12	5			
				X	5-6-6 N=12	6			
	20.0	20							
	Boring Terminated at 20 Feet								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

Terracon
314 Beacon Dr
Winterville, NC

Boring Started: 08-25-2017 Boring Completed: 08-25-2017

Drill Rig: Trailer Driller: Carolina Drilling, Inc.

Project No.: 72175062 Exhibit: A-8

APPENDIX B
LABORATORY TESTING

Laboratory Test Description

Descriptive classifications of the soils indicated on the boring logs are in accordance with the enclosed General Notes and the Unified Soil Classification System. Also shown are estimated Unified Soil Classification Symbols. A brief description of this classification system is attached to this report. Soils laboratory testing was performed under the direction of a geotechnical engineer and included visual classification, moisture content, grain size analysis, and Atterberg limits testing as appropriate. The results of the laboratory testing are shown on the borings logs and in Appendix B.

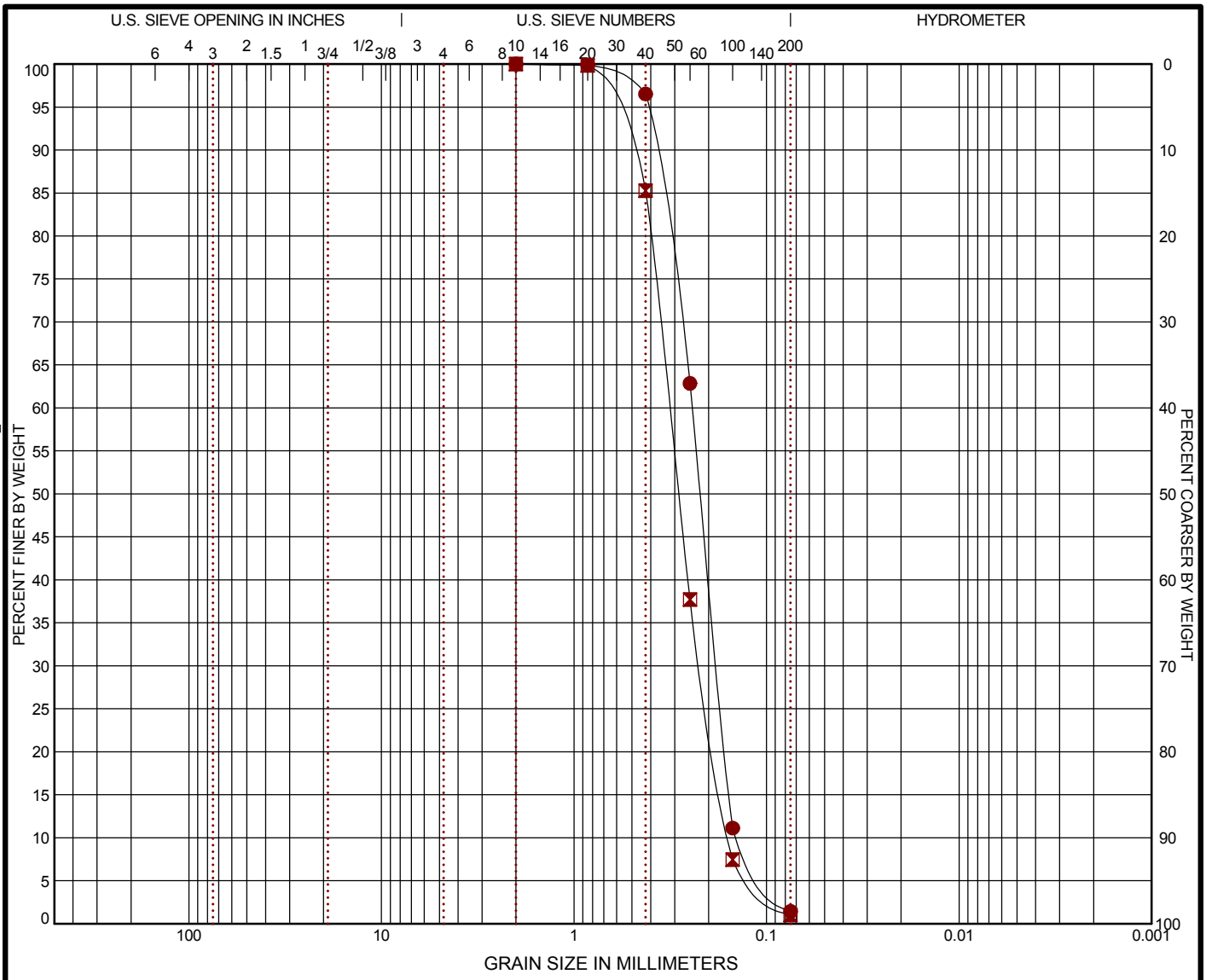
The laboratory test methods are described in the ASTM Standards listed below:

ASTM D2216 Standard Test Method of Determination of Water Content of Soil and Rock by Mass
ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D2488 Standard Practice of Description and Identification of Soils (Visual Manual Method)
ASTM D422 Standard Test Method for Particle-Size Analysis of Soils
ASTM D1140 Standard Test Methods for Determining the Amount of Material Finer than No. 200 Sieve in Soils by Washing
ASTM D4318 Standard Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils

Procedural standards noted above are for reference to methodology in general. In some cases variations to methods are applied as a result of local practice or professional judgment.

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BORING ID	DEPTH	% COBBLES	% GRAVEL	% SAND	% SILT	% FINES	% CLAY	USCS
●	**B-2**	**13.5 - 15**	**0.0**	**0.0**	**98.6**		**1.4**		**SP**
⊠	**B-3**	**6 - 7.5**	**0.0**	**0.0**	**99.0**		**1.0**		**SP**

	GRAIN SIZE	
	●	⊠
D_{60}	**0.243**	**0.321**
D_{30}	**0.181**	**0.219**
D_{10}	**0.138**	**0.157**
	COEFFICIENTS	
C_C	**0.97**	**0.96**
C_U	**1.76**	**2.05**

●		⊠			
Sieve	% Finer	Sieve	% Finer	Sieve	% Finer
#10	100.0	#10	100.0		
#20	99.92	#20	99.85		
#40	96.52	#40	85.27		
#60	62.85	#60	37.7		
#100	11.13	#100	7.47		
#200	1.43	#200	1.02		

SOIL DESCRIPTION

● POORLY GRADED SAND (SP)

⊠ POORLY GRADED SAND (SP)

REMARKS

●

⊠

PROJECT: OBH Radiation Treatment Center

SITE: S Croatan Hwy
Nags Head, NC

Terracon
314 Beacon Dr
Winterville, NC

PROJECT NUMBER: 72175062

CLIENT: Vidant Health
Greenville, NC

EXHIBIT: B-2

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS 1 72175062 OBH RADIATION TREATMENT CENTER; NAGS HEAD, NC.GPJ TERRACON_DATATEMPLATE.GDT 9/5/17

APPENDIX C

SUPPORTING DOCUMENTS

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING


Auger


Split Spoon


Shelby Tube


Macro Core


Ring Sampler


Rock Core


Grab Sample


No Recovery

WATER LEVEL


Water Initially Encountered


Water Level After a Specified Period of Time


Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, psf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 500	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	500 to 1,000	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	4,000 to 8,000	15 - 30	19 - 42
			Hard	> 8,000	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel [F,G,H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G,H,I]
			Fines classify as CL or CH		SC	Clayey sand [G,H,I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A" line [J]		CL	Lean clay [K,L,M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K,L,M,N]
			Liquid limit - not dried			Organic silt [K,L,M,O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K,L,M]
			PI plots below "A" line		MH	Elastic Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K,L,M,P]
			Liquid limit - not dried			Organic silt [K,L,M,Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

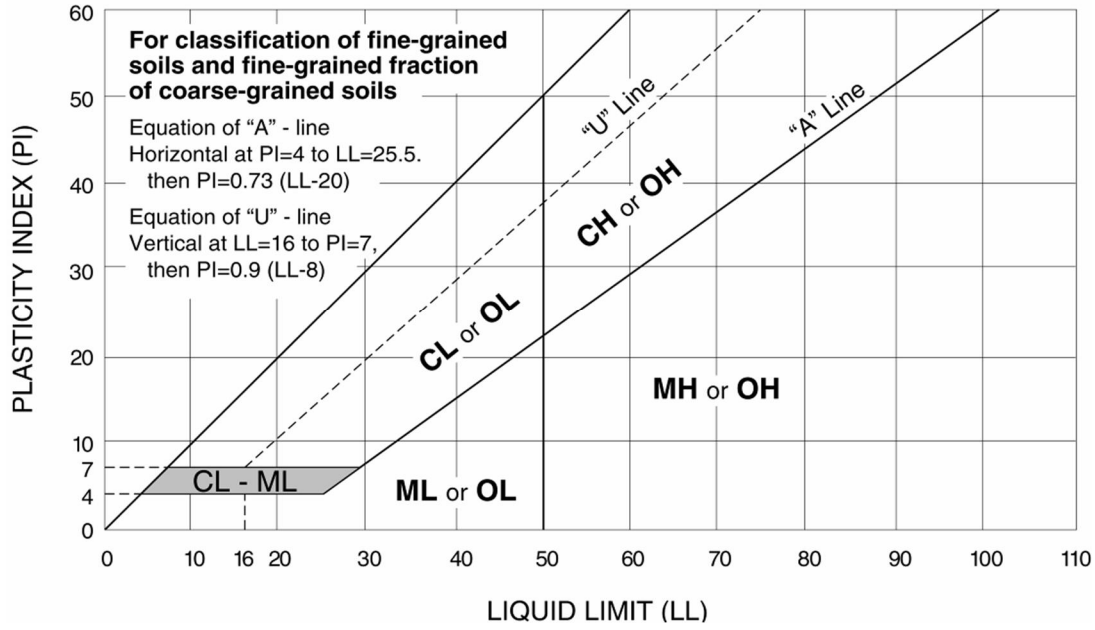
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



Terracon

Exhibit C-2

SHEET INDEX

NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
PO BOX 129
NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
C/O TIM McDONNELL
P.O. BOX 6028
GREENVILLE, NC 27835

2. PROPERTY IDENTIFICATION: 4928, 4926 & 4922 S. PASSAGE WAY
4927 & 4923 SOUTH CROATAN HIGHWAY
PIN#: 0801-1313-8895; 0801-1313-8960; 0801-1313-8936
0801-13-13-7759; 0801-1313-7809
PID#: 028839113; 028839114; 028839115
027839062; 027839063;

3. PARCEL AREA: 63,021 sq.ft. / 1.45 acres
(AREAS BY COORDINATE METHOD)

4. ZONING CLASSIFICATION: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) (HOTEL DISTRICT OVERLAY)

5. PROPOSED REZONING FOR 4928, 4926 & 4922 S. PASSAGE WAY:SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) FROM SF2 (SINGLE FAMILY) ZONING

6. REFERENCES: D.B. 1939, PG. 480; P.C. E, SL. 134

7. FIELD SURVEY BY QUIBLE & ASSOCIATE, P.C. DATES: 06-22-2017, 09-10-2019, & 10-21-2019.
(HORIZONTAL GROUND DISTANCES)

8. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAVD 1983 (2012)

9. PROPERTY IS LOCATED IN F.I.R.M. ZONES "AE" (EL. 9')
PANEL 3730008100J, DATED 09/20/06
FIRM ZONES SUBJECT TO CHANGE BY F.E.M.A.

10. SETBACKS SHOWN ARE PER TOWN OF NAGS HEAD AND DO NOT REFLECT ANY RESTRICTIVE COVENANTS THAT MAY EXIST.

11. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A ±10,400 SQ.FT. ADDITION TO THE EXISTING CANCER CENTER WITH ASSOCIATED PARKING AND APPURTENANCES.

12. WASTEWATER: 22 EMPLOYEES @ 250 GPD/EMPLOYEE = 5,500 GPD (WASTEWATER IS PROPOSED TO BE CONVEYED TO CWS WWTP)

13. WATER SUPPLY PER TOWN OF NAGS HEAD. WATER CONNECTION MUST BE MADE IN ACCORDANCE WITH TOWN OF NAGS HEAD SPECIFICATIONS AND SHALL BE PERFORMED BY A LICENSED WATER UTILITY CONTRACTOR. NOTIFY TOWN PRIOR TO INSTALLATION.

14. ALL UTILITIES TO BE PLACED UNDERGROUND UNLESS OTHERWISE NOTED

15. LANDSCAPING AND BUFFERYARDS TO BE IN ACCORDANCE WITH ARTICLE 10 OF THE TOWN OF NAGS HEAD UNIFORM DEVELOPMENT ORDINANCES.

16. SITE WILL BE LIGHTED IN ACCORDANCE WITH ARTICLE 10, PART IV "OUTDOOR LIGHTING" OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.

17. PRIOR TO LAND DISTURBANCE, A TOWN APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS REQUIRED.

18. NO U.S.A.C.O.E. SECTION 404 JURISDICTIONAL WETLANDS EXIST ON SITE.

19. EXISTING VEGETATION TO BE PRESERVED WHERE POSSIBLE.

20. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.

21. ALL WORK WITHIN THE NC DOT RIGHT-OF-WAY REQUIRES AN APPROVED NC DOT RIGHT-OF-WAY ENCROACHMENT AGREEMENT.

22. A STATE HIGH DENSITY STORMWATER PERMIT IS REQUIRED IN ADVANCE OF ANY ONSITE DISTURBANCE.

23. THIS PLAN SET TO BE UTILIZED FOR THE INSTALLATION OF SITE LAYOUT IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO, GRADING & DRAINAGE, INSTALLATION OF SEDIMENT CONTROL MEASURES, WATER SYSTEM AND WASTEWATER CONNECTION. FOR BUILDING DESIGN AND ASSOCIATED PLUMBING, SEE APPROPRIATE SEPARATE PLANS.

DEMOLITION NOTES:

1. CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND SERVICES – TO INCLUDE BUT NOT LIMITED TO ELECTRIC, CABLE, TELEPHONE, GAS, SANITARY SEWER AND WATER – AND SHALL COORDINATE PROPER PROTECTION AND/OR RELOCATE WITH APPROPRIATE OWNER/UTILITY COMPANY.

2. CONTRACTOR SHALL WALK THE SITE AND BE FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND BE UNCLASSIFIED EXCAVATION.

3. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE CURBS AND GUTTERS, BITUMINOUS CONCRETE PAVEMENTS AND ALL MATERIALS OR VEGETATION CLEARED AND STRIPPED TO THE EXTENT NECESSARY FOR THE INSTALLATION OF NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING. COORDINATE WITH APPROPRIATE DRAWINGS.

4. THE CONTRACTOR SHALL PROTECT ALL PROPERTY AND STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED. DAMAGE TO THE PROPERTY DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO THE OWNER.

5. ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM PROJECT AREA.

6. THE CONTRACTOR SHALL PRODUCE A PHOTOGRAPHIC RECORD OF DEVELOPMENT COMMENCING WITH A RECORD OF THE SITE AS IT APPEARS BEFORE DEMOLITION IS BEGUN. AFTERWARDS A PHOTOGRAPHIC RECORD SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS.

7. EXISTING PAVEMENT, CURB AND GUTTER, LIGHTS, FENCES, TREE/VEGETATION AND UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED, AND UNDISTURBED DURING DEMOLITION. CONTRACTOR SHALL COORDINATE THE REMOVAL OF BITUMINOUS CONCRETE PAVEMENTS AND CURB AND GUTTER WITH THE SITE PLAN.

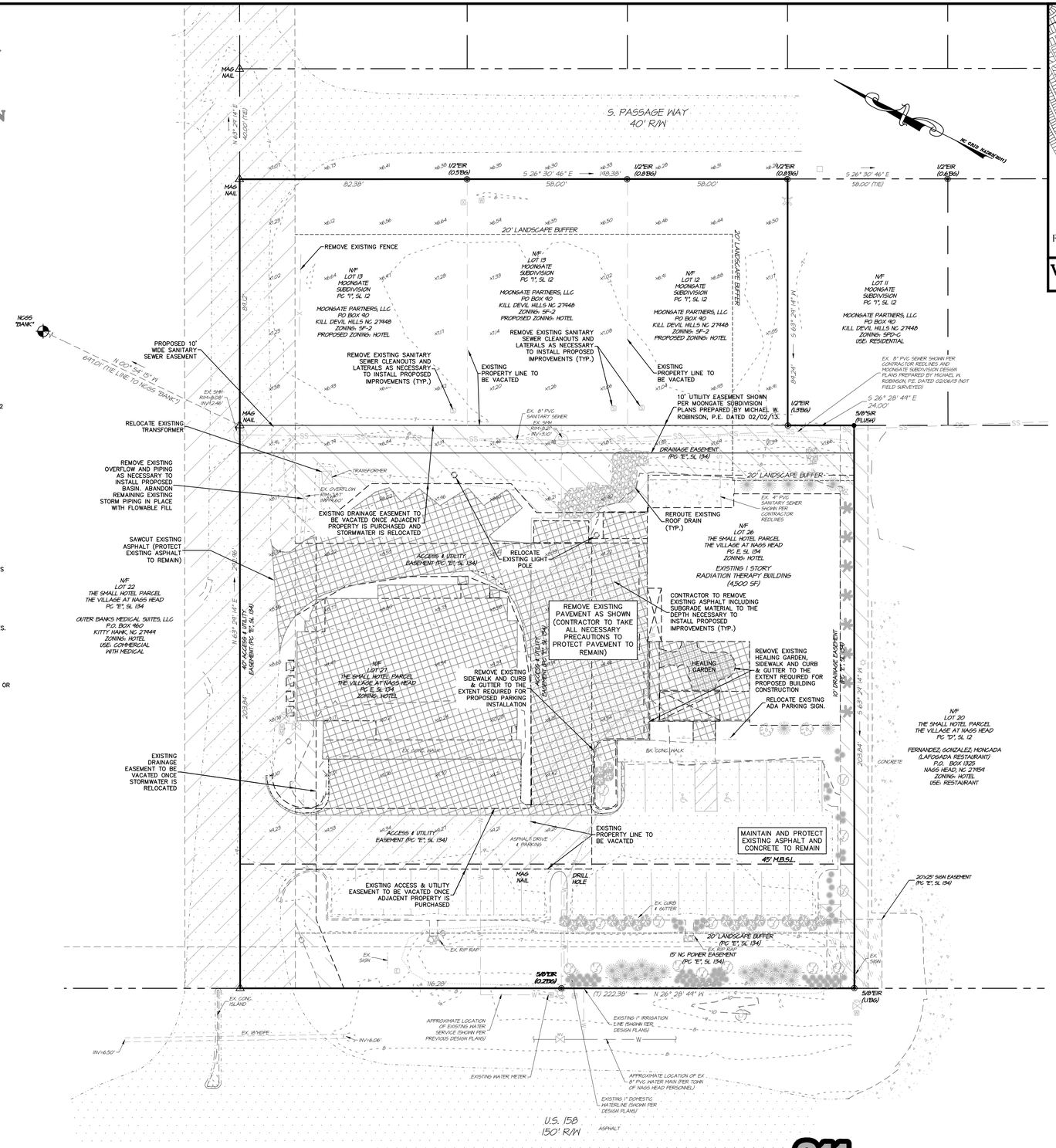
8. SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND CURBS AND GUTTERS TO BE DEMOLISHED SHALL BE PROVIDED.

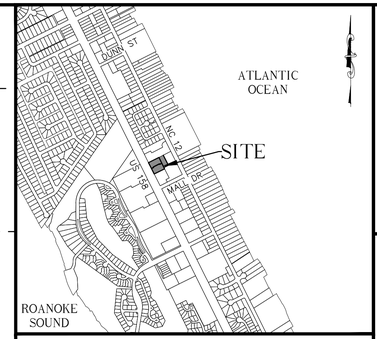
9. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS AS WELL AS OSHA REGULATIONS.

10. CONTRACTOR'S ACTIVITIES SHALL NOT IMPEDE USAGE OR INGRESS/EGRESS TO ADJACENT PROPERTIES. COORDINATE WITH OWNER MAINTENANCE OF TRAFFIC/PEDESTRIAN CIRCULATION DURING CONSTRUCTION.

11. MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS AT ALL TIMES DURING DEMOLITION.

12. A DEMOLITION PERMIT MUST BE OBTAINED FROM THE TOWN OF NAGS HEAD PRIOR TO DEMOLITION WORK.





VICINITY MAP (Town of Nags Head)
N.T.S.

LEGEND

- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE
- PROPOSED DEMOLITION
- EX. IRON ROD
- EX. DRILL HOLE
- EX. MAG NAIL
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. SEWER MANHOLE
- EX. WATER METER
- EX. ELECTRICAL CONNECTION
- EX. EXTERIOR LIGHT
- EX. LIGHT POLE
- EXISTING CONTOUR
- EXISTING SPOT GRADE

Know what's below. Call before you dig.

NOTE:
THE DATA GIVEN ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATIONS, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.

GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

Quible & Associates, P.C.
NC License# C-0208 SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
**ALL SERVICES NOT PERFORMED BY QUIBLE & ASSOCIATES, P.C. ARE SUBCONTRACTED
8466 CARATOKE HWY.
POWELLS POINT, NC 27966
Phone: (252) 491-8146
Fax: (252) 491-8146
adminoffice@quible.com
90 CHURCH STREET, SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 419-9345
Fax: (252) 491-8146
adminbm@quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040767 MICHAEL W. SPENCER — CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

EXISTING CONDITIONS/DEMOLITION PLAN

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL

NAGS HEAD TOWNSHIP — DARE COUNTY — NORTH CAROLINA

COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

SHEET NO. 1 OF 6 SHEETS

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NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
PO BOX 129
NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

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C/O TIM McDONNELL
P.O. BOX 6028
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027839062; 027839063;

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11. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A ±10,400 SQ.FT. ADDITION TO THE EXISTING CANCER CENTER WITH ASSOCIATED PARKING AND APPURTENANCES.

12. EXISTING BUILDING COVERAGE..... 9,552 SQ.FT.
VEHICULAR USE AREAS COVERAGE..... 20,017 SQ.FT.
EXISTING CONC. WALKS, & DUMPSTER PAD..... 1,072 SQ.FT.
TOTAL EXISTING LOT COVERAGE..... 30,641 SQ.FT.

EXISTING COVERAGE REMOVED..... 13,817.5 SQ.FT.
TOTAL EXISTING LOT COVERAGE TO REMAIN:..... 16,823.5 SQ.FT.

PROPOSED COVERAGE:
BUILDING (INCLUDES OVERHANG)..... 7,243 SQ.FT. (19%) [25% MAX]
PERMEABLE PAVEMENT (4,514 SQ.FT. * 0.67)..... 3,024.4 SQ.FT.
CONCRETE & ASPHALT..... 8,044.5 SQ.FT.
TOTAL PROPOSED COVERAGE..... 18,311.9 SQ.FT.

TOTAL COVERAGE (EXISTING & PROPOSED) ..... 35,135 SQ.FT. (55.7%) [30% MIN. LANDSCAPING]
TOTAL PROPOSED VEHICULAR USE AREA COVERAGE*..... 19,819 SQ.FT. (31%) [45% MAX]

*NO REDUCTION FOR PERMEABLE PAVEMENTS HAS BEEN TAKEN FROM THE VEHICULAR USE AREA COVERAGE

13. PARKING:
RADIATION THERAPY CENTER MEDICAL FACILITY

PARKING REQUIRED = 1 SPACE PER 300 SQ.FT. * 4,500 SQ.FT. = 15 SPACES
1 SPACE PER EMPLOYEE * 7 EMPLOYEES = 7 SPACES
RADIATION THERAPY PARKING REQUIRED =22 SPACES

CANCER CENTER EXPANSION
PARKING REQUIRED = 1 SPACE PER 300 SQ.FT. * 10,400 SQ.FT. = 35 SPACES
1 SPACE PER EMPLOYEE * 15 EMPLOYEES = 15 SPACES
EXPANSION PARKING REQUIRED =50 SPACES

*CONDITIONAL USE PERMIT FOR REDUCED PARKING DUE TO CAPACITY/TYPE OF USE AND ACCESS TO PUBLIC TRANSIT.
TOTAL PARKING REQUIRED = 72 SPACES
TOTAL PARKING PROVIDED = 57 SPACES

SITE SUBJECT TO INDEPENDENT STUDY TO EVALUATE PARKING 6 MONTHS AFTER OBTAINING CERTIFICATE OF OCCUPANCY. SITE SUBJECT TO PROVIDING 11 ADDITIONAL SPACES IF PARKING IS FOUND TO BE INSUFFICIENT DURING INDEPENDENT STUDY.

14. WASTEWATER: 22 EMPLOYEES @ 250 GPD/EMPLOYEE = 5,500 GPD (WASTEWATER IS PROPOSED TO BE CONVEYED TO CWS WWTP)

15. WATER SUPPLY PER TOWN OF NAGS HEAD. WATER CONNECTION MUST BE MADE IN ACCORDANCE WITH TOWN OF NAGS HEAD SPECIFICATIONS AND SHALL BE PERFORMED BY A LICENSED WATER UTILITY CONTRACTOR. NOTIFY TOWN PRIOR TO INSTALLATION.

16. ALL UTILITIES TO BE PLACED UNDERGROUND UNLESS OTHERWISE NOTED

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23. ALL WORK WITHIN THE NC DOT RIGHT-OF-WAY REQUIRES AN APPROVED NC DOT RIGHT-OF-WAY ENCROACHMENT AGREEMENT.

24. A STATE HIGH DENSITY STORMWATER PERMIT IS REQUIRED IN ADVANCE OF ANY ONSITE DISTURBANCE.

25. THE ENTIRE SITE WILL BE IN FULL COMPLIANCE WITH ALL APPLICABLE NFPA REGULATIONS PERTAINING TO FIRE PROTECTION INCLUDING BUT NOT LIMITED TO NFPA 30 AS WELL AS VOLUME V OF THE NC STATE BUILDING CODE.

26. ALL BUILDING SIGNAGE SHALL BE IN ACCORDANCE WITH ARTICLE VIII SECTION 48-284 OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.

27. THIS PLAN SHALL COMPLY WITH VOLUME 1C OF THE NC BUILDING CODE.

28. THE PROPOSED BUILDING SHALL COMPLY WITH CHAPTER 10 OF THE TOWN OF NAGS HEAD CODE OF ORDINANCES.

29. BUILDING CONSTRUCTION TO CONFORM TO 2018 NC FIRE PREVENTION CODE OR LATEST EDITION.

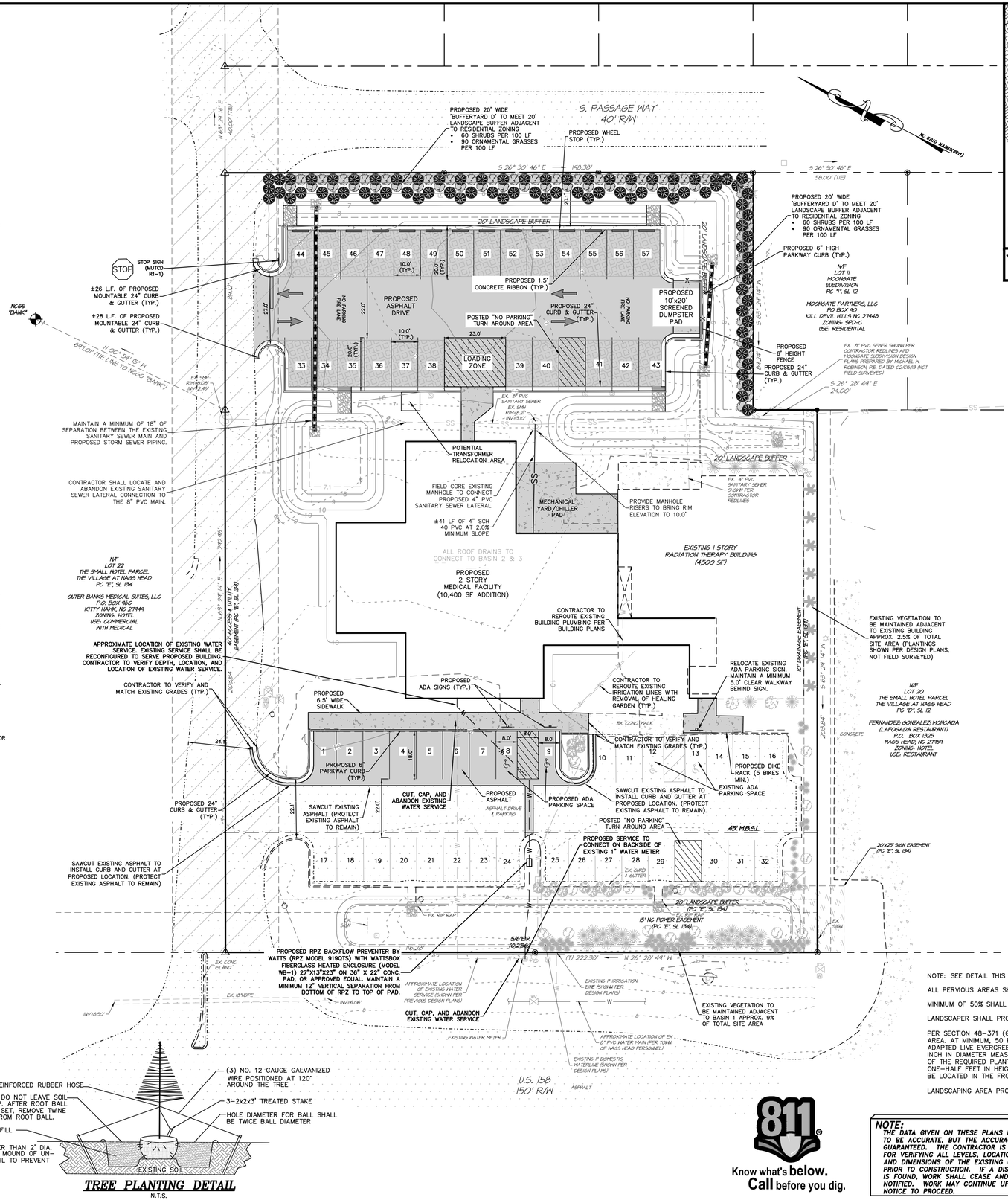
30. THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS/HER OWN SATISFACTION. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE-CALL AT TELEPHONE NO. 1-800-632-4949, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.

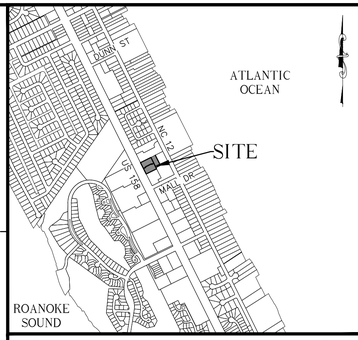
31. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.

32. THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.

33. ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

34. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.





VICINITY MAP (Town of Nags Head)
N.T.S.

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED RIP RAP
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- EX. IRON ROD
- EX. DRILL HOLE
- EX. MAG NAIL
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. SEWER MANHOLE
- EX. WATER METER
- EX. ELECTRICAL CONNECTION
- EX. EXTERIOR LIGHT
- EX. LIGHT POLE
- EX. TREES/SHRUBS
- PROPOSED 6" CURB (NO GUTTER)
- PROPOSED CURB AND GUTTER
- PROPOSED 1.5' CONCRETE RIBBON
- PROPOSED SPILL CURB AND GUTTER
- PROPOSED STORM PIPE
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER
- PROPOSED TREES/SHRUBS

NOTE: SEE DETAIL THIS SHEET FOR PLANTING DETAILS.

ALL PERVIOUS AREAS SHALL BE LANDSCAPED AND RECEIVE SOD WHERE PRACTICAL.

MINIMUM OF 50% SHALL BE LOCALLY ADAPTIVE NATIVE EVERGREEN SPECIES

LANDSCAPER SHALL PROVIDE IRRIGATION THROUGHOUT LANDSCAPE AREAS.

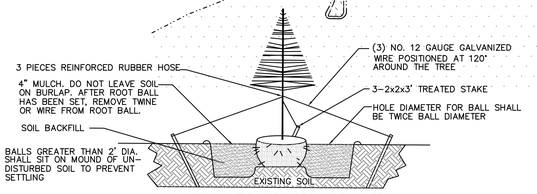
PER SECTION 48-371 (G) (2) THE PLANTING OF A MINIMUM OF 15 PERCENT OF THE LOT'S TOTAL AREA. AT MINIMUM, 50 PERCENT OF THE REQUIRED LANDSCAPING SHALL CONSIST OF LOCALLY ADAPTED LIVE EVERGREEN TREE SPECIES THAT ARE A MINIMUM HEIGHT OF THREE FEET AND ONE INCH IN DIAMETER MEASURED AT ONE-HALF FOOT ABOVE GRADE WHEN PLANTED. THE REMAINDER OF THE REQUIRED PLANTINGS MAY BE LIVE FORBS AND SHRUBS MEASURING AT LEAST ONE AND ONE-HALF FEET IN HEIGHT WHEN PLANTED. A MINIMUM OF ONE-HALF OF THIS VEGETATION MUST BE LOCATED IN THE FRONT OR SIDE YARDS OF THE PROPOSED DEVELOPMENT.

LANDSCAPING AREA PROVIDED: 26,396 SQ.FT. (41.8% OF LOT AREA)

LANDSCAPING NOTES

SYMBOL	QUANTITY	COMMON NAME	HEIGHT	SPREAD	MIN. SIZE @ PLANTING
	168	INDIAN HAWTHORN	4' - 5' HT.	3' O.C.	1.5 FT HT.
	259	PINK MUHLY GRASS	3' - 5' HT.	3' O.C.	1.5 FT HT.

* COORDINATE INSTALLATION WITH OWNER. ORNAMENTAL SHRUB/GRASS SPECIES MAY BE SUBSTITUTED AS APPROVED BY THE TOWN OF NAGS HEAD



TREE PLANTING DETAIL
N.T.S.

Know what's below. Call before you dig.

NOTE:
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GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

Quible & Associates, P.C.
NC License# C-0208 SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
**NOT PERFORMED ON THIS PROJECT
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contactus@quible.com
90 CHURCH STREET, SUITE B
BLACK MOUNTAIN, NC 28711
Phone: (828) 669-8048
Fax: (252) 491-8146
contactus@quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040181 MICHAEL W. SMITH
PRELIMINARY NOT FOR CONSTRUCTION OR RECORDATION
CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

SITE, UTILITY, & LANDSCAPING PLAN

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL
NAGS HEAD TOWNSHIP DARE COUNTY NORTH CAROLINA

COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

SHEET NO. 2 OF 6 SHEETS

NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
PO BOX 129
NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
C/O TIM MCDONNELL
PO BOX 6028
GREENVILLE, NC 27835

2. PROPERTY IDENTIFICATION: 4928, 4926 & 4922 S. PASSAGE WAY
4927 & 4923 SOUTH CROATAN HIGHWAY
PIN#: 0801-1313-8895; 0801-1313-8960; 0801-1313-8936
0801-13-13-7759; 0801-1313-7809
PID#: 02839113; 02839114; 02839115
027839062; 027839063;

3. PARCEL AREA: 63,021 SQ.FT. / 1.45 ACRES
(AREAS BY COORDINATE METHOD)

4. ZONING CLASSIFICATION: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) (HOTEL DISTRICT OVERLAY)

5. PROPOSED REZONING FOR 4928, 4926 & 4922 S. PASSAGE WAY: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) FROM SF2 (SINGLE FAMILY) ZONING

6. REFERENCES: D.B. 1939, PG. 480; P.C. E, SL. 134

7. FIELD SURVEY BY QUIBLE & ASSOCIATE, P.C. DATES: 06-22-2017, 09-10-2019, & 10-21-2019.
(HORIZONTAL GROUND DISTANCES)

8. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAVD 1983 (2012)

9. PROPERTY IS LOCATED IN F.I.R.M. ZONES "AE" (EL. 9')
PANEL 3730080100J, DATED 09/20/06
FIRM ZONES SUBJECT TO CHANGE BY F.E.M.A.

10. PROJECT SCOPE: PERMITTING AND CONSTRUCTION OF A ±10,400 SQ.FT. ADDITION TO THE EXISTING CANCER CENTER WITH ASSOCIATED PARKING AND APPURTENANCES.

11. SETBACKS SHOWN ARE PER TOWN OF NAGS HEAD AND DO NOT REFLECT ANY RESTRICTIVE COVENANTS THAT MAY EXIST.

12. HANDICAP PARKING SPACES SHALL NOT EXCEED 2% GRADE.

13. AREAS OF FILL SHALL BE EXCAVATED TO COMPACTED SUBGRADE AND BACKFILLED IIN 6" LIFTS.

14. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.

15. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS, APPLICABLE TOWN OF NAGS HEAD CODES AND ORDINANCES, AND NCDEQ DIVISION OF ENERGY, MINERAL AND LAND RESOURCES REGULATIONS.

16. THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS/HER OWN SATISFACTION. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE-CALL AT TELEPHONE NO. 1-800-632-4949, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.

17. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.

18. THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.

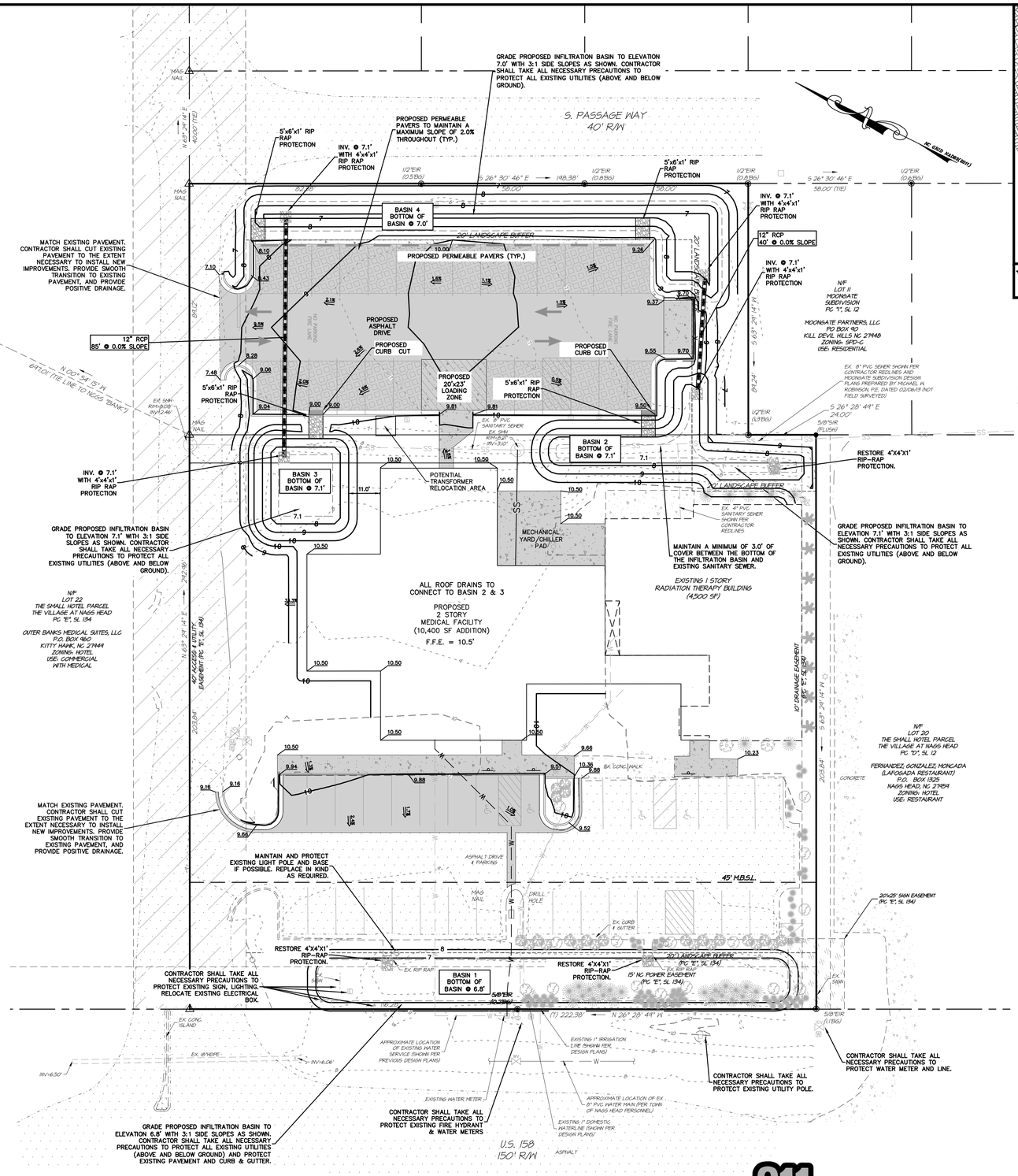
19. ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

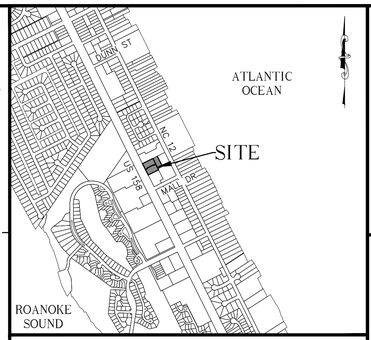
20. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.

21. ALL PORTIONS OF ROOF DRAIN COLLECTION SYSTEM WITH LESS THAN 36" OF COVER IN TRAFFIC RATED CONDITIONS SHALL BE DUCTILE IRON PIPE.

22. TEMPORARY CONSTRUCTION EASEMENT MUST BE OBTAINED PRIOR TO ANY WORK ON ADJACENT PROPERTIES.

23. A STATE HIGH DENSITY STORMWATER PERMIT IS REQUIRED IN ADVANCE OF ANY ONSITE DISTURBANCE.





VICINITY MAP (Town of Nags Head)
N.T.S.

LEGEND

- EX. IRON ROD
- EX. DRILL HOLE
- EX. MAG NAIL
- EX. UTILITY POLE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. SEWER MANHOLE
- EX. WATER METER
- EX. ELECTRICAL CONNECTION
- EX. EXTERIOR LIGHT
- EX. LIGHT POLE
- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED RIP RAP
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE (TOP OF ASPHALT/FLOW LINE UNLESS OTHERWISE NOTED)
- PROPOSED TOP OF CONCRETE ELEV.
- PROPOSED FLOW DIRECTION AND SLOPE

Know what's **below.** **Call** before you dig.

NOTE:
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GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

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8445 CARATOKE HWY
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Fax: (252) 491-8146
quiblesurvey@quible.com
NC License# C-0208 SINCE 1959

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036681 MICHAEL W. SHEETS
PRELIMINARY NOT FOR CONSTRUCTION
CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

GRADING & DRAINAGE PLAN

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL
NAGS HEAD TOWNSHIP DARE COUNTY NORTH CAROLINA

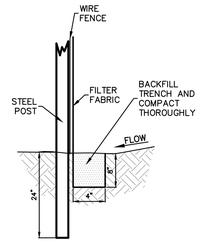
COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

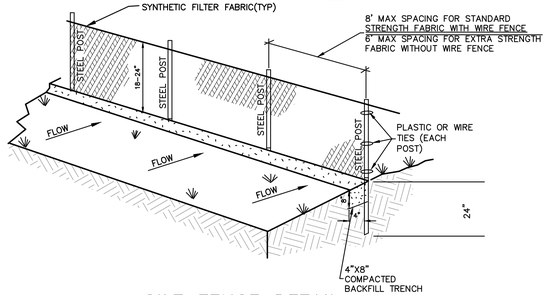
SHEET NO. **3** OF 6 SHEETS

SOIL EROSION & SEDIMENTATION CONTROL PLAN NOTES:

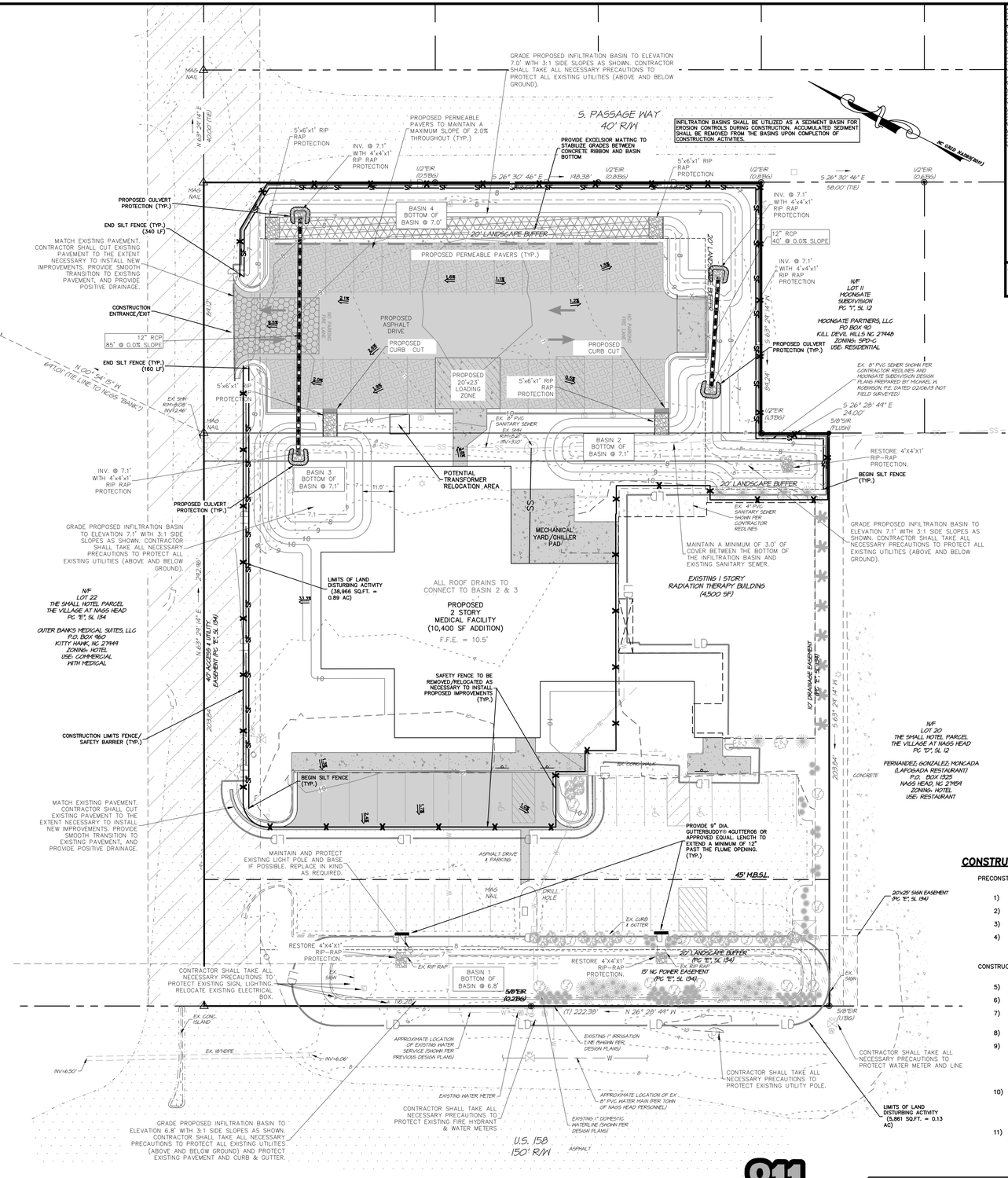
1. AREA TO BE DISTURBED: ±44,827 SQ.FT. (±1.02 ACRES)
2. PROVIDE A GROUNDCOVER STABILIZATION (TEMPORARY OR PERMANENT) ON ALL DENUDED DOWNSTREAM SURFACES FOLLOWING THE COMPLETION OF LAND DISTURBING ACTIVITIES PER THE CRITERIA LISTED BELOW:
   a. PERIMETER DIKES, BERMS, SWALES, DITCHES AND SLOPES SHALL BE STABILIZED IN 7 DAYS.
   b. HIGH QUALITY WATER (HQW) ZONES SHALL BE STABILIZED IN 7 DAYS.
   c. DOWNSTREAM SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED IN 7 DAYS. IF SLOPES ARE 10' OR LESS AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
   d. DOWNSTREAM SLOPES 3:1 OR FLATTER AND LESS THAN 50' IN LENGTH SHALL BE STABILIZED IN 14 DAYS. SLOPES 3:1 OR FLATTER EXCEEDING 50' IN LENGTH SHALL BE STABILIZED IN 7 DAYS.
   e. ALL OTHER DOWNSTREAM AREAS WITH SLOPES 4:1 OR FLATTER SHALL BE STABILIZED WITHIN 14 DAYS.
   f. GROUND COVER SHALL BE PROVIDED ON CUT AND FOR FILL SLOPES WITHIN 21 CALENDAR DAYS AFTER COMPLETION OF ANY PHASE OF GRADING. GROUND COVER OVER OTHER AREAS SHALL BE PROVIDED WITHIN SHORTER OF 15 WORKING OR 90 CALENDAR DAYS (60 DAYS IN HQW ZONES) OF COMPLETION OF CONSTRUCTION OF DEVELOPMENT.
3. IF LAND DISTURBING ACTIVITIES OCCUR OUTSIDE THE PERMANENT VEGETATION SEEDING DATES (APR. 1– SEP.30) THEN TEMPORARY VEGETATION SEEDING SPECIFICATIONS SHALL BE FOLLOWED FOR PLANTING UNTIL THE NEXT APPROPRIATE PERMANENT SEEDING PERIOD, AT WHICH TIME PERMANENT VEGETATION SHALL BE ESTABLISHED ACCORDING TO PERMANENT VEGETATION SEEDING SPECIFICATIONS (SEE PERM. & TEMP. SEEDING SPECIFICATIONS).
4. IF EXCESSIVE WIND EROSION OR STORMWATER RUNOFF EROSION DEVELOPS DURING TIME OF CONSTRUCTION ANY LOCATION ON THE PROJECT SITE, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IMMEDIATELY AS DIRECTED BY THE ENGINEER TO ADDRESS THE PROBLEM AREA AND PREVENT DAMAGE TO ADJACENT PROPERTIES.
5. SOIL EROSION AND SEDIMENTATION CONTROLS TO BE INSPECTED, MAINTAINED AND REPAIRED AS NECESSARY UNTIL PERMANENT CONTROLS ARE ESTABLISHED.
   a. A RAIN GAUGE MUST MUST BE KEPT ON SITE.
   b. DEDICATED DEMOLITION AND OTHER WASTE AREAS AND EARTHEN MATERIAL STOCKPILES MUST BE LOCATED AT LEAST 50 FEET FROM DRAINS OR STREAMS UNLESS NO ALTERNATIVE IS FEASIBLE.
   c. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSPECTED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN A HALF INCH (DURING A 24 HOUR PERIOD). IMMEDIATE CORRECTIVE ACTION MUST BE TAKEN FOR ANY DEVICE FAILURE.
   d. INSPECT ALL OUTLETS WHERE RUNOFF LEAVES SITE AND EVALUATE EFFECT ON NEARBY STREAMS. TAKE CORRECTIVE ACTION IF NECESSARY.
   e. MAINTAIN RECORDS OF INSPECTIONS AND CORRECTIVE ACTIONS.
   f. EARTHWORK NOTE: OFFSITE BORROW MATERIAL SHALL COME FROM AN NCDENR LAND QUALITY SECTION APPROVED SITE. OFFSITE DISPOSAL OF EXCESS MATERIAL SHALL BE TO AN NCDENR LAND QUALITY SECTION APPROVED SITE.

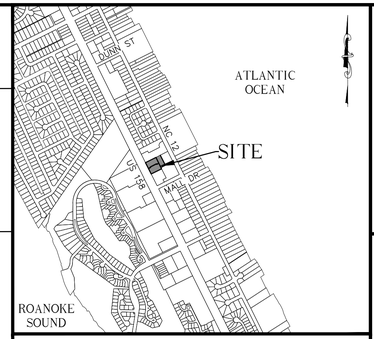
NOTE: ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER EACH MAJOR STORM EVENT; FAILURE TO KEEP ORDER MAY RESULT IN ISSUANCE OF A STOP WORK ORDER.





SILT FENCE DETAIL
N.T.S





VICINITY MAP (Town of Nags Head)
N.T.S.

LEGEND

- EX. IRON ROD
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- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED EXCELSIOR MATTING
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED FLOW DIRECTION AND SLOPE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED CULVERT INLET PROTECTION
- PROPOSED FENCE
- PROPOSED SILT FENCE
- PROPOSED CONSTRUCTION LIMITS FENCE/SAFETY BARRIER

PERMANENT VEGETATION

SEEDING DATES: APRIL 1 – AUGUST 31:

SEED MIXTURE	APPLICATION RATES/ACRE
REBEL II FESCUE	130 LBS.
COMMON BERMUDA 'SAHARA' (HULLED)	215 LBS.

SEEDING DATES: SEPT. 1 – MARCH 31:

SEED MIXTURE	APPLICATION RATES/ACRE
REBEL II FESCUE	250 LBS.
COMMON BERMUDA 'SAHARA' (UNHULLED)	215 LBS.

TEMPORARY VEGETATION

SEEDING DATES: AUG. 16 – APRIL 15:

SEED MIXTURE	APPLICATION RATES/ACRE
RYE GRAIN	120 LBS

SEEDING DATES: APRIL 16 – AUG. 15:

SEED MIXTURE	APPLICATION RATES/ACRE
GERMAN MILLET	40 LBS

SEEDBED PREPARATION:
LOOSEN SOILS TO A DEPTH OF 6–8 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW, BREAK UP CLODS, REMOVE UNACCEPTABLE GROWTH (STICKS, ROOTS), STONES (>3"), AND OTHER MATERIALS, AND WORK THE TOP 3–4 INCHES OF THE SOIL INTO A SEEDBED. THE AREA TO BE SEEDED SHALL BE RE–COMPACTED UTILIZING A CULTIPACKER ROLLER AND A SMOOTH EVEN SOIL SURFACE WITH A LOOSE, UNIFORMLY FINE TEXTURE SHALL BE THE FINISHED GRADE.

SOIL AMENDMENTS:
OBTAIN A SOIL TEST TO DETERMINE APPLICATION RATES AND FOLLOW RECOMMENDATIONS OF SOIL TESTS. WHEN A SOIL TEST IS NOT POSSIBLE, APPLY 3,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10–10–10 STARTER FERTILIZER.

MULCHING:
APPLY 4,000 LB/ACRE GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, ROVING OR BY CRIMPING WITH A MULCH ANCHORING TOOL.

MAINTENANCE:
SATISFACTORY STABILIZATION AND EROSION CONTROL REQUIRES A COMPLETE VEGETATIVE COVER. EVEN SMALL BREACHES IN VEGETATIVE COVER CAN EXPAND RAPIDLY AND, IF LEFT UNATTENDED, CAN ALLOW SERIOUS SOIL LOSS FROM AN OTHERWISE STABLE SURFACE. A SINGLE HEAVY RAIN IS OFTEN SUFFICIENT TO GREATLY ENLARGE BARE SPOTS, AND THE LONGER REPAIRS ARE DELAYED, THE MORE COSTLY THEY BECOME. PROMPT ACTION WILL KEEP SEDIMENT LOSS AND REPAIR COST DOWN. NEW SEEDLINGS SHOULD BE INSPECTED FREQUENTLY AND MAINTENANCE PERFORMED AS NEEDED. IF RILLS AND GULLIES DEVELOP, THEY MUST BE FILLED IN, RE–SEEDED, AND MULCHED AS SOON AS POSSIBLE. DIVERSIONS MAY BE NEEDED UNTIL NEW PLANTS TAKE HOLD.

MAINTENANCE REQUIREMENTS EXTEND BEYOND THE SEEDING PHASE. (COMPLETE VEGETATIVE COVER IS REQUIRED REGARDLESS OF COUNTY ISSUANCE OF A CERTIFICATE OF OCCUPANCY AND FINAL PAYMENT WILL NOT BE AWARDED UNTIL COMPLETE ESTABLISHMENT OF VEGETATIVE COVER.)
WEAK OR DAMAGED SPOTS MUST BE RELIMED, FERTILIZED, MULCHED, AND RESEEDED AS PROMPTLY AS POSSIBLE. REFERTILIZATION MAY BE NEEDED TO MAINTAIN PRODUCTIVE STANDS.

CONSTRUCTION SEQUENCE:

PRECONSTRUCTION:
1) OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2) FLAG AND/OR ROUGH STAKE WORK LIMITS.
3) FLAG EXISTING VEGETATION TO REMAIN/PROTECT.
4) HOLD PRECONSTRUCTION CONFERENCE (OWNER, CONTRACTOR, ENGINEER, AND APPROPRIATE GOVERNMENT OFFICIALS) AT LEAST ONE WEEK PRIOR TO START OF CONSTRUCTION ACTIVITIES.

CONSTRUCTION:
5) INSTALL SILT FENCING AT LOCATIONS SHOWN ON PLAN
6) COMPLETE CLEARING, GRUBBING AND DEMOLITION PROCEDURES.
7) GRADE SITE ACCORDING TO PLAN AND BEGIN CONSTRUCTION OF PROPOSED IMPROVEMENTS, INCLUDING UTILITY RECONNECTIONS.
8) INSTALL CONTRIBUTING STORM CONVEYANCES AND ASSOCIATED EROSION CONTROLS.
9) ALL EROSION & SEDIMENTATION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER HEAVY RAINFALL EVENT. NEEDED REPAIRS AND MAINTENANCE WILL BE MADE IMMEDIATELY. FURTHERMORE, IF ANY WIND OR STORMWATER RUNOFF EROSION DEVELOPS DURING THE CONSTRUCTION OF THE PROJECT, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO ADDRESS THE PROBLEM AREA.
10) ONCE THE SITE CONSTRUCTION IS COMPLETE AND DENUDED SURFACES ARE FULLY STABILIZED; ALL STORMWATER CONVEYANCES, STRUCTURES AND PIPING SHALL BE CLEANED OF ALL SILT/DEBRIS WHICH MAY HAVE ACCUMULATED DURING CONSTRUCTION. CONTRACTOR SHALL VERIFY DESIGN GRADES OF ALL STORMWATER CONVEYANCES AND RESTORE TO DESIGN SPECIFICATIONS AS NECESSARY.
11) UPON THE REMOVAL OF ACCUMULATED SEDIMENTS AND SITE STABILIZATION, ALL REMAINING EROSION CONTROLS MAY BE REMOVED FROM THE DEVELOPMENT. ALL DOWNSTREAM EROSION CONTROLS SHALL REMAIN IN PLACE UNTIL THE COMPLETION OF ALL OTHER DEVELOPMENT CONSTRUCTION ACTIVITIES.

Know what's **below.** **Call** before you dig.

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GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

Quible & Associates, P.C.
NC License# C-0208 SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
**PROFESSIONAL ENGINEERING, LAND SURVEYING, PLANNING, ENVIRONMENTAL SCIENCES, PROJECT MANAGEMENT
8466 CARATOKE HWY. P.O. BOX 1555
POWELLS POINT, NC 27966 BLACK MOUNTAIN, NC 28711
Phone: (252) 491-8146 Phone: (828) 669-8988
Fax: (252) 491-8146
admin@quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040787 CHRISTOPHER M. SMITH — CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

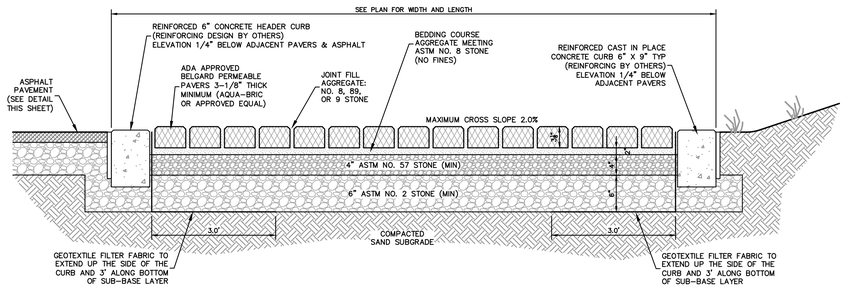
SOIL EROSION & SEDIMENT CONTROL PLAN

CANCER TREATMENT CENTER OUTER BANKS HOSPITAL

NAGS HEAD TOWNSHIP — DARE COUNTY — NORTH CAROLINA

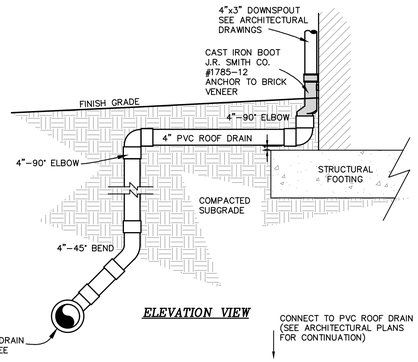
COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

SHEET NO. 4 OF 6 SHEETS

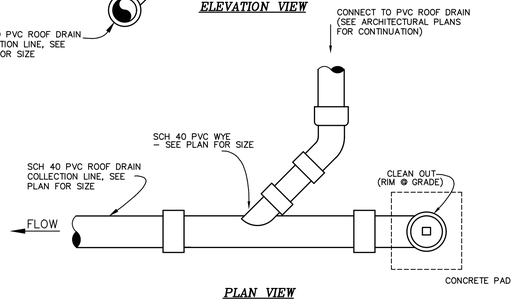


TYPICAL BELGARD® PERMEABLE PAVER INSTALLATION DETAIL

N.T.S.



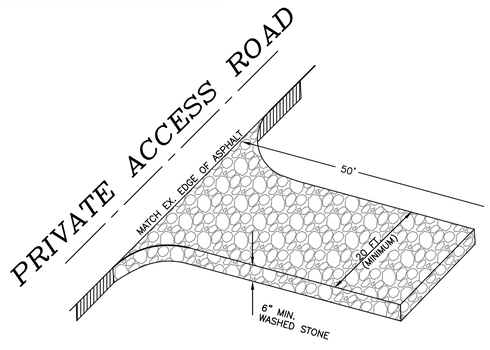
ELEVATION VIEW



PLAN VIEW

ROOF DRAIN COLLECTION LATERAL

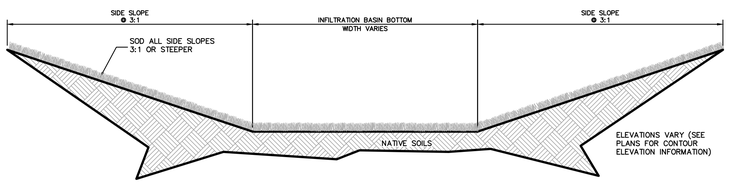
N.T.S.



GRAVEL CONSTRUCTION ENTRANCE/EXIT DETAIL

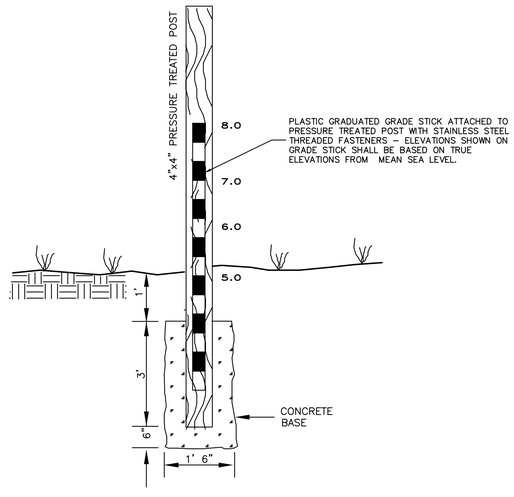
N.T.S

BASIN	BOTTOM ELEVATION	SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES:	TOP ELEVATION
1 (FRONT)	6.8'	7.3'	8.0'
2 (BLDG)	7.1'	7.6'	9.0'
3 (SIDE)	7.1'	7.6'	9.0'
4 (REAR)	7.0'	7.5'	8.5'



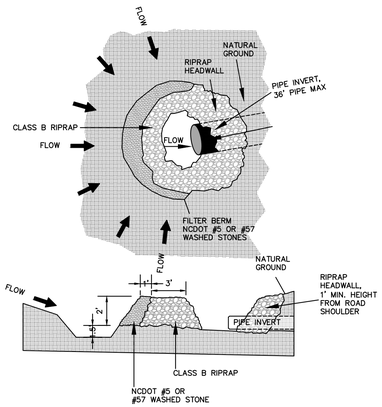
TYPICAL INFILTRATION BASIN CROSS-SECTION DETAIL

N.T.S.



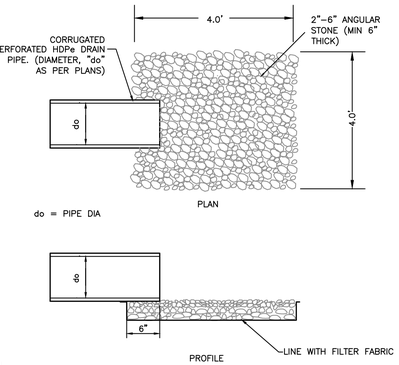
DEPTH BENCHMARK

N.T.S.



CULVERT INLET PROTECTION

N.T.S.

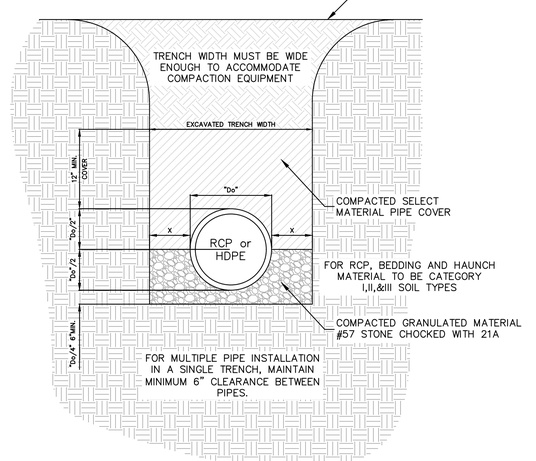


DRAIN PIPE OUTLET DETAIL

N.T.S.

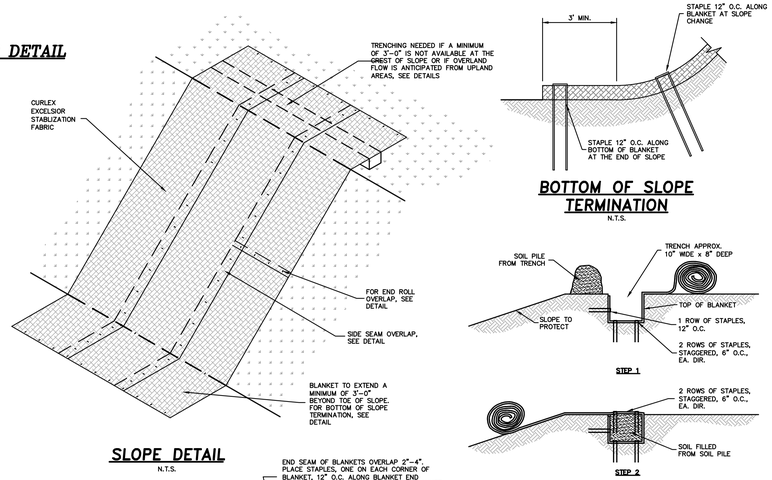
HDPE NOTES:
1. ALL PIPE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS OR AS MODIFIED BY THE OWNER.
2. TRENCH BOX OR OTHER SHORING METHODS SHALL NOT DISTURB THE PIPE BEDDING AND BACKFILL MATERIAL AFTER THEIR COMPACTION.
3. WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH INDICATED ON THE DRAWING OR AS DIRECTED BY THE OWNER AND REPLACE WITH BEDDING MATERIAL.
4. BEDDING MATERIAL SHALL BE CRUSHED STONE OR WASHED #67 STONE, UNLESS OTHERWISE NOTE ON THE DRAWINGS OR REQUIRED BY THE OWNER. MINIMUM BEDDING THICKNESS SHALL BE 6-INCHES.
5. BACKFILL MATERIAL SHALL CONFORM TO THE FOLLOWING:
   A. INITIAL BACKFILL:
      AGGREGATE NO. 25, 26, 21A, OR 21 B; AS INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER, SHALL BE INSTALLED AS INITIAL BACKFILL IN THE PIPE ZONE EXTENDING NOT LESS THAN 12-INCHES ABOVE THE CROWN OF PIPE. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM 02321, LATEST EDITION.
   B. FINAL BACKFILL:
      FINAL BACKFILL MATERIALS SHALL BE THE SAME AS THE INITIAL BACKFILL UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR DIRECTED BY THE OWNER.
6. MINIMUM COVER:
   TRAFFIC APPLICATIONS - MINIMUM COVER SHALL BE 24", MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF FLEXIBLE PAVEMENT OR TO THE TOP OF RIGID PAVEMENT.
   NON-TRAFFIC APPLICATIONS - MINIMUM COVER IN GRASS OR LANDSCAPE AREA IS 12-INCHES FROM THE TOP OF THE PIPE TO GROUND SURFACE.

NOTES:
1. SELECT MATERIAL PIPE COVER SHALL BE 12" (MINIMUM) DEEP OVER TOP OF PIPE.
2. SELECT MATERIAL BACKFILL SHALL BE CBR 20 COMPACTED TO 95% DENSITY. BACKFILL COMPACTED IN 12" LIFTS.



STORM PIPE TRENCH SECTION

N.T.S.



SLOPE DETAIL

N.T.S.

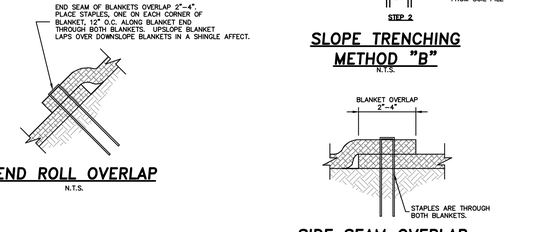
CURLEX® SLOPE APPLICATION DETAIL
AMERICAN EXCELSIOR COMPANY
ARLINGTON, TEXAS

BOTTOM OF SLOPE TERMINATION

N.T.S.

SLOPE TRENCHING METHOD "B"

N.T.S.



END ROLL OVERLAP

N.T.S.

SIDE SEAM OVERLAP STAPLE DETAIL

N.T.S.

NOTES:
1. STAPLE PATTERNS ARE DEPENDENT ON SITE CONDITIONS. SEE CURLEX® STAPLE PATTERN GUIDE FOR DETAILS.

Quible & Associates, P.C.
NC License# C-0208 SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
**NOT OFFERED TO THE PUBLIC
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BLACK MOUNTAIN, NC 28711
Phone: (828) 669-7626
Fax: (252) 491-8148
8446 CARATOKE HWY
POWELLS POINT, NC 27966
Phone: (252) 491-8146
Fax: (252) 491-8148

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035766 CHRISTOPHER M. SCHOENBACHLER
CERTIFICATION

REVISIONS

NO.	DATE	
1	12/05/19	PER TOWN COMMENTS

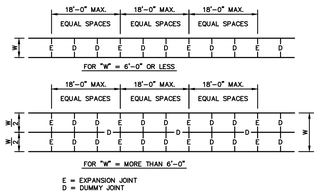
DRAINAGE & SESC DETAILS

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL

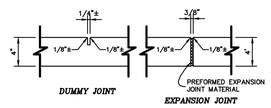
NAGS HEAD TOWNSHIP DARE COUNTY NORTH CAROLINA

COMMISSION NO. P17012.1
DESIGNED BY CMS
DRAWN BY JMH/CMS
CHECKED BY MWS
ISSUE DATE 11/12/19

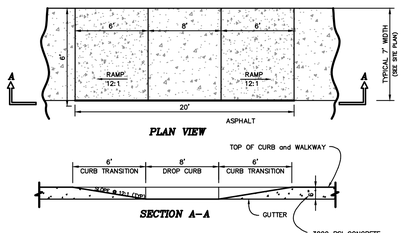
SHEET NO. 5 OF 6 SHEETS



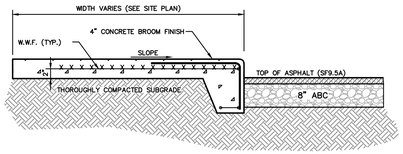
NOTES:
EXCEPT WHERE SHOWN IN THE PLAN, ALL NEW CONC. WALKS SHALL HAVE JOINTS SPACED AS SHOWN IN THESE DETAILS. AN EXPANSION JOINT SHALL BE USED TO SEPARATE THE NEW CONC. WALK FROM OTHER NEW OR EXISTING CONCRETE CONSTRUCTION.



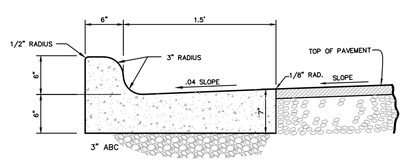
SIDEWALK JOINTS
N.T.S.



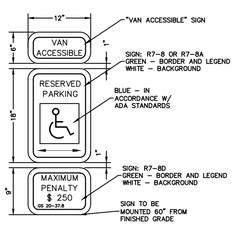
WHEELCHAIR RAMP
N.T.S.
1. USE ADJACENT TO ALL HANDICAPPED SPACES



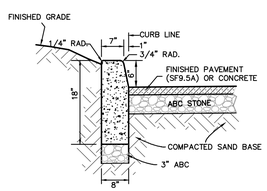
RAISED CURB SIDEWALK/ASPHALT SECTION
N.T.S.



CURB & GUTTER CROSS SECTION (1.5' GUTTER)
N.T.S.



ADA RESERVED PARKING SIGN DETAIL
N.T.S.



PARKWAY CURB
N.T.S.

TYPICAL SPECIFICATIONS

SPECIFICATIONS FOR SIDEWALKS, CURBS, ALLEYS, CONCRETE PAVEMENT

ALL REINFORCING STEEL SHALL BE GRADE 60 (ASTM A615)

ALL WELDED WIRE FABRIC SHALL BE 6 x 6, W1.4 x W1.4 (ASTM A185)

A 1-1/2" CLEAR CONCRETE COVER SHALL BE MAINTAINED ON ALL REINFORCEMENT

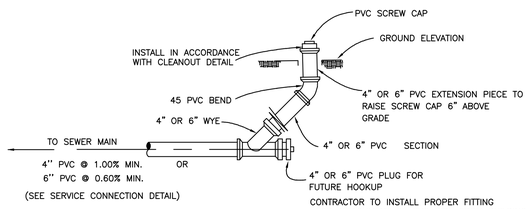
ALL CONCRETE SHALL BE 3000 PSI FIBER MESH UNLESS OTHERWISE NOTED SPECIFICATIONS OF ASPHALT

ALL ABC STONE SHALL BE COMPACTED TO 100% OF STANDARD PROCTOR (ASTM D698)

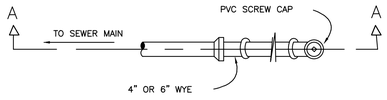
ASPHALT SHALL BE 2" SF9.5A

SPECIFICATIONS FOR SUBBASE

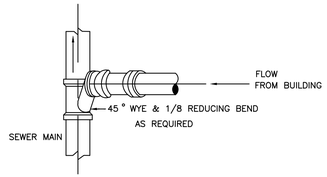
ALL SUBBASE SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR (ASTM D698)



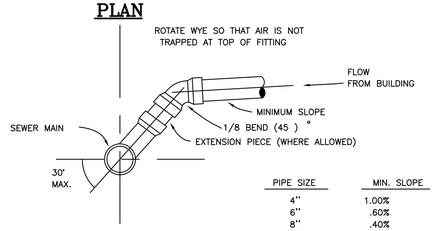
SECTION A



PLAN VIEW
SINGLE SERVICE LATERAL CONNECTION
N.T.S.

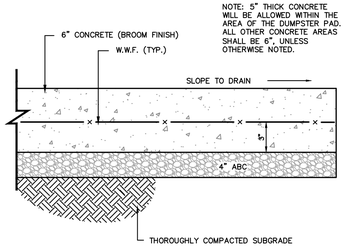


PLAN

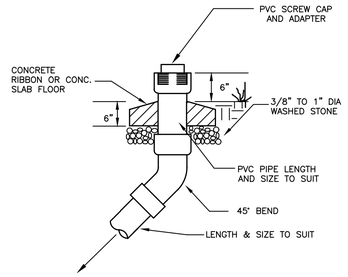


PIPE SIZE	MIN. SLOPE
4"	1.00%
6"	.60%
8"	.40%
12"	.22%

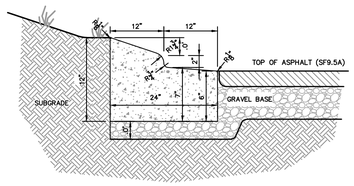
SECTION
SERVICE CONNECTION
N.T.S.



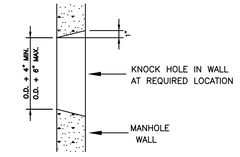
CONCRETE PAVEMENT SECTION
N.T.S.



TYPICAL SEWER CLEAN-OUT
N.T.S.

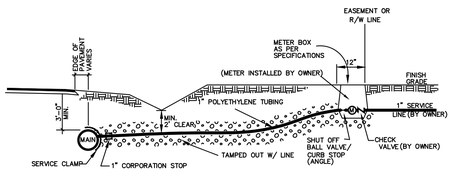


2' CONCRETE MOUNTABLE CURB & SPILL GUTTER
NTS
MODIFIED NCDOT STANDARD 846.01



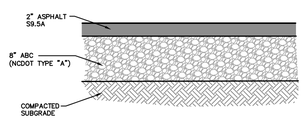
IN FIELD PIPE OPENINGS
N.T.S.

NOTES:
1. THIS APPLIES TO ALL PIPES 6" DIAMETER OR LESS UNLESS OTHERWISE SPECIFIED.
2. CLOSE WITH NON-SHRINK GROUT AFTER PIPE INSTALLATION.



NOTE:
CONTRACTOR TO CONSULT WITH OWNER'S WATER SYSTEM MANAGING ENTITY AND OWNER'S ENGINEER PRIOR TO ORDERING METER BOX AND SHUT OFF BALL VALVE/ CURB STOP TO MAKE SURE THEY MEET THEIR REQUIREMENTS.

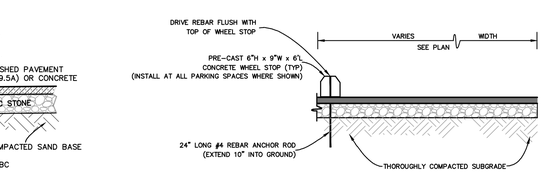
STANDARD 1" SERVICE LINE AND METER BOX INSTALLATION
N.T.S.



TYPICAL ASPHALT SECTION
N.T.S.

COMPACTION NOTES:
1. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.
2. COMPACT BACKFILL AND SUBGRADE TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) ALL BACKFILL MATERIAL SHALL BE SELECT BACKFILL UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. SELECT FILL SHALL CONSIST OF SAND OR GRAVEL CONTAINING LESS THAN 20% BY WEIGHT OF FINES [SP, SM, SW, GP, GW] HAVING A LIQUID LIMIT LESS THAN 20 AND PLASTIC LIMIT LESS THAN 6, AND FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL.

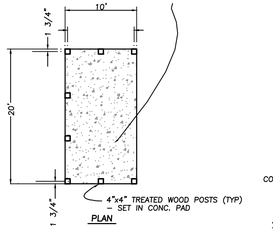
COMPACTION NOTES



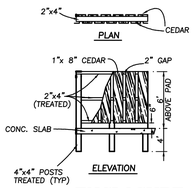
WHEEL STOP DETAIL
N.T.S.

Know what's below. Call before you dig.

NOTE:
THE DATA GIVEN ON THESE PLANS IS BELIEVED TO BE ACCURATE, BUT THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL LEVELS, LOCATIONS, TYPES, AND DIMENSIONS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND, WORK SHALL CEASE AND THE ENGINEER NOTIFIED. WORK MAY CONTINUE UPON ENGINEERS NOTICE TO PROCEED.

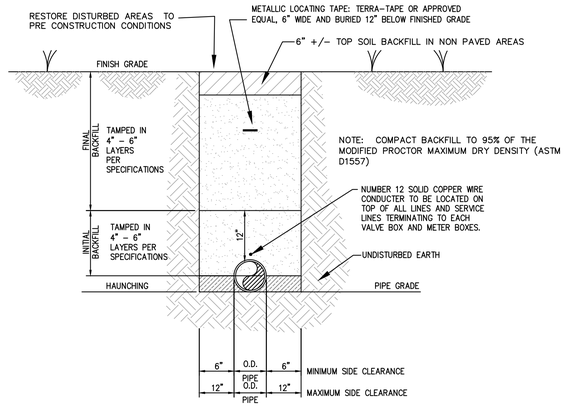


DUMPSTER PAD



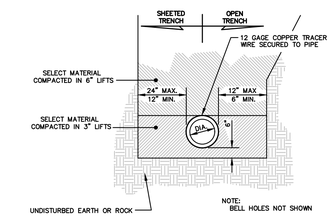
ENCLOSURE

CONCRETE DUMPSTER PAD AND ENCLOSURE
N.T.S.
(NOTE: DUMPSTER PAD DRAIN NOT SHOWN)



NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING
2. NO ROCKS OR BOULDERS 4" AND LARGER SHALL BE USED IN INITIAL BACKFILL AREA.
3. ALL BACKFILL MATERIAL SHALL BE SATISFACTORY SOIL MATERIALS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER. (SATISFACTORY SOIL FILL SHALL CONSIST OF SAND OR GRAVEL CONTAINING LESS THAN 20% BY WEIGHT OF FINES [SW, SP, SP–SM, SM] HAVING A LIQUID LIMIT LESS THAN 20 AND PLASTIC LIMIT LESS THAN 6, AND FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL.)

TYPICAL WATERLINE BACKFILLING REQUIREMENTS AND TRENCH BOTTOM DIMENSIONS
N.T.S.



STANDARD EXCAVATION

NOTES:
1. CROSSING A WATER MAIN OVER A SEWER; WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION; IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
2. CROSSING A WATER MAIN UNDER A SEWER; WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

NOTE:
MINIMUM 30" COVER IN PIEDMONT AND COASTAL AREAS

TYPICAL SANITARY SEWER TRENCHING
N.T.S.

GRAPHIC SCALE
20' 0 10' 20' 40'
(IN FEET)
1 inch = 20 ft.

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admin@quible.com www.quible.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040787 CHRISTOPHER M. SCHMITT
CERTIFICATION

NO.	DATE	REVISIONS
1	12/05/19	PER TOWN COMMENTS

SITE & UTILITY DETAILS

CANCER TREATMENT CENTER
OUTER BANKS HOSPITAL
NAGS HEAD TOWNSHIP DARE COUNTY NORTH CAROLINA

COMMISSION NO.	P17012.1
DESIGNED BY	CMS
DRAWN BY	JMH/CMS
CHECKED BY	MWS
ISSUE DATE	11/12/19

SHEET NO. 6 OF 6 SHEETS

NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
PO BOX 129
NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
C/O TIM MCDONNELL
PO BOX 6028
GREENVILLE, NC 27835

2. PROPERTY IDENTIFICATION: 4928, 4926 & 4922 S. PASSAGE WAY
4927 & 4923 SOUTH CROATAN HIGHWAY
PIN#: 0801-1313-8895; 0801-1313-8960; 0801-1313-8936
0801-13-13-7759; 0801-1313-7809
PID#: 02839113; 02839114; 02839115
027839062; 027839063;

3. PARCEL AREA: 63,021 SQ.FT. / 1.45 ACRES
(AREAS BY COORDINATE METHOD)

4. ZONING CLASSIFICATION: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) (HOTEL DISTRICT OVERLAY)

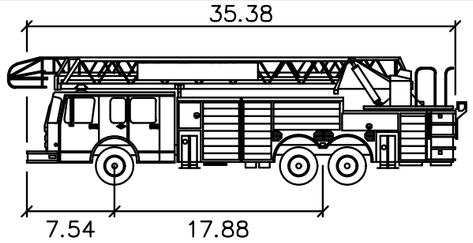
5. PROPOSED REZONING FOR 4928, 4926 & 4922 S. PASSAGE WAY: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) FROM SF2 (SINGLE FAMILY) ZONING

6. REFERENCES: D.B. 1939, PG. 480; P.C. E, SL. 134

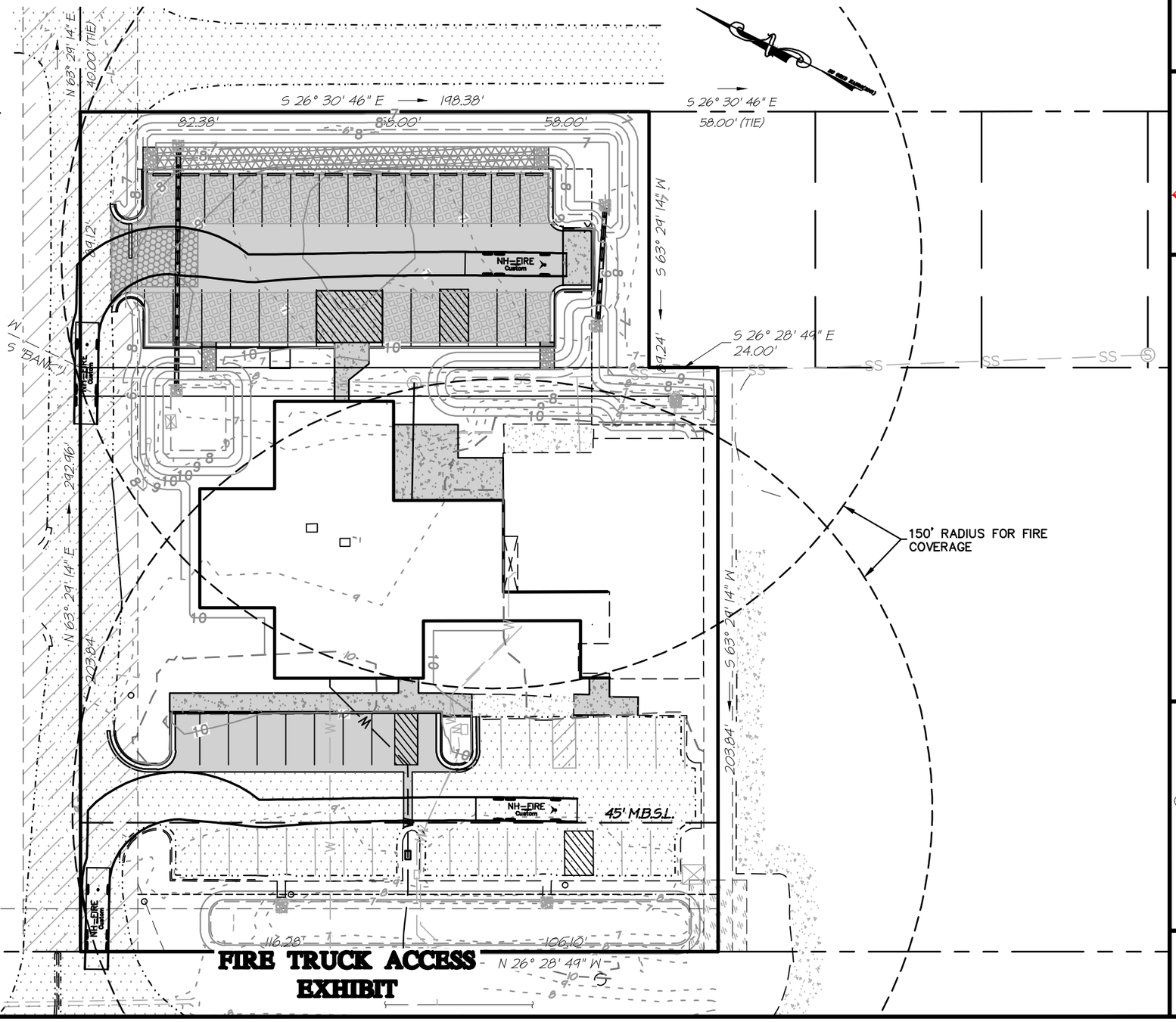
7. FIELD SURVEY BY QUIBLE & ASSOCIATE, P.C. DATES: 06-22-2017, 09-10-2019, & 10-21-2019.
(HORIZONTAL GROUND DISTANCES)

8. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAVD 1983 (2012)

9. PROPERTY IS LOCATED IN F.I.R.M. ZONES "AE" (EL. 9')
PANEL 3730080100J, DATED 09/20/06
FIRM ZONES SUBJECT TO CHANGE BY F.E.M.A.



FIRE TRUCK	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.00
Steering Angle	: 40.00



GRAPHIC SCALE

80' 0 40' 80' 160'

(IN FEET)
1 inch = 80' ft.

NC License#: C-0208
Quible & Associates, P.C. SINCE 1959
ENGINEERING** * CONSULTING * PLANNING
ENVIRONMENTAL SCIENCES * SURVEYING**
ENG./SUR. NOT OFFERED AT BLACK MTN. OFFICE
8466 Caratoke Hwy, Powells Point, NC 27966
Phone: (252) 491-8147 Fax: (252) 491-8146
90 Church St., Ste. B, Black Mountain, NC 28711
Phone: (828) 793-0398 Fax: (252) 491-8146
administrator@quible.com

PRELIMINARY NOT FOR CONSTRUCTION

FIRE ROUTING EXHIBIT

CANCER CENTER
OUTER BANKS HOSPITAL

TOWN OF NAGS HEAD — DARE COUNTY
NORTH CAROLINA

0 40 80
GRAPHIC SCALE IN FEET 1"=40

PROJECT	DRAWN BY	CHECKED BY	DATE
P17012.1	CMS	CMS/MWS	12/04/19

Q:\2017\P17012\Drawings\P17012.1\P17012.1-base.dwg 12/4/2019 9:35 PM Csaunders

NOTES:

1. PROPERTY OWNERS: MOONGATE PARTNERS, LLC.
PO BOX 129
NAGS HEAD, NC 27959

DOUBLE L CORPORATION
PO BOX 2606
ELIZABETH CITY, NC 27906

UNIVERSITY HEALTH SYSTEMS OF EASTERN CAROLINA
C/O TIM MCDONNELL
PO BOX 6028
GREENVILLE, NC 27835

2. PROPERTY IDENTIFICATION: 4928, 4926 & 4922 S. PASSAGE WAY
4927 & 4923 SOUTH CROATAN HIGHWAY
PIN#: 0801-1313-8895;
0801-1313-8960; 0801-1313-8936
0801-13-13-7759;
0801-1313-7809
PID#: 02839113; 02839114; 02839115
027839062; 027839063;

3. PARCEL AREA: 63,021 SQ.FT. / 1.45 ACRES
(AREAS BY COORDINATE METHOD)

4. ZONING CLASSIFICATION: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) (HOTEL DISTRICT OVERLAY)

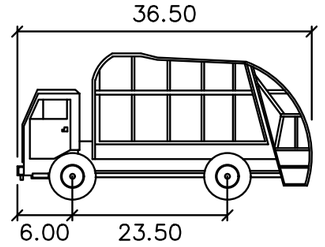
5. PROPOSED REZONING FOR 4928, 4926 & 4922 S. PASSAGE WAY: SPD-C (SPECIAL PLANNED DEVELOPMENT-COMMUNITY DISTRICT) FROM SF2 (SINGLE FAMILY) ZONING

6. REFERENCES: D.B. 1939, PG. 480; P.C. E, SL. 134

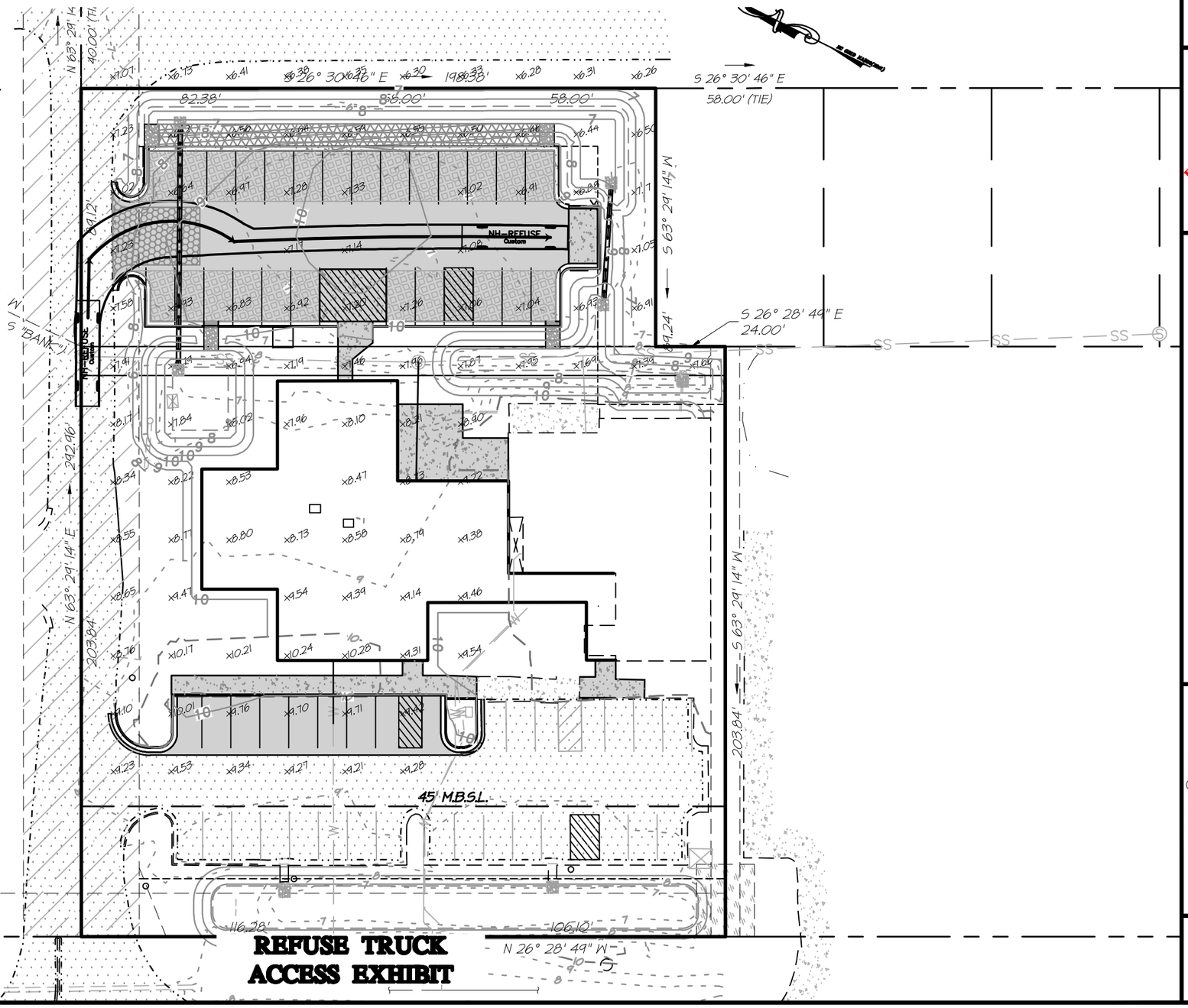
7. FIELD SURVEY BY QUIBLE & ASSOCIATE, P.C. DATES: 06-22-2017, 09-10-2019, & 10-21-2019.
(HORIZONTAL GROUND DISTANCES)

8. VERTICAL DATUM NAVD 1988 / HORIZONTAL DATUM NAVD 1983 (2012)

9. PROPERTY IS LOCATED IN F.I.R.M. ZONES "AE" (EL. 9')
PANEL 3730080100J, DATED 09/20/06
FIRM ZONES SUBJECT TO CHANGE BY F.E.M.A.



NH REFUSE	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.0



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PRELIMINARY NOT FOR CONSTRUCTION

REFUSE ROUTING EXHIBIT

CANCER CENTER
OUTER BANKS HOSPITAL

TOWN OF NAGS HEAD — DARE COUNTY — NORTH CAROLINA

GRAPHIC SCALE IN FEET 1"=40
0 40 80

PROJECT	DRAWN BY	CHECKED BY	DATE
P17012.1	CMS	CMS/MWS	11/14/19

A

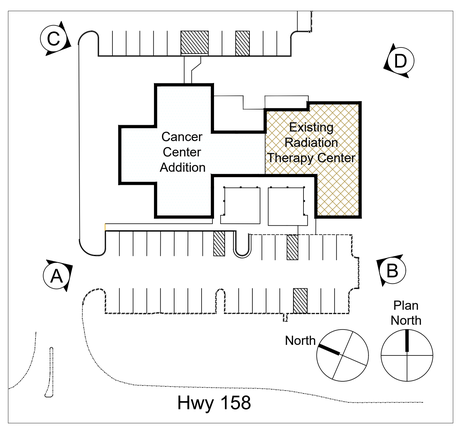
B

C

D

Exterior Sketch Images

Materials, colors, profiles, and details will match the existing Radiation Therapy Center



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- NC Engineering License No. C-0206
- NC Architectural License No. 50213
- NC Landscape Architectural License No. C-427

VIDANT HEALTH™

THE OUTER BANKS HOSPITAL
4800 South Croatan Highway
Nags Head, NC 27959
252-489-9111

THE EAST GROUP, P.A. REGISTERED ARCHITECTURAL COMPANY 50213 NORTH CAROLINA GREENVILLE, NC

PRELIMINARY DESIGN DOCUMENTS

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
0	12-06-2019	PRELIMINARY DRAWING - NOT FOR CONSTRUCTION	CDL	CDL

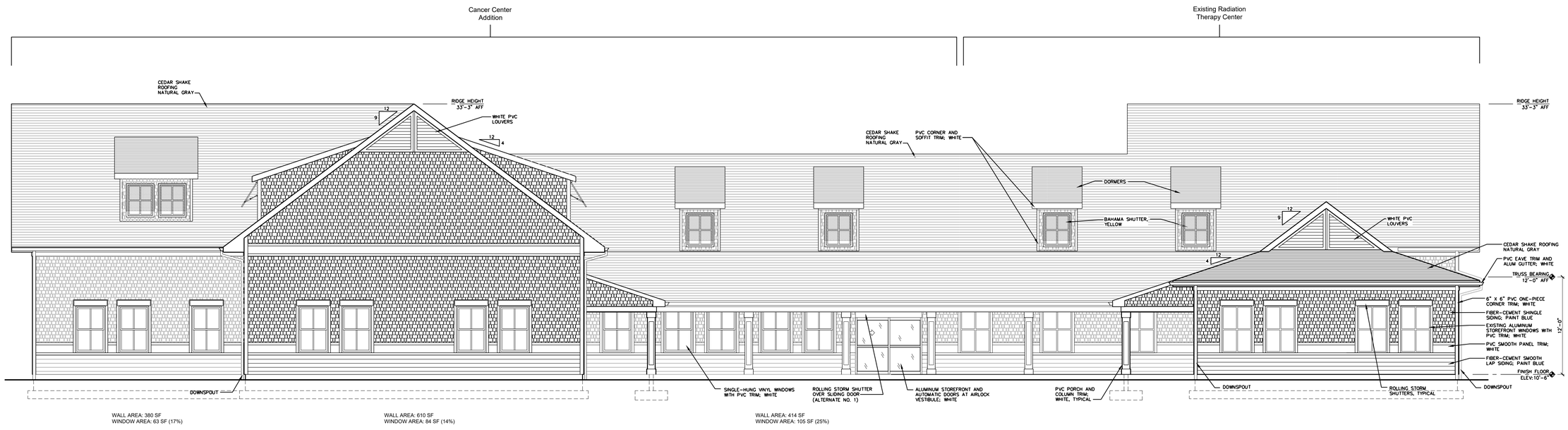
TEG PROJECT NO.
20190179

CLIENT PROJECT NO.
-

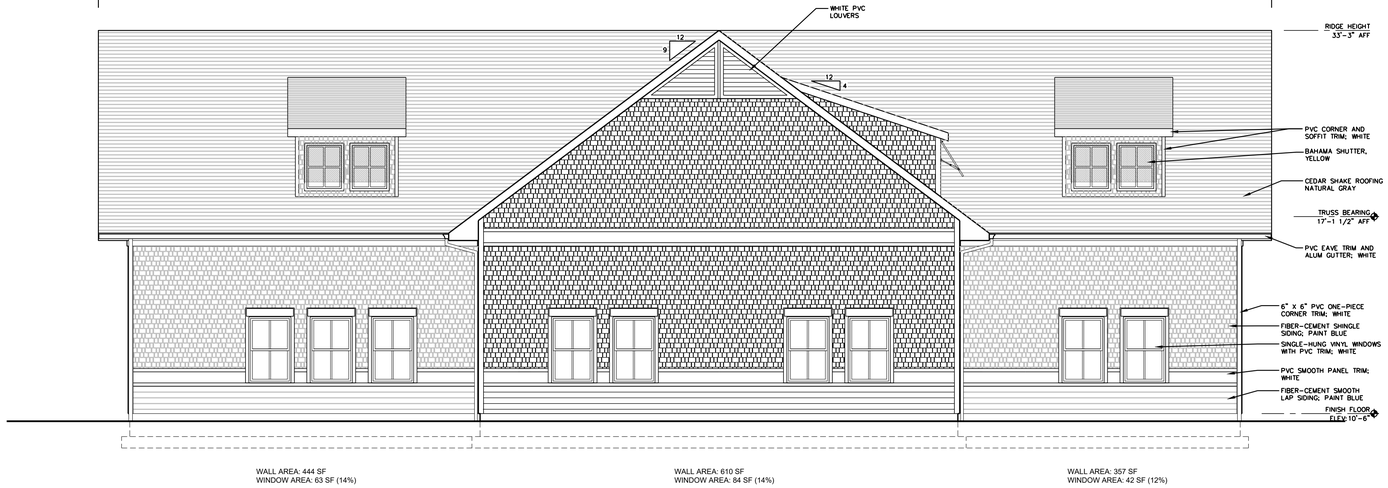
PROJECT TITLE
OBH CANCER CENTER

DRAWING TITLE
EXTERIOR IMAGES

DRAWING NO.
A6.3



1 PLAN-SOUTH ELEVATION
SCALE: 3/16" = 1'-0"



2 PLAN-WEST ELEVATION
SCALE: 3/16" = 1'-0"

Exterior Appearance:

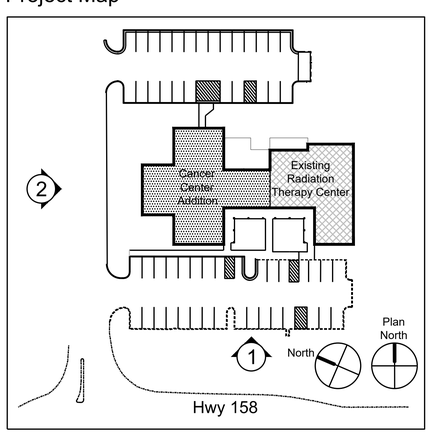
Materials, colors, profiles, and details will match the existing Radiation Therapy Center

Town of Nags Head
Architectural Style Points Schedule

(applied to building addition only)

Design Element	Formula/Element Provided	Points Earned
Porches	1st Floor Porch - p1/b1 x 150 = p1 = perimeter of 1st floor with Porch = 72' b1 = perimeter of 1st floor = 379'	28
Dormers	n = number of dormers = 9 9 x 5 = 45 1 - 17-foot wide shed dormer (1 x 10) + 5 = 15 45 + 15 = 60 25 point maximum score	25
Roofs	Compliant Form and Pitch (Minimum 6:12 pitch for commercial buildings)	25
Building Form	Combination Base Form	40
Siding Materials	Simulated Shingle Siding	12
Miscellaneous Details	Beauty Bands - 5 Porch Column Trim - 5 Windows (single-hung) - 20	30
	Total Points Earned	160

Project Map



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252-489-9111

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NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
0	12-06-2019	PRELIMINARY DRAWING - NOT FOR CONSTRUCTION	CDL	CDL

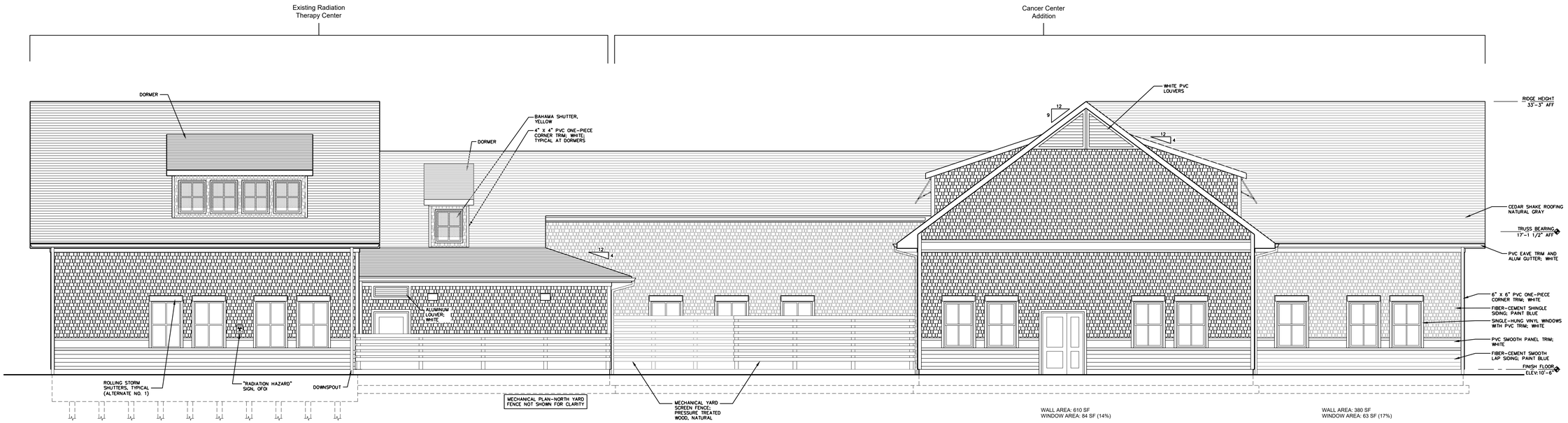
TEG PROJECT NO.
20190179

CLIENT PROJECT NO.
-

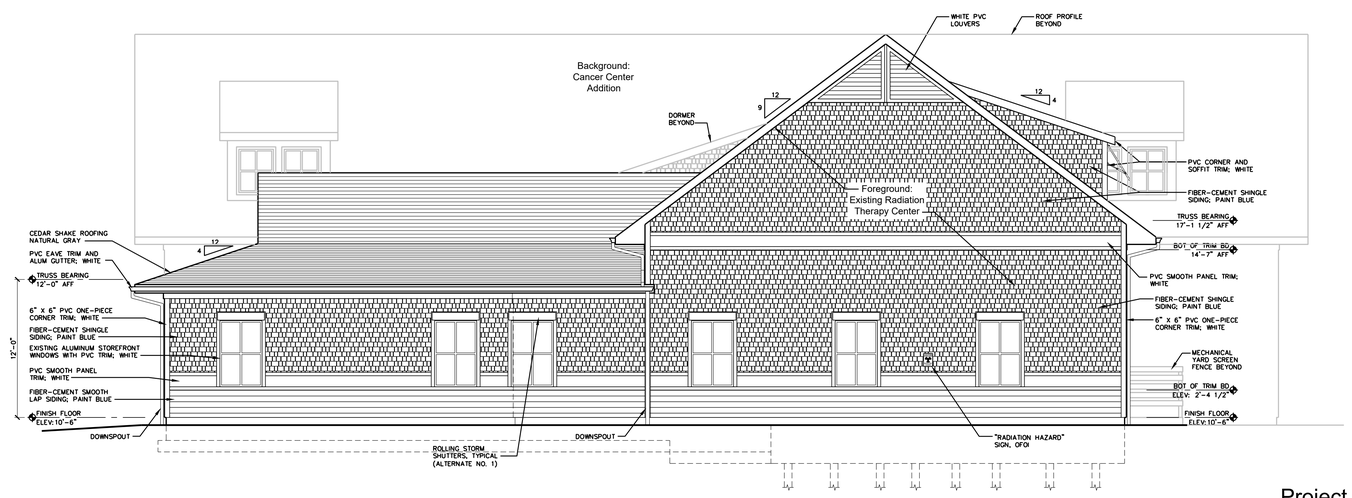
PROJECT TITLE
OBH CANCER CENTER

DRAWING TITLE
BUILDING ELEVATIONS

DRAWING NO.
A6.1



1 PLAN-NORTH ELEVATION
SCALE: 3/16" = 1'-0"



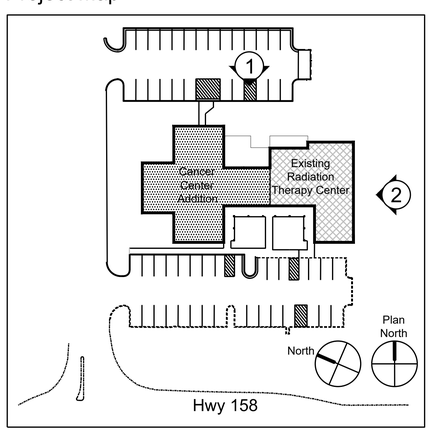
Existing Radiation Therapy Center Elevation

2 PLAN-EAST ELEVATION
SCALE: 3/16" = 1'-0"

Exterior Appearance:

Materials, colors, profiles, and details will match the existing Radiation Therapy Center

Project Map



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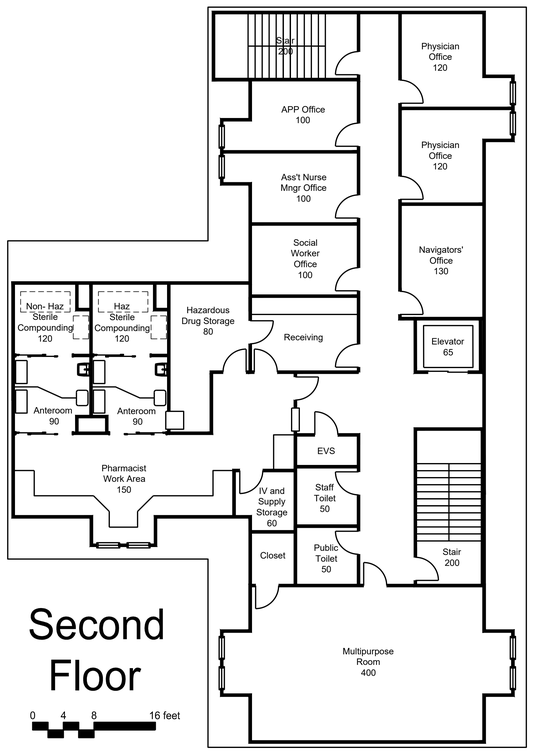
TEG PROJECT NO.
20190179
CLIENT PROJECT NO.
-
PROJECT TITLE
OBH CANCER CENTER
DRAWING TITLE
BUILDING ELEVATIONS
DRAWING NO.
A6.2



Second Floor

0 4 8 16 feet

First Floor

0 4 8 16 feet

Building Area

Radiation Therapy:	4,500 SF
Addition First Floor:	6,414 SF
Addition Second Floor:	3,966 SF
Total:	14,880 SF

Allowable Area Calculation:

NCSBC Table 506.2, B occupancy, Type V-B Construction, Non-sprinklered: 9,000 SF allowable area

NCSBC 506.2.3: Area for Single-occupancy Multistory Buildings

[9000 + (9000 x 41%)] x 2 = 25,380 SF allowable area

A_t NS I_f S_a A_a

NCSBC 506.3: Frontage Increase

(427 / 647 - 0.25) x 30 / 30 = 41% increase

F P W I_f

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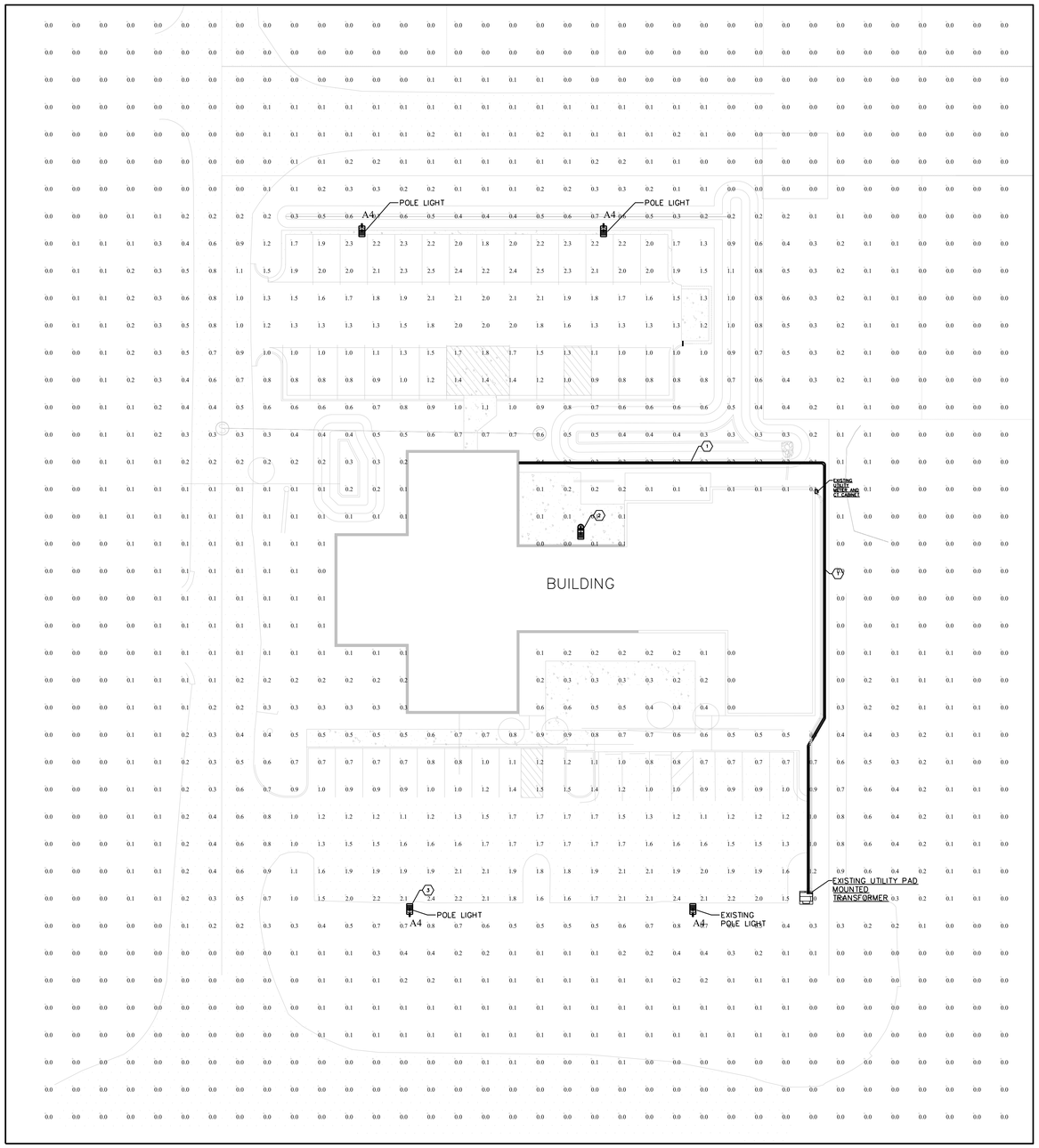
TEG PROJECT NO.
20190179

CLIENT PROJECT NO.
-

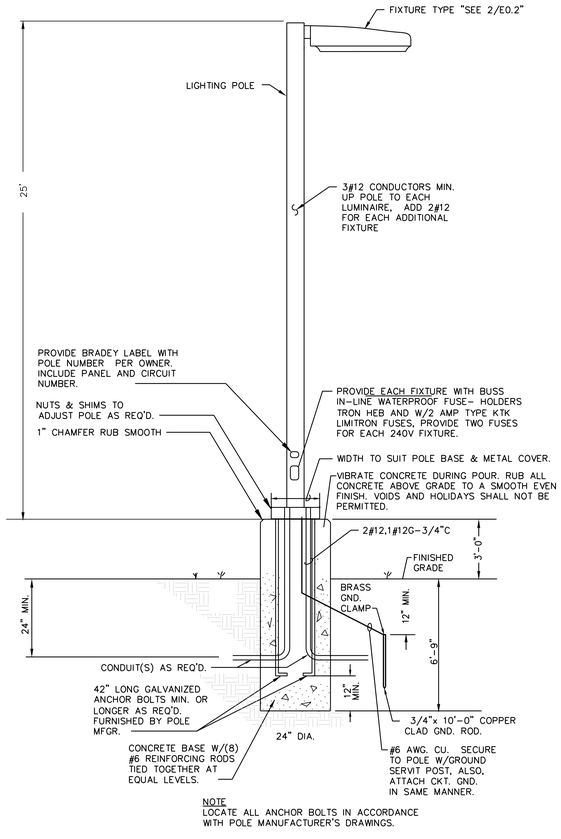
PROJECT TITLE
OBH CANCER CENTER

DRAWING TITLE
FLOOR PLANS: FIRST FLOOR AND SECOND FLOOR

DRAWING NO.
A2.1



1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'



NOTE
LOCATE ALL ANCHOR BOLTS IN ACCORDANCE WITH POLE MANUFACTURER'S DRAWINGS.

2 AREA POLE LIGHT DETAIL
SCALE: N.T.S.

GENERAL NOTES:

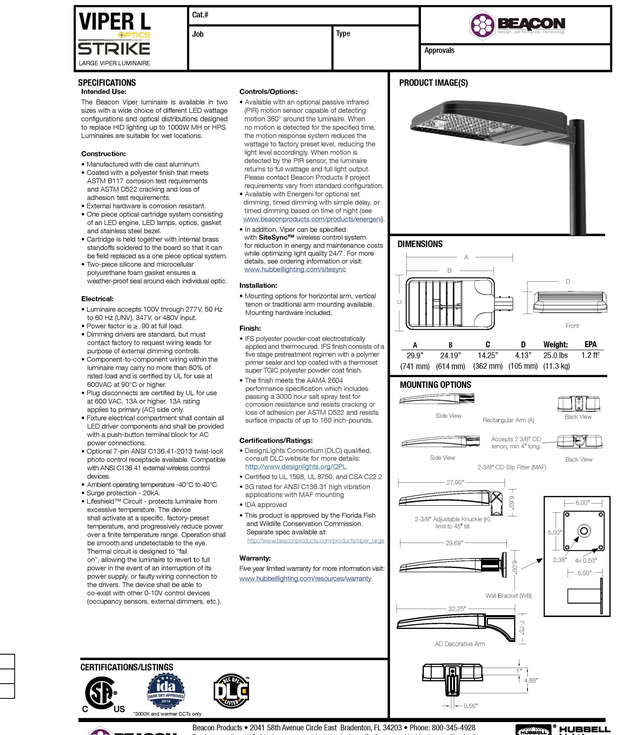
1. PLANS ARE GENERALLY DIAGRAMMATIC. NECESSARY OFFSETS IN CONDUITS, ETC., REQUIRED TO INSTALL EQUIPMENT SHALL BE PROVIDED WITH NO ADDITIONAL EXPENSE TO THE OWNER.
2. PROVIDE ALL CUTTING AND REPAIRING OF SIDEWALKS, PAVEMENT, ETC. NECESSARY FOR THE INSTALLATION OF WORK. ANY CUTTING OF STRUCTURAL MEMBERS OR FINISHED WORK SHALL HAVE PRIOR APPROVAL OF ARCHITECT/ENGINEER.
3. ALL JUNCTION BOX COVERS AND POLE BASES ARE TO BE LABELED TO IDENTIFY SYSTEM. BOXES CONTAINING POWER CIRCUITS ARE TO BE LABELED USING PANELBOARD DESIGNATION AND CIRCUIT NUMBER (I.E., "BHMA-10"). OUTSIDE OF BOX COVER SHALL BE LABELED WITH BLACK PLASTIC LAMINOLD TAGS WITH 1/4" HIGH WHITE LETTERS FASTENED WITH BRASS SCREWS. THIS LABELING SHALL BE PROVIDED BY THE CONTRACTOR.
4. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. ALL UNDERGROUND ELBOWS SHALL BE SCHEDULE 40 PVC. ALL UNDERGROUND CONDUIT SHALL BE A MINIMUM OF 24" DEPTH TO TOP OF CONDUIT. ALL ABOVE GROUND CONDUIT SHALL BE ALL FLEX SHALL BE SEALTITE G.R.C.
5. ALL SPLICES IN UNDERGROUND JUNCTION BOXES SHALL BE WATERPROOF.
6. GROUNDING SHALL BE IN ACCORDANCE WITH NEC, ARTICLE 250. ALL CONDUITS AND LIGHT POLES SHALL HAVE A GREEN EQUIPMENT GROUNDING CONDUCTOR, #12 MINIMUM.
7. ALL INGROUND HANDHOLE/PULLBOXES AND COVERS SHALL BE QUAZITE, ANSI TIER 15 MINIMUM, UL LISTED, WITH COVERS MARKED ELECTRICAL OR DATA. ALL COVERS SHALL BE LOCKABLE AND REQUIRE A SPECIAL TOOL TO OPEN. ALL BOXES SHALL BE SET ON A MINIMUM 8" DEEP BED OF GRAVEL SPREAD 6" IN ALL DIRECTIONS AROUND HANDHOLE/PULLBOX.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON ELECTRICAL SITE PLANS.
9. IF REQUIRED, ALL EXISTING ASPHALT SHALL BE NEATLY SAW CUT.
10. IF REQUIRED, ALL EXISTING ASPHALT AND CONCRETE SHALL BE PATCHED TO MATCH EXISTING. REPAINT ANY EXISTING PARKING LOT STRIPING DISTURBED BY TRENCHING.
11. DO NOT TRENCH IN EXISTING TREE ROOT ZONES.
12. KEEP PANELS, PULLBOXES, AND CONTACTORS CLOSED AND LOCKED AT ALL TIMES.

NOTES KEYED TO PLAN:

1. REFER TO ELECTRICAL RISER
2. REMOVE AND RELOCATE EXITING SITE LIGHT ASSEMBLY.
3. RELOCATED SITE LIGHT ASSEMBLY.

Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	4	A4	25' - 0" AFG	0.900	14931	136	VP-L-64L-136-3K7-4W

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.37	2.5	0.0	N.A.	N.A.
Parking Area	Illuminance	Fc	1.53	2.5	0.7	2.19	3.57



3 POLE LIGHT
SCALE: N.T.S.

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REV	DATE	DESCRIPTION	BY	CHK
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TEG PROJECT NO.
20190179
CLIENT PROJECT NO.
-
PROJECT TITLE
OBH CANCER CENTER
DRAWING TITLE
ELECTRICAL SITE PLAN
DRAWING NO.
E0.2

Town of Nags Head
Post Office Box 99
Nags Head, NC 27959
Telephone 252-441-5508
Fax 252-441-0776
www.nagsheadnc.gov

Date: December 13, 2019

To: Kelly Wyatt, Deputy Planning Director

From: David Ryan, P.E.

RE: OB Hospital Cancer Center -Town Engineer Plan Review Comments

---

Internal Traffic Circulation Review

1. Vehicle pathing exhibits have been provided which depict the routing of emergency and sanitation vehicles. The internal traffic circulation approval is contingent on the Public Works/Fire Department approval for access of sanitation and emergency vehicle access.

Stormwater Management Review

1. A NCDEQ high-density stormwater management permit shall be acquired for this application and submitted to the Town upon issuance. **This shall be a condition of approval.**

2. The project shall be designed, constructed, operated and maintained in accordance with Article 11. Environmental Regulations of the Town of Nags Head Unified Development Ordinance. **This shall be a condition of approval.**

3. The submitted site development plan has been determined to be in accordance with Article 11. Environmental Regulations of the Unified Development Ordinance**.**