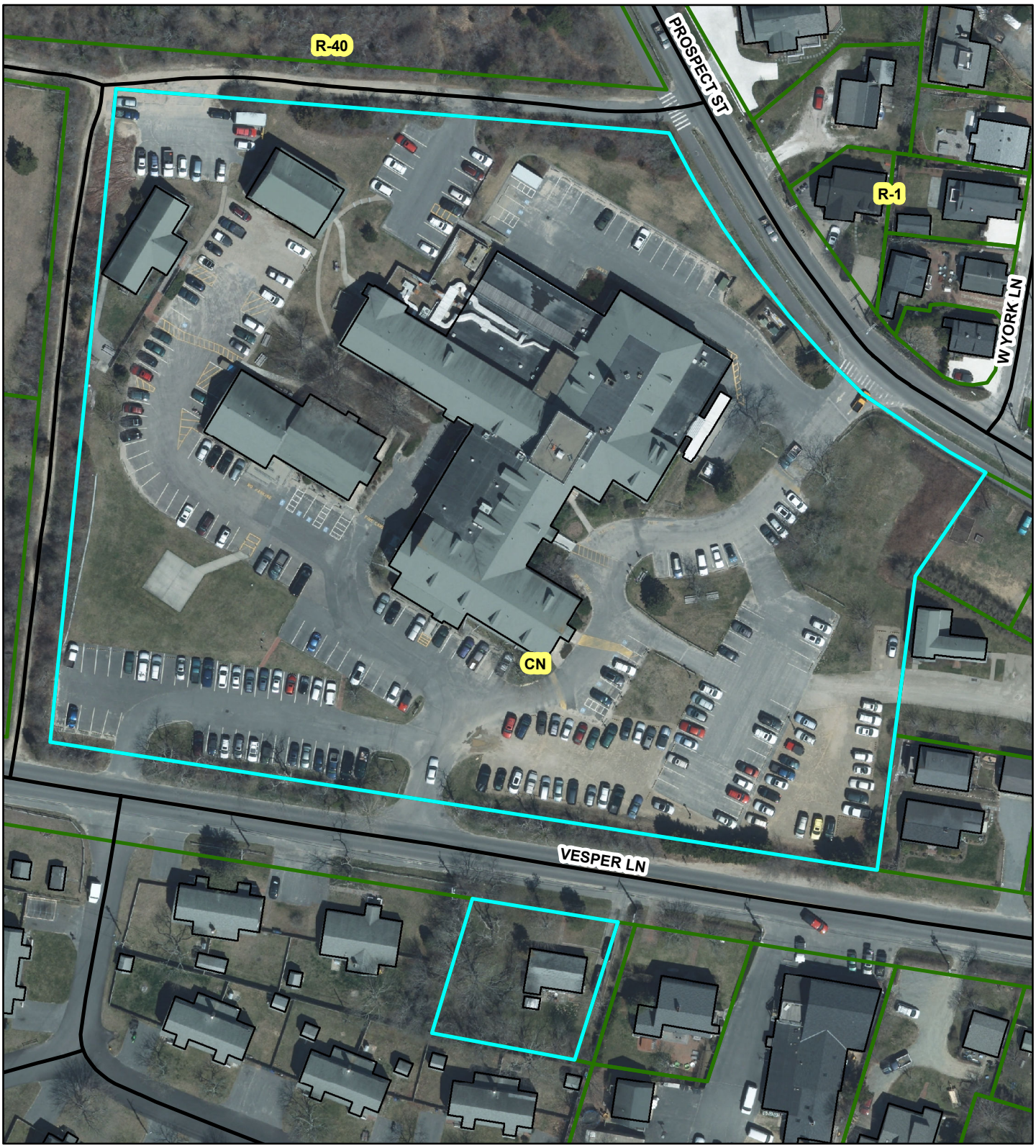
#25-16 Site Plan Review
Nantucket Cottage Hospital
57 & 59 South Prospect Street and 10 Vesper Lane
Map 55 Parcel 3, 130, 249 & 805



PLANNING BOARD

FILE # 25-16

goulston&storrs
counsellors at law

RECEIVED
APR 13 2016
By
Catherine Flanagan Slover, Town Clerk
Town of Nantucket - 16 Broad Street
Nantucket, MA 02554 twnclerk@nantucket.net
508-228-7217 Fax: 508-325-5313
Home: 508-228-7841
APR 13 2016 AM9:43

April 13, 2016

VIA HAND DELIVERY

Nantucket Planning Board
2 Fairgrounds Road
Nantucket, MA 02554
Attn: Andrew V. Vorce, Director of Planning
Leslie Woodson Snell, AICP, LEED AP, Deputy Director of Planning

Re: Application for Site Plan Review Approval from the Nantucket Planning Board (the "Planning Board") Regarding the Nantucket Cottage Hospital Redevelopment Located at 57 and 59 Prospect Street and 10 Vesper Lane

Dear Mr. Vorce and Ms. Snell:

As you know, Nantucket Cottage Hospital (the "Hospital") desires to undertake certain work in connection with the construction of a new hospital at the current Hospital site. Such work includes the construction of a new hospital, demolition and relocation of certain Hospital owned buildings, new hardscaping, landscaping, and drainage improvements, and other associated improvements all as more fully shown on the plans enclosed herewith (the "Work"), at 57 & 59 Prospect Street and 10 Vesper Lane. The Hospital is the only hospital on Nantucket and the Work is necessary for the Hospital to continue to provide quality healthcare services on the island and to accommodate the need to construct a "new" hospital, while maintaining the vital services at the existing hospital. As more fully set forth in a letter from Dr. Margot Hartmann attached hereto, the maintaining of the highest quality medical services for Nantucket is key to all of these efforts.

Based on our discussions with the Town and pursuant to Sections 139-23 of the Town of Nantucket Bylaws, enclosed herewith please find a complete Site Plan Review application seeking Site Plan Review approval of the plans for the Work (the "Application"). As noted above, the enclosed application documentation includes the following:

a) Application Fee (1 Original) ($20,000.00)[1];
b) Site Plan Narrative (2 Originals);
c) Abutters Lists (2 copies of abutters lists for each of 57 Prospect Street, 59 Prospect Street, and 10 Vesper Lane);

d) Form of Abutters Notice;
e) Abutters Notice Fee ($401.14);
f) Site Plan Set prepared by RJ O'Connell & Associates, Inc. (unless otherwise noted below) containing the following plans (2 Originals):
   i. Cover Sheet;
   ii. Existing Conditions Plan;
   iii. Demolition and Erosion Control Plan;
   iv. Grading and Drainage Plan;
   v. Utility Plan;
   vi. Parking and Traffic Control Plan;
   vii. Landscape Plan – prepared by William Fleming & Associates;
   viii. Aerial Site Plan – prepared by William Fleming & Associates;
   ix. Building Elevation Plans – prepared by Cannon Design;
   x. Site Lighting Plan;
   xi. General Notes;
   xii. Erosion Control Details;
   xiii. Drainage Details – I;
   xiv. Drainage Details – II;
   xv. Utility Details;
   xvi. Site Details – I;
   xvii. Site Details – II; and
   xviii. Landscape Detail Plans – prepared by William Fleming & Associates;
g) Stormwater Report prepared by RJ O'Connell & Associates, Inc. (2 Originals);
h) Traffic Impact Assessment prepared by Vanasse & Associates, Inc. (2 Originals);
i) Helicopter Approach and Landing Plan; and
j) Construction Management Plan prepared by Suffolk Construction (2 Originals).

Please note that, in connection with certain ways to be conveyed to the Hospital by the Town, an "Approval Not Required" plan is being filed with the Planning Board under separate cover.

Based on the materials submitted with the Application, and consistent with the requirements of Section 139-23 of the Nantucket Bylaws, we believe that the Hospital has provided all of the information required for the Planning Board to review the Hospital's Application and respectfully request that the Planning Board find that the project proposed in the Application is in compliance with the review objectives and performance standards of Section 139-23 of the Bylaws and grant its approval of the Application.

Please contact me with any questions concerning the above or if the Planning Board would like additional information. I respectfully request that the Planning Board review the Hospital's request for Site Plan Review approval at the Planning Board's May 9, 2016, meeting. We look

forward to working with the Planning Board and its staff and consultants on this exciting project to bring a new hospital to Nantucket to serve current and future generations.

Sincerely,

Nantucket Cottage Hospital
By its attorney,
John E. Twohig

cc:

Frank Kovac

[1] NOTE: The Hospital, as a non-profit public service entity, requests that the Planning Board accept $20,000.00 in lieu of the Application Fee that would otherwise have been due ($76,535.84). The enclosed fee will be sufficient for plan review and third party consultants. To the extent additional consultant fees are required, please advise. We respectfully request that, given this is a redevelopment of the existing hospital on the current existing hospital's site and will result in a new hospital of similar size to the existing hospital, the application fee due pursuant to the Major Commercial Development Fee calculation not be assessed.

8720032.6

April 11, 2016

Town of Nantucket
Planning Board
2 Fairgrounds Road
Nantucket, MA 02554

As we consider the present and future health care needs of Nantucket, I'm reminded of the sage words of Nantucket Cottage Hospital co-founder Dr. John S. Grouard in the early 1900s: "It is imperative that the conditions under which medicine and surgery are practiced (here) must be superseded by more modern ones."

Nantucket Cottage Hospital's core mission has never changed. We are striving to improve health care on Nantucket; a new building that will serve the island today and into the future is a critical piece of this puzzle.

Our existing half-century-old building was constructed with an "inpatient" medical model that is no longer in use. It is a patchwork of aging infrastructure in which advanced medical equipment and services rely upon mechanical systems in place while President Dwight Eisenhower was still in the White House. This means the hospital must spend roughly $1 million every year in maintenance and repair costs simply to maintain the building, rather than investing those funds in enhancing patient care and advancing services.

The antiquated layout of our current building allows for little patient privacy. Patients must often travel through public hallways after donning a hospital gown for an exam, and encounters with friends and neighbors are often unavoidable. On a small island and in our tight-knit community, patients simply do not have the privacy they expect and deserve.

Having just one functioning operating room limits our abilities to care for patients. For instance, when a woman goes into labor, the hospital's only OR must be reserved in the event of a C-section, restricting other surgical services.

BUILDING OUR FUTURE | 57 PROSPECT ST NANTUCKET, MA 02554
COMMITTED TO CARE | T: 508.825.8100 | NANTUCKETHOSPITAL.ORG

In our current building, only one clinical area – our CT scan room – conforms to Department of Public Health (DPH) code. Every remaining area is undersized and grandfathered to allow us to continue operating the hospital under today's stricter regulatory framework.

Our current hospital building has simply reached the end of its useful life.

We evaluated whether it was prudent to renovate the existing structure or construct a new building to serve the needs of Nantucketers for generations to come. After careful assessment, our conclusion is that a new hospital is the right option for Nantucket.

We have designed a new hospital that will transform the patient experience to enhance privacy and safety, while maintaining the comfort and familiarity of the community hospital we all know so well. This will be a building that honors the architectural heritage of Nantucket, while also reflecting the state-of-the-art care provided inside.

By co-locating 24/7 departments like the Emergency Department and the medical/surgical inpatient beds, and creating multi-function patient rooms, we will have greater flexibility and efficiency to meet fluctuations in demand.

An additional operating room in the new hospital will make it possible for regular surgeries, endoscopies and C-sections to proceed simultaneously.

Clinical space for ambulatory specialties will increase, allowing greater capacity for specialty offerings and the ability to maximize both our on-site and off-site locations with opportunities for further growth in services. Meanwhile, unified primary care, walk-in care and specialty clinic space in the new hospital will increase access to our providers.

New technology will be implemented throughout the building to enhance care, with every room telemedicine capable.

Additionally, all clinical areas within the new hospital will be DPH-licensed space, which will augment our fiscal sustainability.

The new hospital will also allow us to explore new opportunities to serve the island community with alternative medical models, such as a rural health clinic. Furthermore, our ability to recruit and retain key medical staff members in the future will be greatly improved with a new hospital.

Over the past five years we've addressed a number of key challenges by getting a better handle on our finances and reimbursements. The next piece of our puzzle which we must address is our failing building.

The site plan review by the Nantucket Planning Board is a key step toward realizing this goal, and with the expertise and wisdom of your staff and board members, we believe the plan will allow us to maximize the potential for our site at 57 Prospect Street with a new hospital for the island community.

Sincerely,

Margot Hartmann MD.

Margot Hartmann, MD, PhD
President & CEO

BUILDING OUR FUTURE | 57 PROSPECT ST NANTUCKET, MA 02554
COMMITTED TO CARE | T. 508.825.8100 | NANTUCKETHOSPITAL.ORG

TO: Nantucket Planning Board

FROM: Goulston & Storrs PC

DATE: April 13, 2016

REFERENCE: Application for Site Plan Review and Approval
Nantucket Cottage Hospital

BACKGROUND:

This narrative has been prepared in support of the Project's (described below) site plan review application (the "Site Plan Review Application"), submitted as of the date hereof with the Nantucket Planning Board (the "Planning Board"). The Sections below describe the information provided herewith in accordance with Section 139-23 of the Nantucket Bylaws (the "Bylaws").

PROJECT DESCRIPTION:

Nantucket Cottage Hospital ("NCH") proposes to construct an approximately 106,605 square foot new hospital at 57 Prospect Street, which will require the demolition of the existing hospital and associated structures and the construction of certain improvements located on NCH owned properties, all as more fully depicted on the plans included with the Site Plan Review Application (the "Project"). The proposed Project is necessary for NCH to continue to provide quality healthcare services in the Town of Nantucket (the "Town") and to accommodate the need to construct a "new" hospital while maintaining the vital services at the existing hospital.

SECTION 139-23 OF THE BYLAWS – SITE PLAN:

Pursuant to Section 139-23 of the Bylaws a site plan package titled "Site Plan for New Nantucket Cottage Hospital", prepared by RJ O'Connell & Associates, Inc. (the "Site Plan Set") is attached hereto. The following information required by Section 139-23(B)(1)(a)-(r) is included within the Site Plan:

a) **Name:** Name of the project, locus, boundaries, North arrow, date, and scale of the plan are on each sheet of the Site Plan Set.

b) **Key Map:** Key Map at a scale of 1" = 500', depicting the property with reference to surrounding properties, roads, and zoning district lines are shown on the Cover Sheet and C-4 "Parking & Traffic Control Plan" of the Site Plan Set.

c) **Parties:** Name and address of the owner of record, developer, and professional seal and certification of the certifying professional are on the Cover Sheet of Site Plan Set.

d) **Abutters:** Names and addresses of all owners of record of all abutting property owners are shown on Sheet EC-1 "Existing Conditions Plan" of the Site Plan Set and an abutters list is included with the Site Plan Review Application.

e) **Existing Conditions:** Existing lot lines, easements, and rights-of-way are depicted on Sheet EC-1 "Existing Conditions Plan" of the Site Plan Set.

f) **Dimensions and Use of Structures:** The location, dimensions, and use of all existing and proposed structures within the site are depicted on Sheets C-1 "Demolition and Erosion Control Plan", C-2 "Grading and Drainage Plan" and EC-1 "Existing Conditions Plan" of the Site Plan Set.

g) **Dimensions and Use of Improvements:** The location, dimensions, and use of all present and proposed site improvements within the site are depicted on Sheets C-1 "Demolition and Erosion Control Plan", C-2 "Grading and Drainage Plan" and EC-1 "Existing Conditions Plan" of the Site Plan Set.

h) **Utilities:** General location and identity of all present and proposed utility systems are shown on Sheet C-3 "Utility Plan" and Sheet C-8 "Utility Details" of the Site Plan Set. The utility systems are more fully explained as follows:

i. **Water**

A proposed eight-inch (8") cement lined, ductile iron (CLDI) water main will be installed along the west and north sides of the Project site and will connect to the existing eight-inch (8") transit water main in Vesper Lane, and a proposed water main planned to be installed by the Wannacomet Water Company in South Prospect Street. This will provide two separate sources of water and a loop around the site. Domestic water service for the proposed new hospital will be provided by a four-inch (4") CLDI pipe and fire protection will be provided by an eight-inch (8") CLDI pipe, at the north side of the proposed new hospital building. Additional fire protection will be provided by five (5) new hydrants, two (2) hydrants on the east side of the building, one (1) hydrant at the northwest corner of the site, and two (2) hydrants on the west side of the proposed new hospital building. A two-inch (2") CLDI line will be installed from the north side of the relocated medical office building and will connect to the water main line in South Prospect Street to provide domestic water service. A four-inch (4") CLDI line will be installed from the north side of the relocated Founder's Building and will connect to the existing eight-inch (8") water main in Vesper Lane to provide domestic water service

and fire protection. A well is proposed on the north side of the site to provide non-potable water for irrigation and emergency use.

The results of a hydrant flow test performed by the Wannacomet Water Company on March 1, 2016 are as follows:

Static Pressure	=	50 psi
Residual Pressure	=	42 psi
Flow Rate	=	2,030 gallons per minute

Based on the results of this test, and preliminary calculations, it appears there is sufficient flow and pressure within the existing water distribution system to accommodate the Project's domestic water and fire flow needs and no fire pump will be required.

The water demand associated with the proposed new hospital was calculated utilizing flow data for the existing hospital facility provided by the Wannacomet Water Company, dated October 7, 2013, which noted the existing hospital's average monthly usage to be approximately 197,000 gallons per month or approximately 6,600 gallons per day ("gpd"). To estimate the proposed new hospital's average water demand, the average flows for the existing hospital were converted to gallons per day per square-foot based on an existing building area of approximately 86,400 square-feet. The existing hospital's average water usage per square-foot is 0.076 gpd per square-foot. Based on this, the proposed new hospital and relocated medical office building are approximately 116,750 square-feet and the estimated average daily water usage is approximately 8,900 gpd. The proposed new hospital will be equipped with state-of-the art low flow plumbing fixtures, which should reduce the anticipated water demand by 20% and result in approximately 7,120 gpd, or an increase of only 520 gpd.

ii. **Sewer**

A six-inch (6") PVC sewer line will be installed on the west side of the Project site, and will connect into an existing sewer manhole on the north side of Vesper Lane, where the sanitary sewer flows eastward in an existing eight-inch (8") sewer main. A six-inch (6") PVC sanitary sewer line will also be installed on the north side of the relocated medical office building and will connect to an existing sewer manhole in South Prospect Street. A (6") PVC sanitary sewer line will also be installed from the north side of the relocated Founder's Building to an existing sewer manhole at the south side of Vesper Lane.

As water demand is estimated to be approximately 110% of sanitary demand, the proposed sanitary sewer flow from the facility is estimated to be approximately 6,470 gpd, or an increase of only 470 gpd.

iii. **Electric/ Telephone**

Electric service for the proposed new hospital will be provided by two (2) 13.2 KV lines installed in subsurface duct banks comprised of two (2) five-inch (5") concrete encased conduits from two (2) new utility poles installed on the north side of Vesper Lane, and will connect to the southwest corner of the Project site. Electric service for the relocated medical office building will be provided by an overhead power line from an existing utility pole on the south side of South Prospect Street and service for the relocated Founder's Building will be provided by an overhead power line from an existing utility pole on the south side of Vesper Lane.

Telephone/data services will be provided from a utility pole on the east side of South Prospect Street installed in two (2) four-inch (4") concrete encased conduits on the north side of the proposed new hospital and from a utility pole on the north side of Vesper Lane through two (2) four-inch (4") concrete encased conduits to the south side of the proposed new hospital.

iv. **Heating**

Heating for the proposed new hospital will be provided by a proposed twelve thousand gallon (12,000 gal) underground diesel fuel tank at the northwest corner of the Project site and a proposed underground eight thousand gallon (8,000 gal) propane tank at the north side of the Project site. Both tanks will be outside of the Public Wellhead Discharge District. The location design and installation of such tanks will be coordinated with the Nantucket Fire Department.

i) **Erosion:** Erosion and sedimentation control measures are shown on Sheets C-1 "Demolition and Erosion Control Plan" and C-5 "Erosion Control Details" of the Site Plan Set.

j) **Topography:** Plan showing existing and proposed topography is shown on Sheet C-2 "Grading and Drainage Plan" of the Site Plan Set.

k) **Flood Hazard:** Information related to the Flood Hazard (Overlay) District boundary, base flood elevation, and existing and proposed lowest floor elevation, pursuant to Section 139-12A of the Bylaws, is not applicable.

l) **Public Wellhead Recharge District:** The Public Wellhead Recharge District boundary is shown on Sheet EC-1 "Existing Conditions Plan" of the Site Plan Set.

m) **Wetlands:** A plan showing the location of wetlands regulated pursuant to Section 136 of the Wetlands Code, is not applicable.

n) **Zoning:** A Zoning Table, demonstrating compliance with the dimensional and bulk requirements of this chapter is shown on Sheet C-4 "Parking and Traffic Control Plan" of the Site Plan Set.

o) **Abutting Land Uses:** Abutting land uses and the location and use of structures and appurtenant improvements on abutting properties are shown on Sheet EC-1 "Existing Conditions" of the Site Plan Set. As shown on Sheet EC-1, the Project site is abutted by residential uses to the east, Mill Hill Park to the north, and the cemetery and conservation land to the west.

p) **General Information:** The Site Plan Set generally show the location and identification of all existing and proposed site improvements, including public and private ways, parking areas, driveways, sidewalks, ramps, curbs, including traffic directional arrows and paintstriping; fences and buffers for screening purposes; paths; outdoor lighting fixtures; walls; service areas; refuse, and other waste disposal containers; standard specifications and typical cross-sections, as appropriate.

q) **Landscaping:** A depiction of the existing natural vegetation, including the identity and location of trees four inches in diameter or greater; the location, size, and type of all existing ornamental vegetation; and the location, size and type of proposed landscaping, conforming to the landscaping and buffering standards of Section 139-23 of the Bylaws is shown on Sheets ASP-1 "Aerial Site Plan", L-1 "Landscape Plan", L-3 "Landscape Details", L-3 "Landscape Details", and EC-1 "Existing Conditions Plan" of the Site Plan Set. As shown on such sheets the Project site takes advantage of the environment and the unique topographic conditions to provide attractive and aesthetically pleasing views of the Project from adjacent roadways and lands. The southern edge of the Project will have a vegetative buffer including trees and the northeast entrance along Prospect Street will lead to a healing garden. The Project is buffered to the north, east, and west by a park, residences, and the cemetery and conservation land, respectively.

r) **Building Elevations:** Building elevations and perspective drawings, as submitted or to be submitted to the Historic District Commission (for informational purposes) are shown on Sheets A301, A302, and A303 "Building Elevations" of the Site Plan Set.

In addition, pursuant to Sections 139-12(J) & 139-23(B)(2) of the Bylaws, the following information is included within the Site Plan Set:

a) **Storm Drainage:** Storm drainage system details, including existing and proposed drainage pipes; drainage swales; detention and/or retention ponds; catch basins, including leaching catch basins and leaching galleries; headwalls, endwalls, and manholes, including top-of-frame and invert elevations and pipe gradients; and associated storm drainage calculations are shown on Sheets C-2 "Grading and Drainage Plan", C-6 "Drainage Details – I", and C-7 "Drainage Details – II" and set forth as follows:

The Project site currently includes the three-story Nantucket Cottage Hospital, a one-story medical office building, a one-story building housing office and support services, and a two-story dormitory building. There are approximately two hundred and fifty (250) paved parking spaces for patients, visitors, and staff. Approximately 35% of the site is currently pervious open space and the remaining 65% of the site consists of impervious building roof and paved surfaces. Stormwater runoff along the north and west side of the property is collected in catch basins that discharge either to leaching dry wells or a subsurface infiltration system located in the southwest corner of the site. Runoff from the east side of the site sheet flows overland to a surface retention basin in the eastern corner of the property. Most stormwater runoff is retained on-site.

A stormwater management system has been designed that will improve upon current stormwater runoff conditions, both in terms of peak flow control and water quality. The stormwater system will comply with the requirements of Sections 139-23J(6) and 139-12B(2)(5)[1] of the Bylaws and with the Massachusetts Stormwater Management Policy and all its standards for an undeveloped site. Runoff control, water quality improvement, and groundwater recharge will be accomplished by implementing the following drainage improvements:

i. Collect storm runoff in catch basins with deep sumps and inverted (hooded) outlets;
ii. Route storm runoff through hydrodynamic particle separators for additional pollutant removal;
iii. Construct subsurface infiltration systems to temporarily retain stormwater runoff and slowly infiltrate it into the ground, thereby reducing the peak rates and volume of runoff discharged from the site;

iv. Implement a Stormwater Pollution Prevention Plan (SWPPP) to control erosion sedimentation and other construction related impacts in accordance with the requirements of the EPA's NPDES Construction General Permit for Discharges from Construction Activities;

v. Implement a Long Term Pollution Prevention Plan (LTPPP) to prevent illicit discharges to the stormwater management system.

Included within the stormwater management report submitted as part of this application is a post- construction Operations and Maintenance Plan (O&M). The O&M plan outlines the maintenance and inspection activities to be performed for each stormwater BMP to ensure they function as designed and operate at peak efficiency.

The stormwater report prepared by RJ O'Connell & Associates, dated April 11, 2016, and included in the Site Plan Review Application, sets forth a detailed description of the proposed stormwater management system for the Project site.

b) **Traffic:** Traffic Impact Assessment, dated December 2015, prepared by Vanasse & Associates, Inc.

Vanasse & Associates, Inc., has prepared a comprehensive Transportation Impact Assessment in support of the Project (the December 2015 Transportation Impact Assessment). The assessment was prepared in consultation with the Town of Nantucket and the Massachusetts Department of Transportation ("MassDOT"); was performed in accordance with MassDOT's *Transportation Impact Assessment (TIA) Guidelines* and the requirements of the Nantucket Planning & Economic Development Commission; and was conducted pursuant to the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports. Based on this assessment, we have concluded the following with respect to the Project:

1. At the completion of the Project, the hospital campus is expected to generate approximately 1,166 vehicle trips on an average weekday (two-way, 24-hour volume), or an increase of 126 vehicle trips over the current volume of traffic generated by the existing hospital, with 180 vehicle trips expected during the weekday morning peak-hour and 158 vehicle trips expected during the weekday evening peak-hour, both of which represent an increase of 23 vehicle trips over the current volume of traffic generated by the existing hospital during the weekday peak hours. Increased visitations during the peak summer months may increase the peak-hour traffic volume projections for the hospital campus by between 40 and 50 vehicle trips over average-month conditions, with the daily traffic volume projection increasing by approximately 320 vehicle trips;

2. The addition of Project-related traffic to the study area intersections was not shown to result in a significant impact on operating conditions (motorist delays or vehicle queuing) at the study intersections over anticipated future conditions without the Project (No-Build average or peak-month conditions). Under average-month traffic conditions, the addition of Project-related traffic was shown to result in a degradation in level-of-service at only one (1) of the six (6) study area intersections; under peak-month traffic conditions, no intersections were shown to experience a degradation in level-of-service as a result of the Project;

3. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study intersections; and

4. Lines of sight at the Project site driveway intersections with South Prospect Street and Vesper Lane were found to exceed or could be made to exceed the required minimum sight distance for the appropriate design speed along the intersecting roadways, excepting a slight limitation at the north Project site driveway on South Prospect Street which can be addressed with the installation of an advance warning sign.

Based on the above, it was concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner. The December 2015 Transportation Impact Assessment includes a comprehensive, multi-modal transportation improvement program for the Project, which includes specific measures to encourage the use of public transportation services and pedestrian and bicycle trips in order to further reduce the overall impact of the Project on the transportation infrastructure.

Table 1 below summarizes existing (2015) and projected future (2022) traffic volumes along Vesper Lane and Prospect Street under both average and peak-month conditions, and their relationship to the Project:

Table 1
TRAFFIC VOLUME SUMMARY

Time Period	Two-Way Traffic in Vehicles			
	2015 Existing[a] Average/Peak	**2022 No-Build[b] Average/Peak**	**Project-Generated Traffic[c] Average/Peak**	**2022 Build[d] Average/Peak**
Vesper Lane:				
Average Weekday Daily	3,700/4,225	3,410/4,480	42/42	3,452/4,522
Weekday Morning Peak-Hour	262/289	279/355	9/9	288/364
Weekday Evening Peak-Hour	332/380	307/403	9/9	316/412
South Prospect Street:				

Average Weekday Daily	4,455/5,770	5,300/6,710	84/84	5,384/6,794
Weekday Morning Peak-Hour	410/529	478/605	14/14	492/619
Weekday Evening Peak-Hour	401/519	477/604	14/14	491/618

[a]Based on weekday evening peak-hour traffic volumes representing 9 percent of the average weekday traffic volume.
[b]Includes traffic growth at 1 percent per year and development projects by others identified by the Planning Department.
[c]Based on data provided by Nantucket Cottage Hospital for the new/expanded services that will be available.
[d]Build condition traffic volumes were developed by adding Project-generated traffic to the 2022 No-Build traffic volumes.

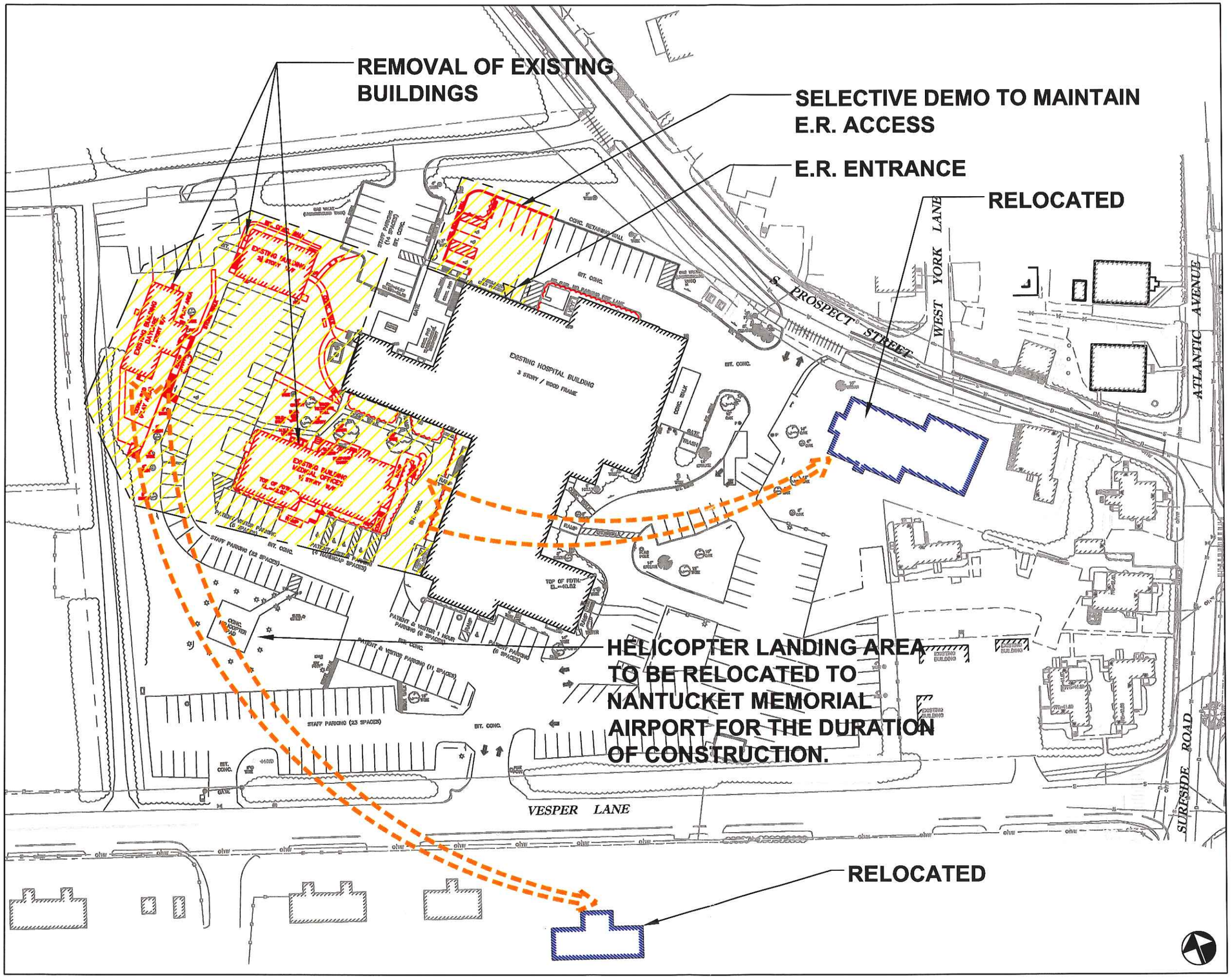
Please note that, as requested by the Planning Board the following materials, separate from the Site Plan Set, are also included with the Site Plan Review Application:

a) **Helicopter:** Helicopter Approach and Landing Plan prepared by RJ O'Connell & Associates, Inc. As shown on such plan, the helipad is be relocated to the northwest corner of the Project site. The proposed pad and associated appurtenances are designed in accordance with the Federal Aviation Administration's Advisory Circular for Heliport Design, dated April 24, 2012, and maintain sufficient clearances for the approach and departure surfaces to the west and east. The helipad is currently going through the permitting and licensing process which should be completed within six months.

b) **Construction Management:** Construction Management Plan prepared by Suffolk Construction.

REQUEST:

Pursuant to Section 139-23(A) of the Bylaws, Site Plan Review is enacted under the authority of M.G.L. c. 40A for the purposes of protecting the health, safety, convenience, and general welfare of the inhabitations of the Town. The driving force behind the Project is to improve the health, safety, convenience, and general welfare of the inhabitations of the Town by modernizing and improving NCH's facilities and the quality of healthcare available in the Town. NCH, therefore, respectfully requests that the Planning Board find that the Project is in compliance with the review objectives and performance standards of Section 139-23 of the Bylaws and grant its approval of the Site Plan Review Application.



NANTUCKET COTTAGE HOSPITAL

PHASE 1 ACTIVITIES

APPROX. 5 WEEKS

- DEMO AND RELOCATED EXISTING BUILDINGS
- CONSTRUCT APPROX. 100 PARKING SPACES AT #16 VESPER LANE

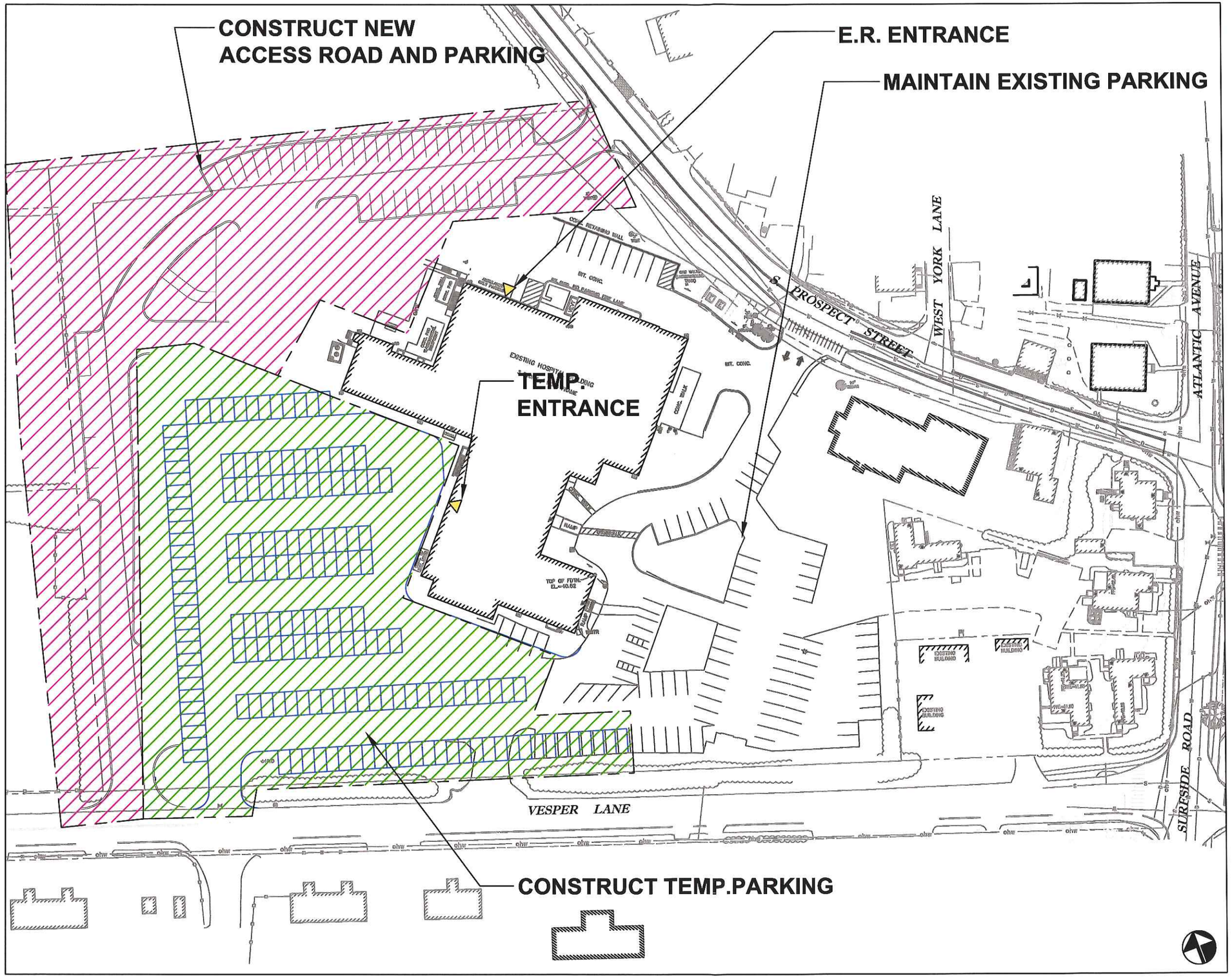
SUFFOLK build smart
65 ALLERTON ST.
BOSTON MA, 02119
TEL: (617) 517-4500

DRAWN BY: J.W.G.	CHECKED BY: A.P.
SCALE : NTS	DATE : 04-08-16

PROJECT: NANTUCKET COTTAGE HOSPITAL NEW BUILDING

TITLE: CONSTRUCTION MANAGEMENT PLAN

DRAWING NO: CMP.01



NANTUCKET COTTAGE HOSPITAL

PHASE 2 ACTIVITIES

APPROX. 15 WEEKS

- UTILIZE 100 PARKING SPACES AT #16 VESPER LANE
- CONSTRUCT NEW ACCESS ROAD
- CONSTRUCT TEMP PARKING

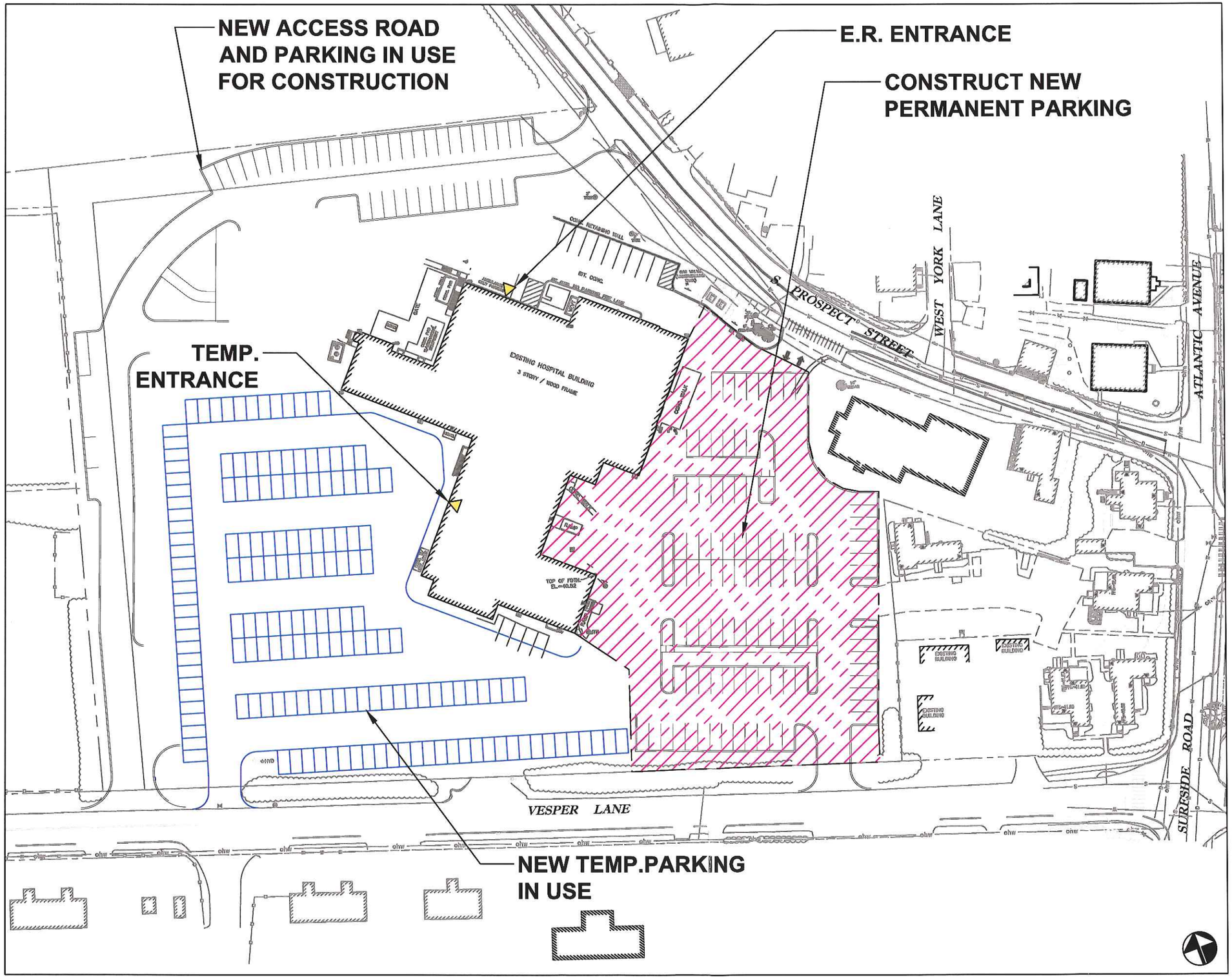
SUFFOLK build smart
65 ALLERTON ST.
BOSTON MA, 02119
TEL: (617) 517-4500

DRAWN BY: J.W.G. CHECKED BY: A.P.
SCALE : NTS DATE : 04-08-16

PROJECT:
NANTUCKET COTTAGE HOSPITAL
NEW BUILDING

TITLE:
CONSTRUCTION MANAGEMENT PLAN

DRAWING NO:
CMP.02



NANTUCKET COTTAGE HOSPITAL

PHASE 2A ACTIVITIES

APPROX. 10 WEEKS

- UTILIZE 100 PARKING SPACES AT #16 VESPER LANE
- NEW ACCESS ROAD IN USE
- TEMP PARKING IN USE
- CONSTRUCT NEW PERMANENT PARKING

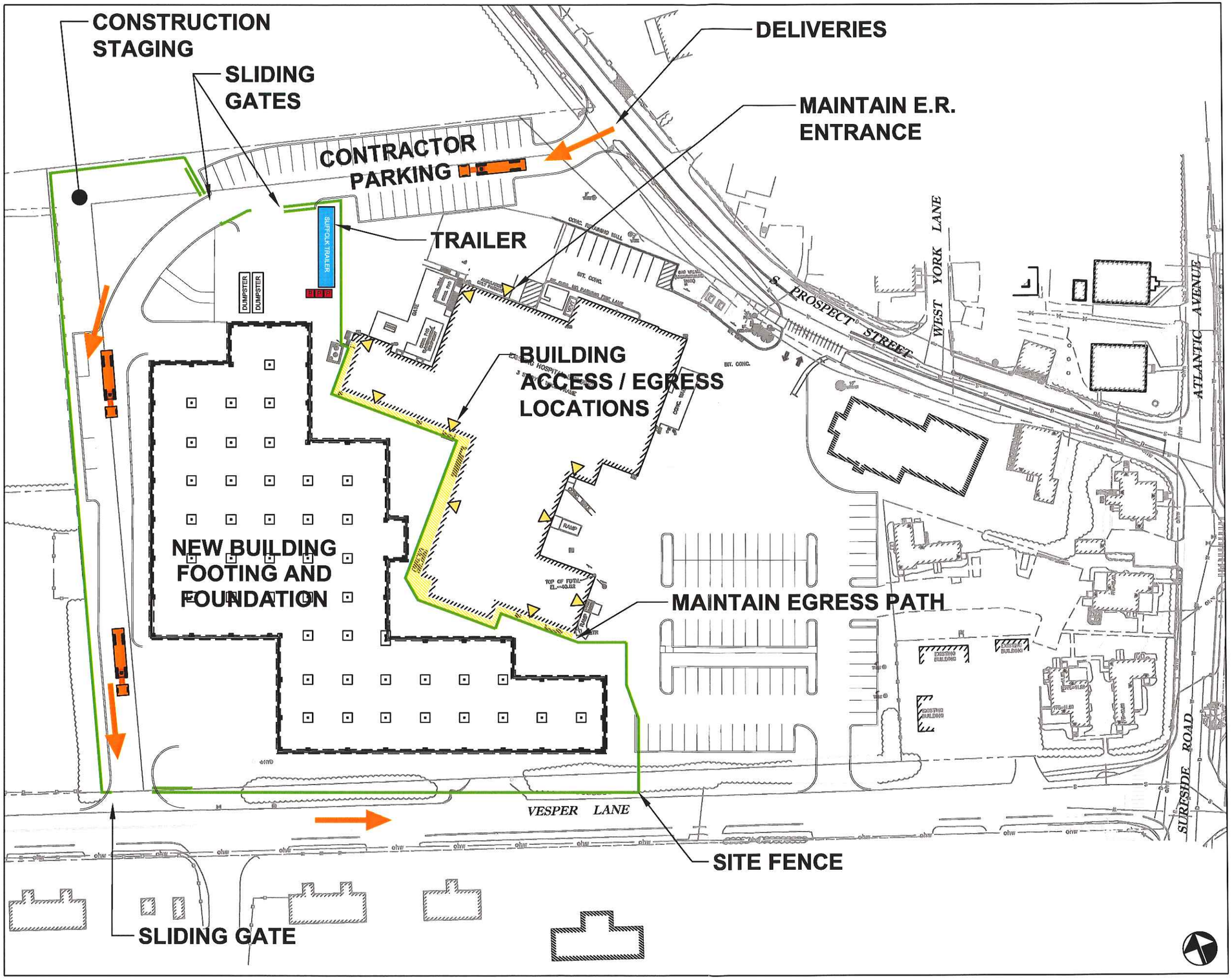
SUFFOLK build smart
65 ALLERTON ST.
BOSTON MA, 02119
TEL: (617) 517-4500

DRAWN BY: J.W.G. CHECKED BY: A.P.
SCALE : NTS DATE : 04-08-16

PROJECT: NANTUCKET COTTAGE HOSPITAL NEW BUILDING

TITLE: CONSTRUCTION MANAGEMENT PLAN

DRAWING NO: CMP.03



NANTUCKET COTTAGE HOSPITAL

PHASE 3 ACTIVITIES

APPROX. 61 WEEKS

- UTILIZE 100 PARKING SPACES AT #16 VESPER LANE
- CONSTRUCT NEW BUILDING

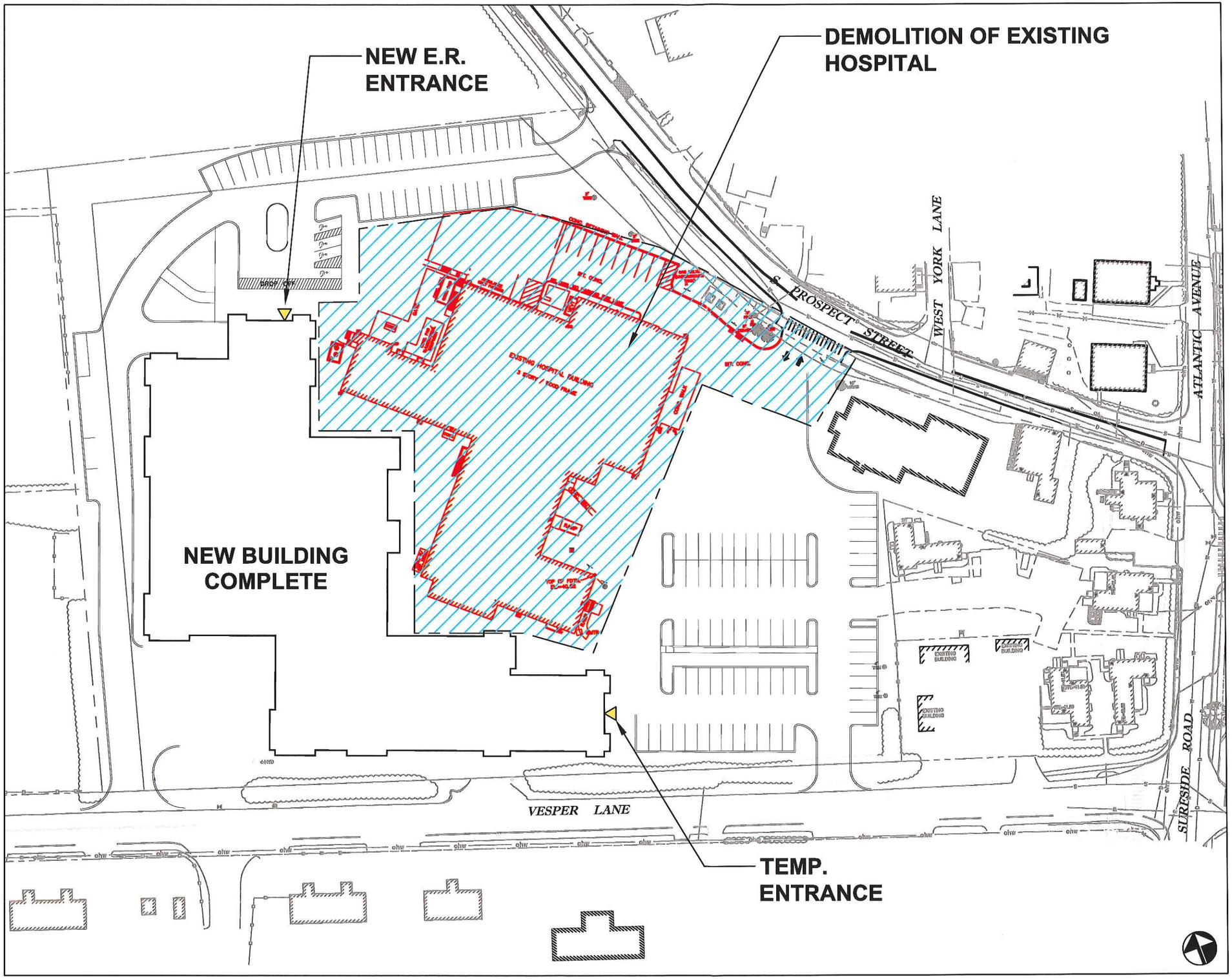
SUFFOLK build smart
65 ALLERTON ST.
BOSTON MA, 02119
TEL: (617) 517-4500

DRAWN BY: J.W.G.	CHECKED BY: A.P.
SCALE : NTS	DATE : 04-08-16

PROJECT: NANTUCKET COTTAGE HOSPITAL NEW BUILDING

TITLE: CONSTRUCTION MANAGEMENT PLAN

DRAWING NO: **CMP.04**



NANTUCKET COTTAGE HOSPITAL

PHASE 4 ACTIVITIES

APPROX. 8 WEEKS

- **UTILIZE 100 PARKING SPACES AT #16 VESPER LANE**
- **DEMO EXISTING HOSPITAL**

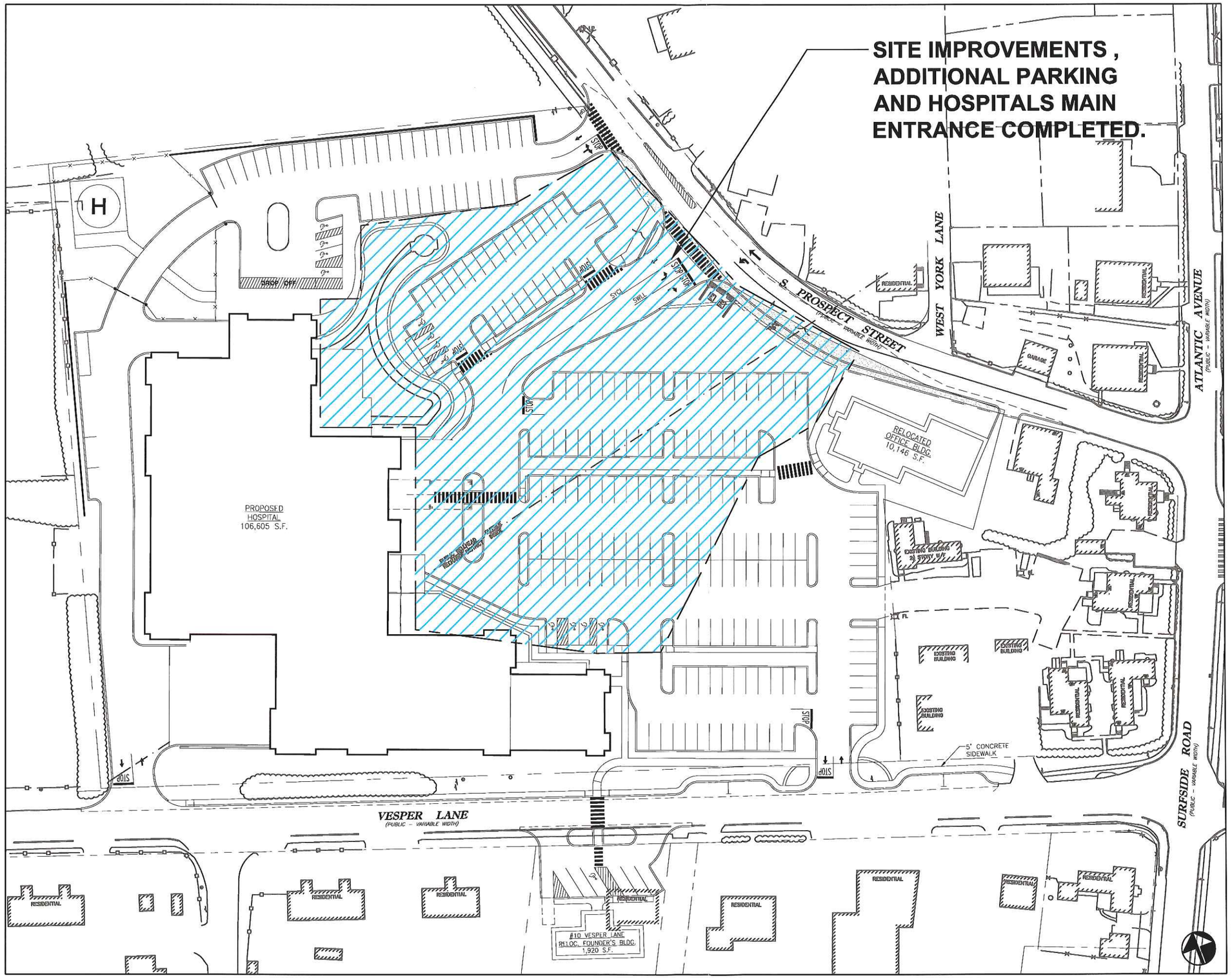
SUFFOLK
build smart
65 ALLERTON ST.
BOSTON MA, 02119
TEL: (617) 517-4500

DRAWN BY: J.W.G.	CHECKED BY: A.P.
SCALE : NTS	DATE : 04-08-16

PROJECT:
NANTUCKET COTTAGE HOSPITAL
NEW BUILDING

TITLE:
CONSTRUCTION MANAGEMENT PLAN

DRAWING NO:
CMP.05



NANTUCKET COTTAGE HOSPITAL

PHASE 5 ACTIVITIES

APPROX. 8 WEEKS

- **UTILIZE 100 PARKING SPACES AT #16 VESPER LANE**
- **PART TWO - NEW PERMANENT PARKING**
- **SITE IMPROVEMENTS**

SUFFOLK build smart

65 ALLERTON ST.
BOSTON MA, 02119
TEL: (617) 517-4500

DRAWN BY: J.W.G.	CHECKED BY: A.P.
SCALE : NTS	DATE : 04-08-16

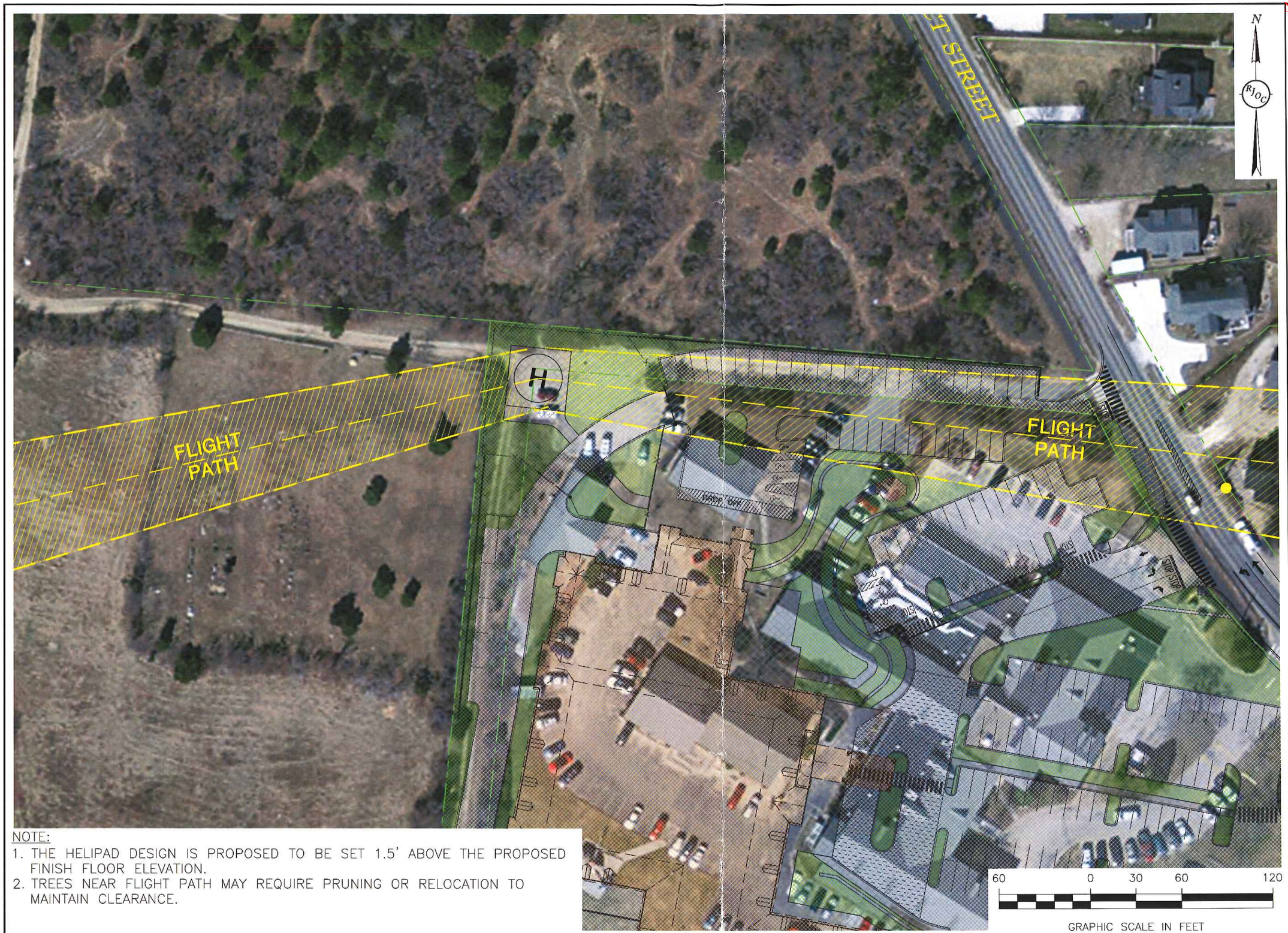
PROJECT:
NANTUCKET COTTAGE HOSPITAL
NEW BUILDING

TITLE:
CONSTRUCTION MANAGEMENT PLAN

DRAWING NO:
CMP.06

Helicopter:
As shown on the attached plan, the helipad is be relocated to the northwest corner of the Project site. The proposed pad and associated appurtenances are designed in accordance with the Federal Aviation Administration's Advisory Circular for Heliport Design, dated April 24, 2012, and maintain sufficient clearances for the approach and departure surfaces to the west and east. The helipad is currently going through the permitting and licensing process which should be completed within six months.

NCH PACKET # 1



NOTE:

1. THE HELIPAD DESIGN IS PROPOSED TO BE SET 1.5' ABOVE THE PROPOSED FINISH FLOOR ELEVATION.
2. TREES NEAR FLIGHT PATH MAY REQUIRE PRUNING OR RELOCATION TO MAINTAIN CLEARANCE.

No.	Revision	Date

Designed by:	SPG
Drawn by:	RJK/SAO
Checked by:	SPG
Scale:	1"=60'
Date:	04/11/2016

Prepared For:

NANTUCKET COTTAGE HOSPITAL

57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared By:

RJO'CONNELL & ASSOCIATES, INC.
CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
80 MONTVALE AVE
STONEHAM, MA 02180
PHONE: 781-279-0180
FAX: 781-279-0173

Project Name:

NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:

HELICOPTER APPROACH AND LANDING PLAN

Drawing No.:

HP-1

Project No.: 13081

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2 of 16

Drawing name: G:\MA\Nantucket\NCD\Nantucket Cottage Hospital\Engineer\Helicopter Pad\13081_HP-1 HELICOPTER PAD.dwg
Apr 08, 2016 - 15:51pm

SITE PLAN FOR
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

GOVERNMENT CONTACTS

TOWN MANAGER:
TOWN HALL
16 BROAD STREET
NANTUCKET, MA 02554
P: 508-228-7255
ATTN: ELIZABETH C. GIBSON

PLANNING AND LAND USE SERVICES:
2 FAIRGROUNDS ROAD
NANTUCKET, MA 02554
P: 508-325-7587
ATTN: ANDREW V. VORCE, DIRECTOR

CONSERVATION COMMISSION:
2 BATHING BEACH ROAD
NANTUCKET, MA 02554
P: 508-228-7230
ATTN: JEFF CARLSON, NATURAL RESOURCES COORDINATOR

ENGINEERING:
188 MADAKET ROAD
NANTUCKET, MA 02554
P: 508-228-7244
ATTN: SILVIO GENAO, P.E.

BUILDING DEPARTMENT:
2 FAIRGROUNDS ROAD
NANTUCKET, MA 02554
P: 508-325-7587
ATTN: STEPHEN J. BUTLER, COMMISSIONER

FIRE DEPARTMENT:
131 PLEASANT STREET
NANTUCKET, MA 02554
P: 508-228-2324
ATTN: PAUL RHUDE, FIRE CHIEF

POLICE DEPARTMENT:
4 FAIRGROUNDS ROAD
NANTUCKET, MA 02554
P: 508-228-1212
ATTN: WILLIAM PITTMAN, POLICE CHIEF

PUBLIC WORKS DEPARTMENT:
188 MADAKET ROAD
NANTUCKET, MA 02554
P: 508-228-7244
ATTN: KARA BUZANOSKI, DIRECTOR

ASSESSOR'S:
37 WASHINGTON STREET
NANTUCKET, MA 02554
P: 508-228-7200
ATTN: DEBORAH DILWORTH

TOWN CLERK:
16 BROAD STREET
NANTUCKET, MA 02554
P: 508-228-7216
ATTN: CATHERINE FLANAGAN STOVER

UTILITY CONTACTS

ELECTRIC:
NATIONAL GRID
40 SYLVAN RD, FLOOR E3.726
WALTHAM, MA 02451
P: 781-907-3303

TELEPHONE:
COMCAST
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NANTUCKET, MA 02554
P: 800-266-2278

SEWER:
PUBLIC WORKS DEPARTMENT
188 MADAKET ROAD
NANTUCKET, MA 02554
P: 508-228-7244
ATTN: PERRY BUTLER, SPECIALIST

WATER:
WANNACOMET WATER COMPANY
1 MILESTONE ROAD
NANTUCKET, MA 02554
P: 508-228-0022
ATTN: ROBERT L. GARDNER, GENERAL MANAGER

CONSULTANTS

LEGAL COUNSEL:
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BOSTON, MA 02110
617-482-1776 (T)
617-574-4112 (F)

ARCHITECT:
CANNONDESIGN
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BOSTON, MA 02110
617-742-5440 (T)
617-723-8832 (F)

LANDSCAPE:
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781-438-3611 (F)

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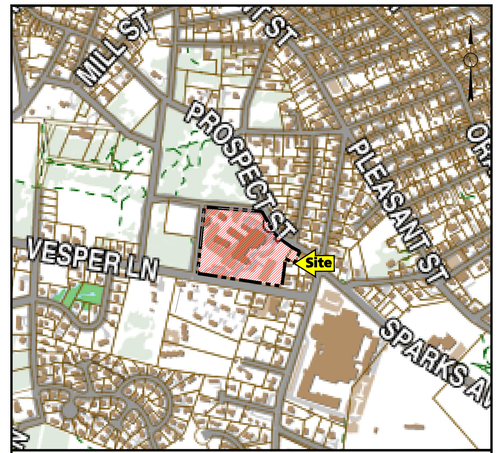
35 NEW ENGLAND BUSINESS CENTER DR.
SUITE 140
ANDOVER, MA 01810
978-474-8800 (T)
978-688-6508 (F)

SURVEY:
BLACKWELL & ASSOCIATES, INC.
20 TEASDALE CIRCLE
NANTUCKET, MA 02554
508-228-9026 (T)
508-228-5292 (F)

GEOTECHNICAL:
SANBORN HEAD & ASSOCIATES
ONE TECHNOLOGY PARK DRIVE
WESTFORD, MA 01886
978-392-0900 (T)
978-392-0987 (F)



KEY PLAN
1"=500'

PREPARED BY:

RJO'CONNELL
& ASSOCIATES, INC.
CIVIL ENGINEERS, SURVEYORS &
LAND PLANNERS
80 MONTVALE AVENUE
STONEHAM, MA 02180
PHONE: 781-279-0180
FAX: 781-279-0173

PREPARED FOR:

NANTUCKET COTTAGE HOSPITAL
57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554

Drawing Index

Drawing Date	Last Revision	Drawing	Drawing Description
04/11/2016	-	-	COVER SHEET
04/11/2016	-	EC-1	EXISTING CONDITIONS PLAN
04/11/2016	-	SP-1	SITE PLAN
04/11/2016	-	C-1	DEMOLITION AND EROSION CONTROL PLAN
04/11/2016	-	C-2	GRADING AND DRAINAGE PLAN
04/11/2016	-	C-3	UTILITY PLAN
04/11/2016	-	C-4	PARKING AND TRAFFIC CONTROL PLAN
04/11/2016	-	L-1	LANDSCAPE PLAN (BY WILLIAM FLEMING & ASSOCIATES)
04/11/2016	-	ASP-1	AERIAL SITE PLAN (BY WILLIAM FLEMING & ASSOCIATES)
04/11/2016	-	A301	BUILDING ELEVATIONS (BY CANNON DESIGN) (SUBJECT TO HISTORIC DISTRICT COMMISSION (HDC) APPROVAL. SUBMITTED FOR INFORMATION PURPOSES ONLY)
04/11/2016	-	A302	BUILDING ELEVATIONS (BY CANNON DESIGN) (SUBJECT TO HISTORIC DISTRICT COMMISSION (HDC) APPROVAL. SUBMITTED FOR INFORMATION PURPOSES ONLY)
04/11/2016	-	A303	BUILDING ELEVATIONS (BY CANNON DESIGN) (SUBJECT TO HISTORIC DISTRICT COMMISSION (HDC) APPROVAL. SUBMITTED FOR INFORMATION PURPOSES ONLY)
04/11/2016	-	SL-1	SITE LIGHTING PLAN
04/11/2016	-	N-1	GENERAL NOTES
04/11/2016	-	C-5	EROSION CONTROL DETAILS
04/11/2016	-	C-6	DRAINAGE DETAILS - I
04/11/2016	-	C-7	DRAINAGE DETAILS - II
04/11/2016	-	C-8	UTILITY DETAILS
04/11/2016	-	C-9	SITE DETAILS - I
04/11/2016	-	C-10	SITE DETAILS - II
04/11/2016	-	L-2	LANDSCAPE DETAILS (BY WILLIAM FLEMING & ASSOCIATES)
04/11/2016	-	L-3	LANDSCAPE DETAILS (BY WILLIAM FLEMING & ASSOCIATES)

Planning Board

Chairman

Vice Chairman

Member

Member

Member

DATE APPROVED:

DATE ENDORSED:

PLANNING BD. FILE NO.:

- ☐ NOTICE OF INTENT
- ☒ NOT FOR CONSTRUCTION
- ☐ ISSUED FOR REVIEW
- ☐ ISSUED FOR PERMIT
- ☐ ISSUED FOR BID/PRICING
- ☐ ISSUED FOR CONSTRUCTION

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Apr 08, 2016 - 16:09pm

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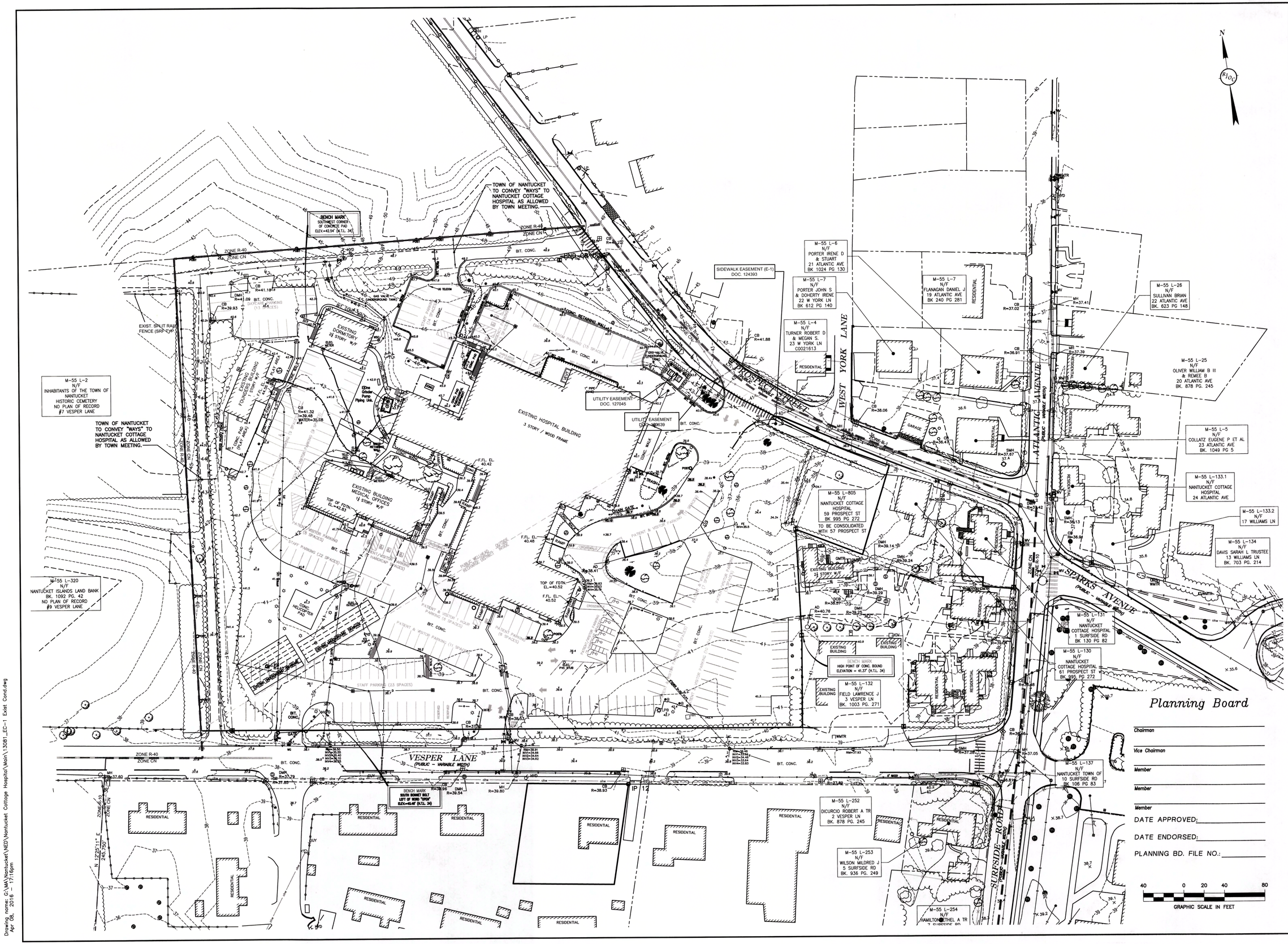
NANTUCKET, MA



No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS — RICHARD J. O'CONNELL — CIVIL — No. 34677 — REGISTERED PROFESSIONAL ENGINEER — 4/13/16

Designed by:	SPG
Drawn by:	WJH
Checked by:	SPG
Scale:	1"=40'
Date:	04/11/2016

Prepared for:

NANTUCKET COTTAGE HOSPITAL

57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared by:

RJO'CONNELL & ASSOCIATES, INC.
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781-279-0180
FAX: 781-279-0173

Project Name:

NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:

EXISTING CONDITIONS

Drawing No.:

EC-1

Project No.: 13081

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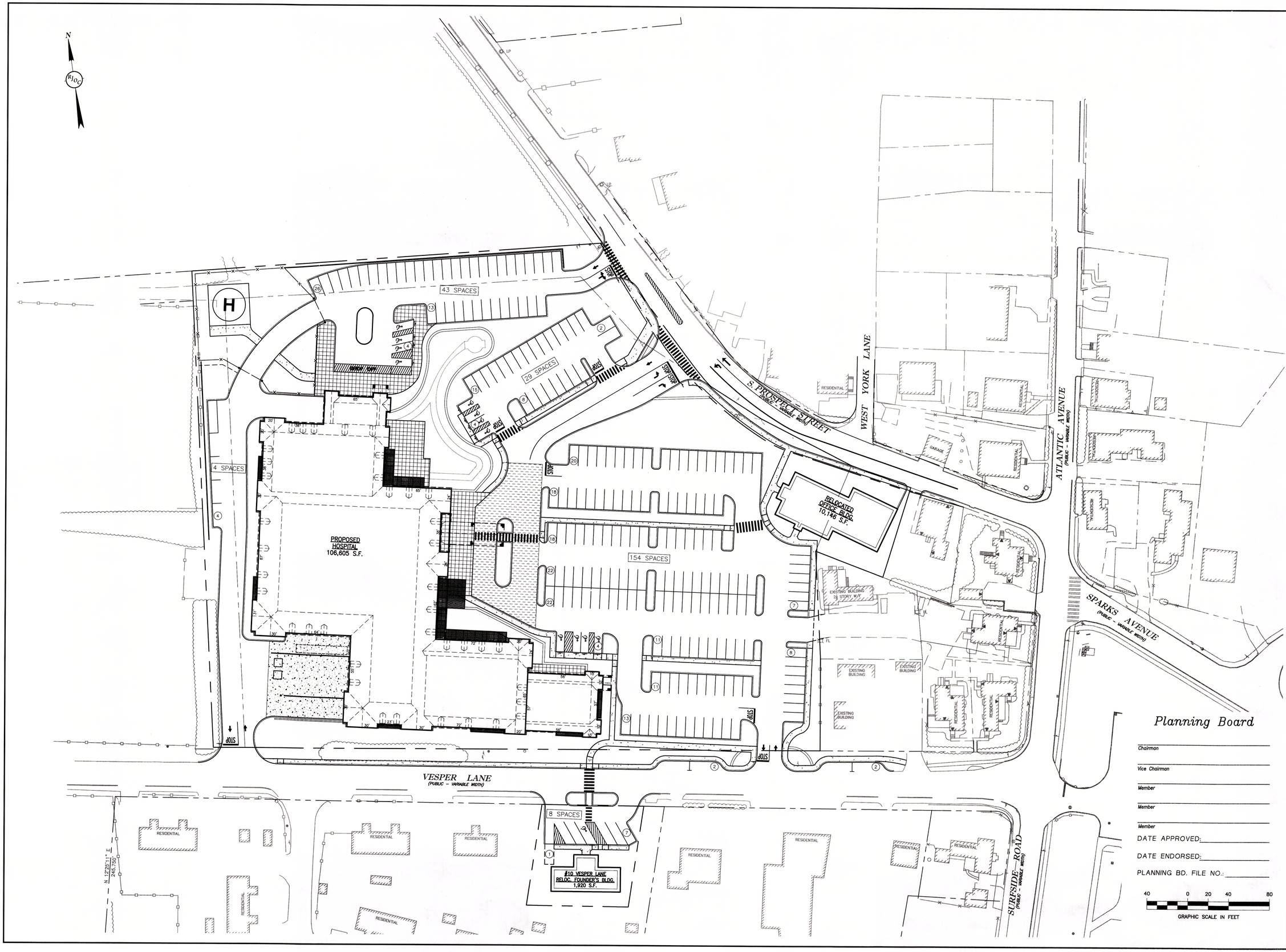

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS — RICHARD J. O'CONNELL — CIVIL — No. 34677 — REGISTERED PROFESSIONAL ENGINEER — 4/14/16

Designed by:	SPG
Drawn by:	RJK
Checked by:	SPG
Scale:	1"=40'
Date:	04/11/2016

Prepared for:

NANTUCKET COTTAGE HOSPITAL

57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared by:

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CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
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STONEHAM, MA 02180
781-279-0180
FAX: 781-279-0173

Project Name:

NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:

SITE PLAN

Drawing No.:

SP-1

Project No.: 13081

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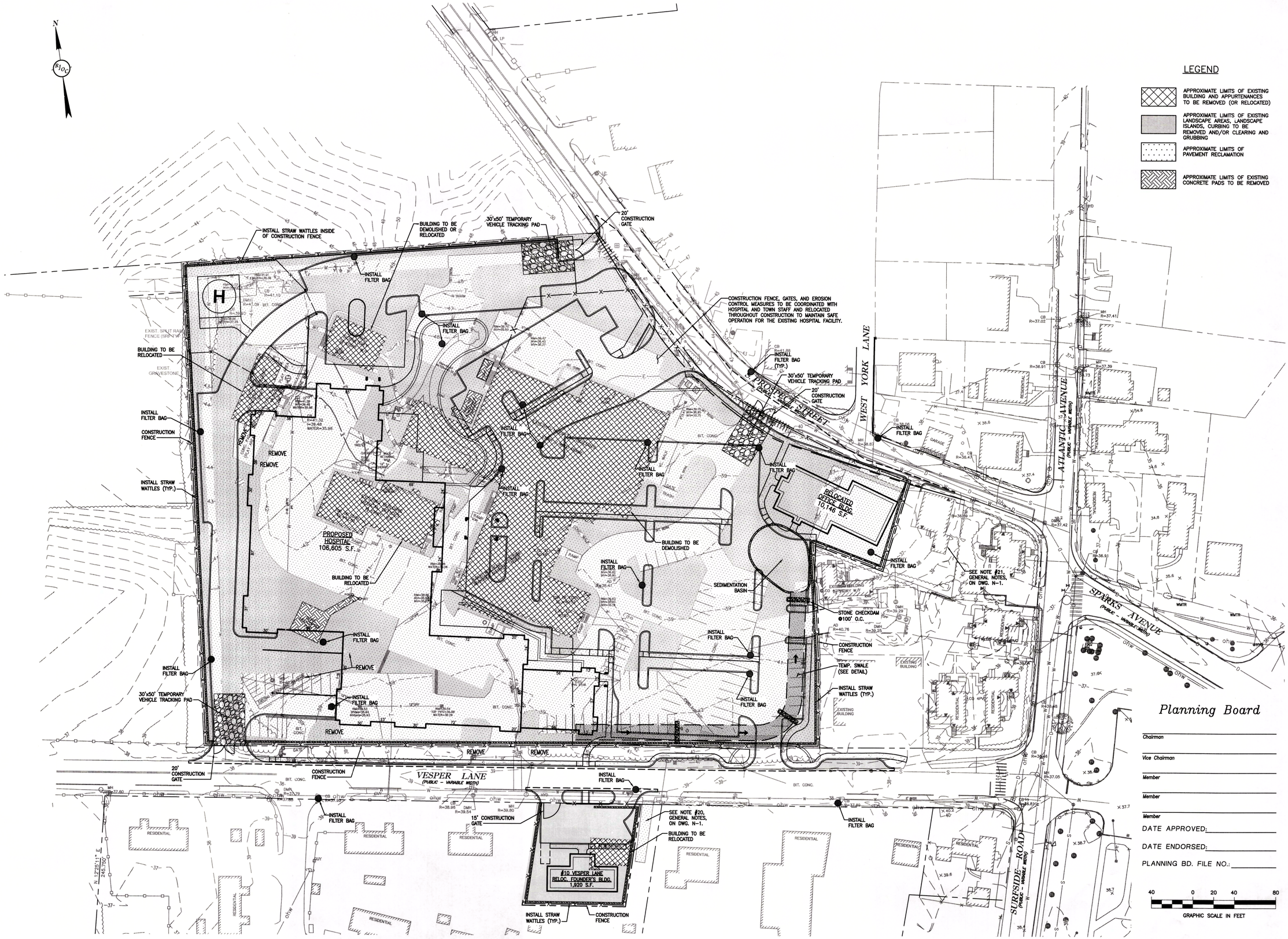

Planning Board

Chairman

Vice Chairman

Member

Member

Member

DATE APPROVED:

DATE ENDORSED:

PLANNING BD. FILE NO.:

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS RICHARD J. O'CONNELL CIVIL No. 34677 REGISTERED PROFESSIONAL ENGINEER 4/11/16

Designed by:	SPG
Drawn by:	MCR
Checked by:	JJS
Scale:	1"=40'
Date:	04/11/2016

Prepared for:

NANTUCKET COTTAGE HOSPITAL

57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
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Prepared by:

RJO'CONNELL & ASSOCIATES, INC.
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80 MONTVALE AVE
STONEHAM, MA 02180
781-279-0180
FAX: 781-279-0173

Project Name:

NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:

DEMOLITION AND EROSION CONTROL PLAN

Drawing No.: **C-1**

Project No.: 13081

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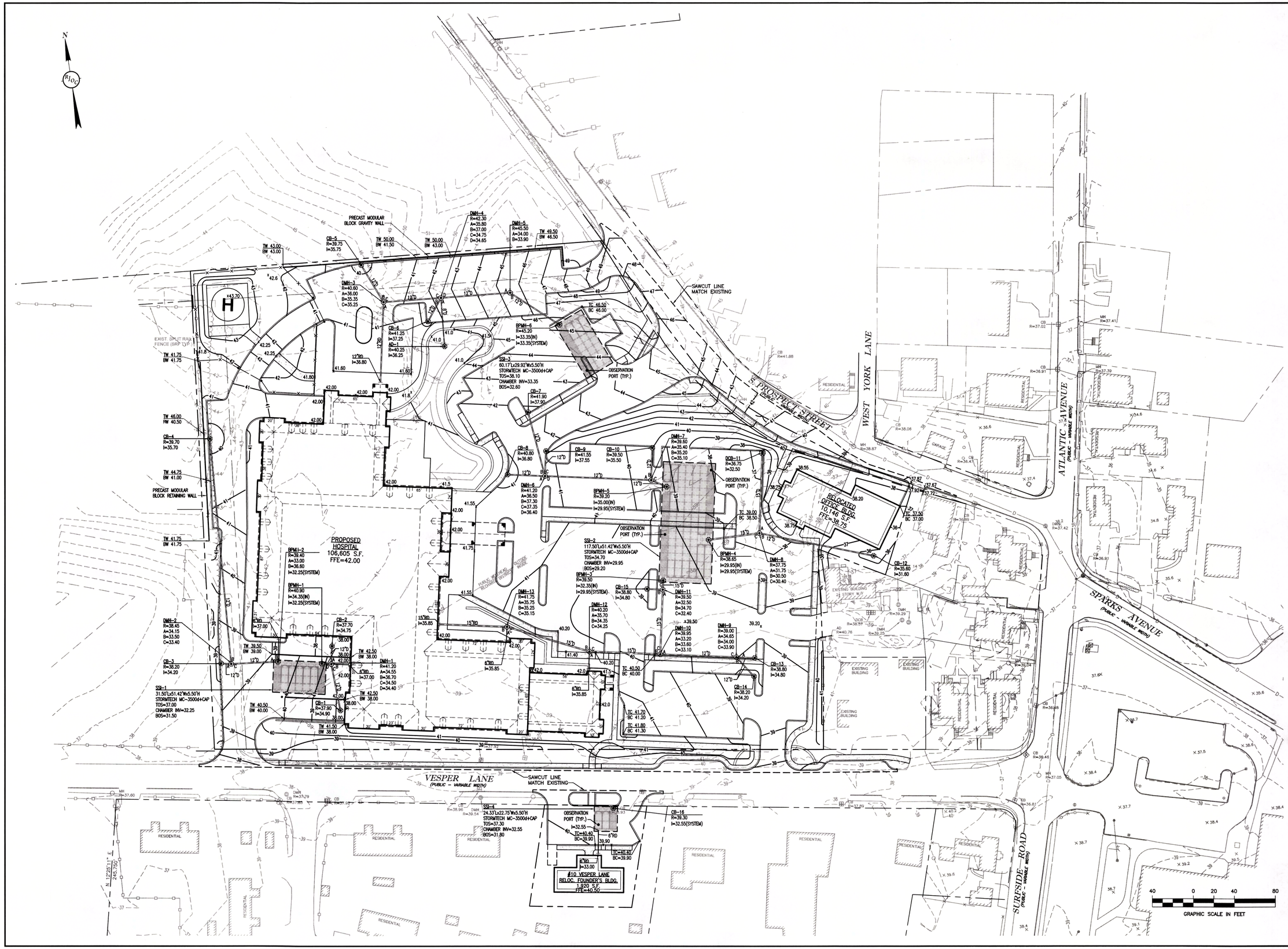

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS — RICHARD J. O'CONNELL — CIVIL — No. 34677 — REGISTERED PROFESSIONAL ENGINEER — 4/11/16

Designed by:	SPG
Drawn by:	WJH
Checked by:	JJS
Scale:	1"=40'
Date:	04/11/2016

Prepared for:

NANTUCKET COTTAGE HOSPITAL

57 SOUTH PROSPECT STREET
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(508) 825-8100

Prepared by:

RJO'CONNELL & ASSOCIATES, INC.
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STONEHAM, MA 02180
781-279-0160
FAX: 781-279-0173

Project Name:

NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:

GRADING & DRAINAGE PLAN

Drawing No.:

C-2

Project No.: 13081

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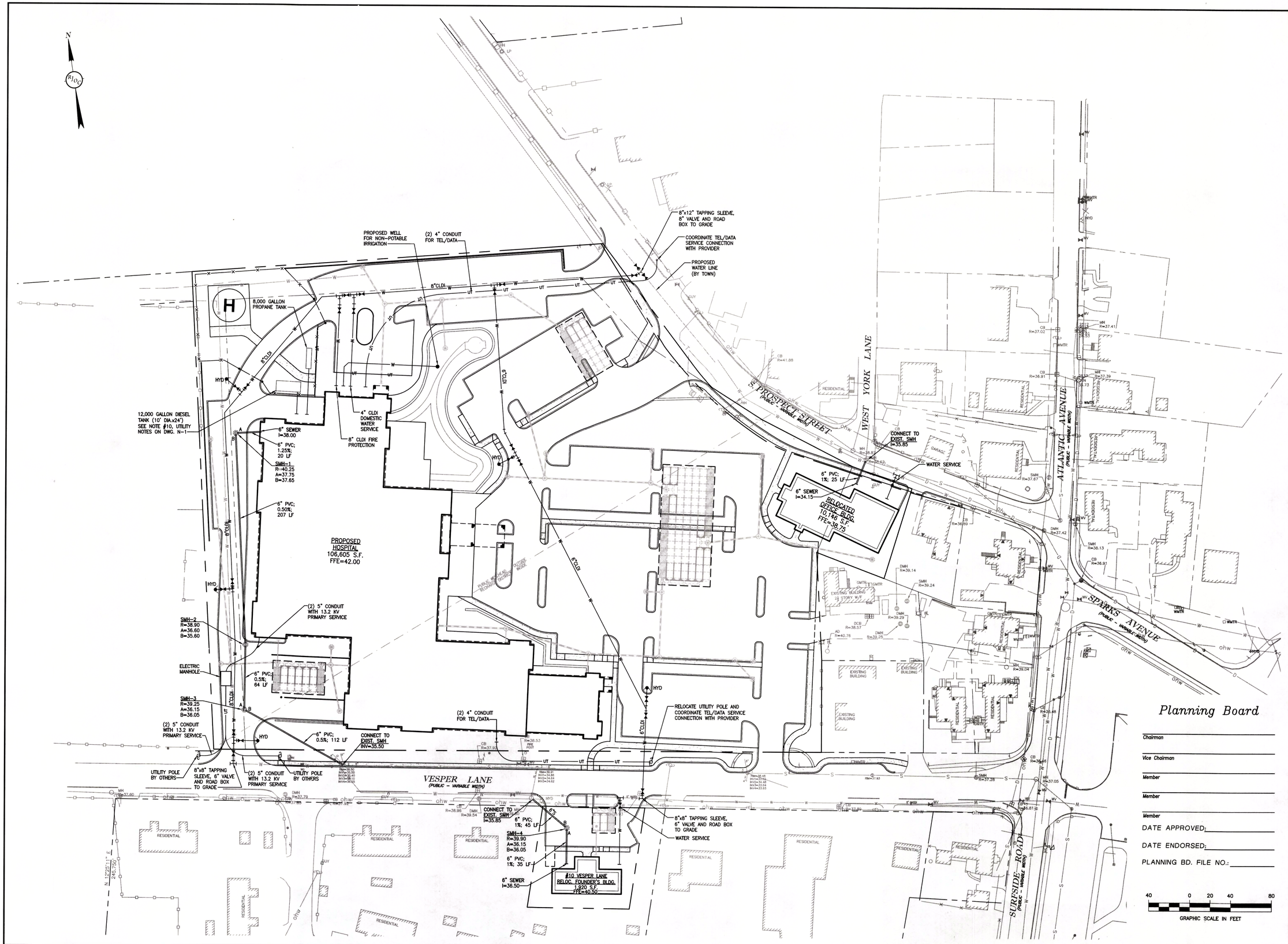
Drawing name: G:\MA\Nantucket\NED\Nantucket Cottage Hospital\Main\13081_C-2 Grading and Drainage.dwg
Apr 11, 2016 - 7:52am



No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS — RICHARD J. O'CONNELL — CIVIL — No. 34677 — REGISTERED PROFESSIONAL ENGINEER

Designed by:	SPG
Drawn by:	RJK
Checked by:	SPG
Scale:	1"=40'
Date:	04/11/2016

Prepared for:
NANTUCKET COTTAGE HOSPITAL
57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared by:
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CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
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781-279-0180
FAX: 781-279-0173

Project Name:
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:
UTILITY PLAN

Drawing No.:
C-3

Project No.: 13081

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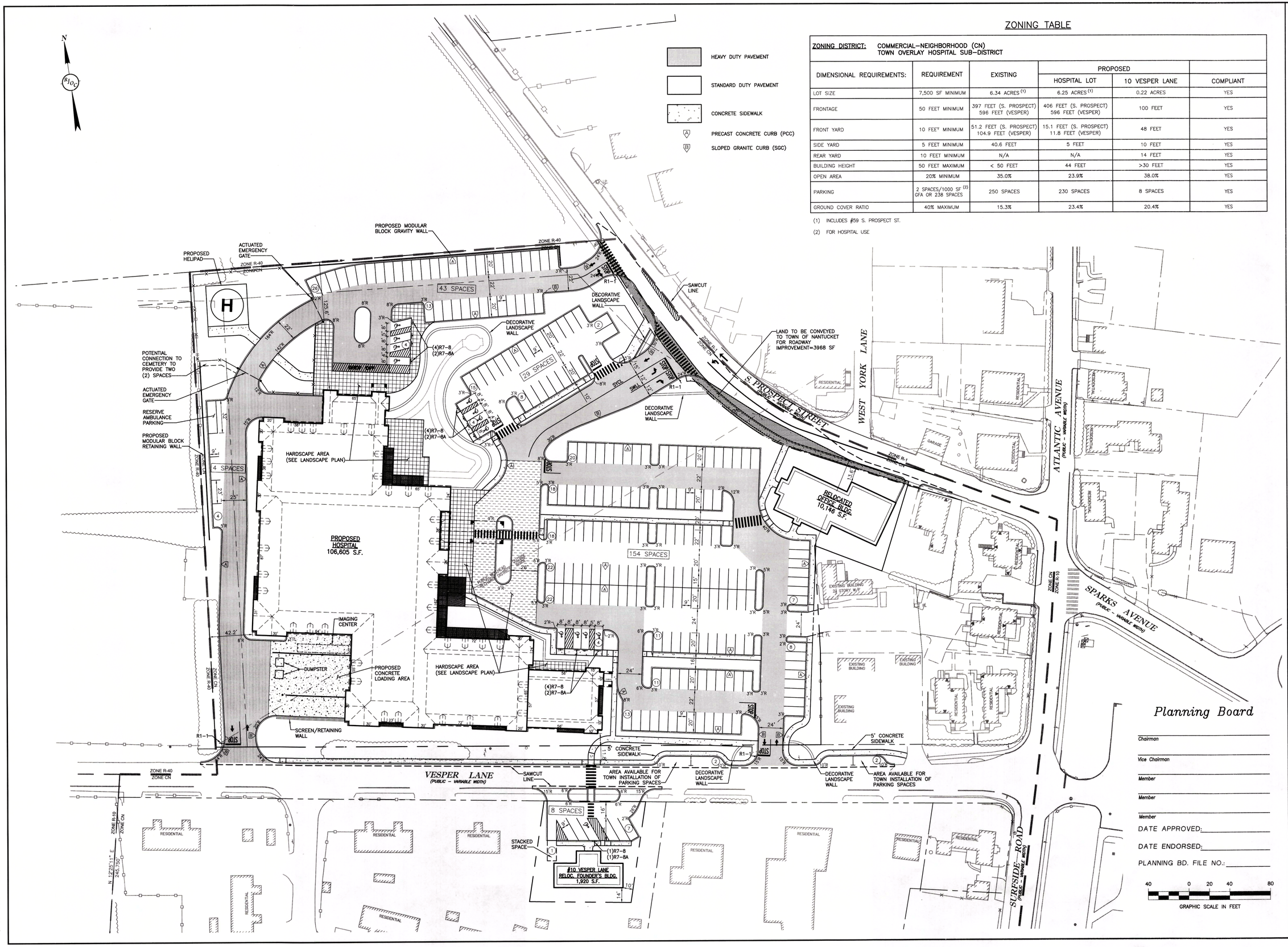

ZONING TABLE

ZONING DISTRICT: COMMERCIAL–NEIGHBORHOOD (CN)
TOWN OVERLAY HOSPITAL SUB–DISTRICT

DIMENSIONAL REQUIREMENTS:	REQUIREMENT	EXISTING	PROPOSED		
			HOSPITAL LOT	10 VESPER LANE	COMPLIANT
LOT SIZE	7,500 SF MINIMUM	6.34 ACRES (1)	6.25 ACRES (1)	0.22 ACRES	YES
FRONTAGE	50 FEET MINIMUM	397 FEET (S. PROSPECT) 596 FEET (VESPER)	406 FEET (S. PROSPECT) 596 FEET (VESPER)	100 FEET	YES
FRONT YARD	10 FEET MINIMUM	51.2 FEET (S. PROSPECT) 104.9 FEET (VESPER)	15.1 FEET (S. PROSPECT) 11.8 FEET (VESPER)	48 FEET	YES
SIDE YARD	5 FEET MINIMUM	40.6 FEET	5 FEET	10 FEET	YES
REAR YARD	10 FEET MINIMUM	N/A	N/A	14 FEET	YES
BUILDING HEIGHT	50 FEET MAXIMUM	< 50 FEET	44 FEET	>30 FEET	YES
OPEN AREA	20% MINIMUM	35.0%	23.9%	38.0%	YES
PARKING	2 SPACES/1000 SF (2) GFA OR 238 SPACES	250 SPACES	230 SPACES	8 SPACES	YES
GROUND COVER RATIO	40% MAXIMUM	15.3%	23.4%	20.4%	YES

(1) INCLUDES #59 S. PROSPECT ST.

(2) FOR HOSPITAL USE

Planning Board

Chairman

Vice Chairman

Member

Member

Member

DATE APPROVED:

DATE ENDORSED:

PLANNING BD. FILE NO.:

40 0 20 40 80

GRAPHIC SCALE IN FEET

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS RICHARD J. O'CONNELL CIVIL No. 34677 REGISTERED PROFESSIONAL ENGINEER 4/11/16

Designed by:	SPG
Drawn by:	RJK
Checked by:	SPG
Scale:	1"=40'
Date:	04/11/2016

Prepared for:
NANTUCKET COTTAGE HOSPITAL
57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared by:
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80 MONTVALE AVE
STONEHAM, MA 02180
781-279-0180
FAX: 781-279-0173

Project Name:
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:
PARKING AND TRAFFIC CONTROL PLAN

Drawing No.: **C-4**

Project No.: 13081

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Drawing name: G:\MA\Nantucket\NED\Nantucket Cottage Hospital\Main\13081_C-4 PTC.dwg
Apr 08, 2016 - 15:31pm

GENERAL IRRIGATION NOTES:

1. The design/build irrigation sub-contractor shall provide a complete system for the irrigation areas shown on the plan, which includes new and existing transplanted plant materials. Shop drawings shall be provided at a suitable scale to illustrate that the designated plant materials will be irrigated by either spray heads, mist heads or drip irrigation tubing.
2. Irrigation to be coordinated with General Contractor to locate the necessary PVC sleeving to complete irrigation program.
3. All lawn areas shall be spray head irrigated. The heads shall be located for head to head coverage with absolutely no over spray onto the pavement.
4. All trees, shrubs and ground cover shall be drip irrigated / irrigated with shrub mist heads.
5. The irrigation layout and all of the components shall conform to the specifications. The specifications call for shop drawings to be submitted for approval, as well as conformance to the materials specified.
6. The Contractor shall be extremely careful during the installation process not to disturb new or existing plant materials. The Contractor is to coordinate his work with other sub-contractors. Sleeving under pavements must be available and in the proper location prior to paving.
7. The irrigation Contractor shall conform to any local codes or ordinances that may be required to complete the work.
8. This irrigation alternate shall include the cost of connecting to either the building water mains down stream of the back flow preventer of the irrigation well.
9. The irrigation contractor shall test water source for water quality including minerals that may cause staining of concrete and granite pavement and curbs.
10. Irrigation Contractor shall coordinate with the Town of Nantucket for irrigation requirements prior to shop drawing preparation.

GENERAL NOTES:

1. CONTRACTOR SHALL MAKE A SITE VISIT PRIOR TO BIDDING TO EXAMINE EXISTING CONDITIONS FOR THEMSELVES. CONTRACTOR TO FAMILIARIZE THEMSELVES W/ DEISGN DOCUMENTS NOTES & DETAILS AND THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, CURRENT EDITION.
2. CONTRACTOR SHALL NOTIFY / COORDINATE WITH THE TOWN OF NANTUCKET. PRIOR TO PLANT MATERIAL INSTALLATION.
3. CONTRACTOR SHALL COORDINATE WITH THE TOWN OF NANTUCKET.
4. PRIOR TO THE PRE-CONSTRUCTION MEETING THE CONTRACTOR SHALL CONTACT DIG SAFE @ 1-888-344-7233 TO HAVE THE EXISTING UTILITIES MARKED.
5. All contractors shall inspect site prior to bidding to verify existing conditions for themselves.
6. The Contractor shall supply all plant material in quantities sufficient to complete the planting shown on the drawings. See specification.
7. All plant material shall conform to the guidelines established by "The American Standard for Nursery Stock", published by the American Association of Nurserymen, Inc. ANSI Z60.1-Current Edition.
8. All plants to be balled in burlap or container grown. No plastic burlap.
9. All plants to be approved by the Landscape Architect.
10. Stake location of all proposed plant material for approval of Landscape Architect prior to commencement of planting.
11. The landscape contractor shall guarantee all plant materials for one (1) full year from date of acceptance.
12. Heal all construction scars with naturalized grass, lawn or mulch as indicated by drawings and/ or as directed by Landscape Architect.
13. "Dry Roots" shall be added to all new tree planting pits. All new loam shall be tested and amended as stated in the loam report. Provided by loam supplier.
14. Landscape Contractor shall submit a watering schedule program for the (60) day maintenance period for review by the Landscape Architect & to Owner for all proposed plant material.
15. Protect existing plant material within construction limits. Provide watering program for all proposed plant material during construction.

NOTE: A Water Treatment program from April 15th until September 30th shall provide a minimum of 1 1/2" of water per week to all trees, shrubs and ground covers.

PLANT MATERIAL LIST – NANTUCKET COTTAGE HOSPITAL, NANTUCKET, MA.

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
EVERGREEN TREES						
PPG	9	PICEA PUNGENS 'GLAUCA'	COLORADO BLUE SPRUCE	7 -8'	B&B	NATURAL SHAPE, UNSHEARED
TP	15	THUJA PLICATA 'GREEN GIANT'	GREEN GIANT ARBORVITAE	7 -8'	B&B	NATURAL SHAPE, UNSHEARED
AC	14	ABIES CONCOLOR	WHITE FIR	7 -8'	B&B	NATURAL SHAPE, UNSHEARED
JV	20	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	7 -8'	B&B	NATURAL SHAPE, UNSHEARED
DECIDUOUS AND ORNAMENTAL TREES						
GT	16	GLEDITSIA T. 'SKYLINE'	SKYLINE HONEYLOCUST	4 -4 1/2"	B&B	6' HIGH BRANCHING
AB	4	ACER PALMATUM 'BLOODGOOD'	BLOODGOOD JAPANESE MAPLE	6 -7'	B&B	SINGLE-STEM SPECIMEN
PSC	16	PRUNUS SARGNETII 'COLUMNARIS'	COLUMNAR SARGENT CHERRY	3 1/2-4"	B&B	
TC	4	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	4 -4 1/2"	B&B	6' HIGH BRANCHING
AS	14	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	7'-8'	B&B	MULTI STEM SPECIMENS
CB	4	CARPINUS B. 'FASTIGIATA'	PYRAMIDAL EUROPEAN HORNBEAM	3 1/2-4"	B&B	6' HIGH BRANCHING
AR	7	ACER RUBRUM	RED MAPLE	4 -4 1/2"	B&B	6' HIGH BRANCHING
QA	6	QUERCUS ALBA	WHITE OAK	3-3 1/2"	B&B	6' HIGH BRANCHING
CK	14	CORNUS x 'STELLAR PINK'	STELLAR PINK DOGWOOD	3-3 1/2"	B&B	SINGLE-STEM SPECIMEN
MS	10	MALUS SARGENTII	SARGENT CRABAPPLE	3-3 1/2"	B&B	SINGLE-STEM SPECIMEN
NS	12	NYSSA SYLVATICA	BLACK GUM TUPELO	4 -4 1/2"	B&B	6' HIGH BRANCHING
UA	5	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	4 -4 1/2"	B&B	6' HIGH BRANCHING
SHRUBS						
RW	7	ROSA RUGOSA	RED ROGUSA ROSE	#2	CAN	
RR	12	ROSA RUGOSA 'ALBA'	WHITE ROGUSA ROSE	#2	CAN	
JB	231	JUNIPERUS H. 'BAR HARBOR'	BAR HARBOR JUNIPER	18-24"	CAN	
JS	88	JUNIPERUS C. 'SARGENTII'	SARGENT JUNIPER	18-24"	CAN	
PM	11	PRUNUS MARITIMA	BEACH PLUM	3 -4'	B&B	
MP	73	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	2 -2 1/2'	B&B	CLIP TO 3' TALL HEDGE
LO	19	LIGUSTRUM OVALIFOLIUM	CALIFORNIA PRIVET	3 -5'	B&B	2'-0" O.C. CLIP TO 8' TALL HEDGE
AV	44	AZALEA VISCOSUM	SWAMP AZALEA	2 -2 1/2'	B&B	
KL	41	KALMIA LATIFOLIA	MOUNTAIN LAUREL	2 -2 1/2'	B&B	
HN	33	HYDRANGEA M. 'NIKKO BLUE'	NIKKO BLUE HYDRANGEA	#5	CAN	
HT	44	HYDRANGEA 'TWIST AND SHOUT'	TWIST AND SHOUT HYDRANGEA	#3	CAN	
IGC	161	ILEX G. 'COMPACTA'	DWARF INKBERRY	#3	CAN	
IG	40	ILEX GLABRA	INKBERRY	6-7'	B&B	
CS	130	CORNUS SERICEA 'ALLMAN'S COMPACTA'	ALLMAN'S COMPACT DOGWOOD	2'-3'	B&B	
VC	35	VIBURNUM CARLESII	KOREANSPICE VIBURNUM	2'-3'	B&B	
BS	88	BUXUS S. 'NEWPORT BLUE'	NEWPORT BLUE BOXWOOD	2 1/2-3'	B&B	CLIP TO 3' TALL HEDGE
RA	11	RHUS AROMATICA	FRAGRANT SUMAC	2 1/2-3'	B&B	
IV	39	ILEX V. 'RED SPRITE'	RED SPRITE WINTERBERRY	2 1/2-3'	B&B	PROVIDE (1) IVM MALE
PERENNIALS, ORNAMENTAL GRASSES, FERNS AND GROUNDCOVER						
HH	203	HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAYLILLIES	1 GAL	GAL	YELLOW
IS	154	IRIS SIBERICA 'CAESAR'S BROTHER'	CAESAR'S BROTHERS IRIS	1 GAL	GAL	PURPLE
HR	42	HEMEROCALLIS 'RED HOT RETURNS'	RED HOT RETURNS DAYLILLIES	1 GAL	GAL	RED
AU	256	ARCTOSTAPHYLOS UVA-URSI	BEARBERRY	#1	POT	
HF	43	HEMEROCALLIS FULVA	FULVA DAYLILY	#1	POT	
CA	79	CALAMAGROSTIS A. 'KARL FOERSTER'	FEATHER REED GRASS	#2	POT	
PH	134	PENNISETUM ALOPECUROIDES 'HAMELIN'	DWARF FOUNTAIN GRASS	#1	POT	
AT	17	ASCLEPIAS TUBEROSA	ORANGE MILKWEED	#1	POT	
AI	22	ASCLEPIAS INCARNATA	PURPLE SWAMP MILKWEED	#1	POT	
ED	22	EUTROCHIUM DUBIUM	COASTAL JOE-PYE WEED	#1	POT	
OC	27	OSMUNDASTRUM CINNAMOMEUM	CINNAMON FERN	#1	POT	
OR	7	OSMUNDA REGALIS	ROYAL FERN	#1	POT	

GRAPHIC LEGEND

- PROTECT EXISTING TREELINE / VEGETATION TO REMAIN, TYP.
- EVERGREEN TREES (DRIP OR MIST HEAD IRRIGATION)
- DECIDUOUS SHADE TREES (DRIP OR MIST HEAD IRRIGATION)
- ORNAMENTAL & FLOWERING TREES (DRIP OR MIST HEAD IRRIGATION)
- EVERGREEN SHRUBS (DRIP OR MIST HEAD IRRIGATION)
- DECIDUOUS SHRUBS (DRIP OR MIST HEAD IRRIGATION)
- GRASSES & FERNS & PERENNIALS (DRIP OR MIST HEAD IRRIGATION)
- SEEDED LAWN (SPRAY-HEAD IRRIGATION)
- UNILOCK (4X16) PATTERN B PROMENADE PEDESTRIAN PLANK PAVER ENDURA COLOR FINISH
- UNILOCK (4X16) PATTERN C PROMENADE PEDESTRIAN PLANK PAVER ENDURA COLOR FINISH
- STAMPED BITUMINOUS VEHICULAR DROP OFF
- 3'-10" HIGH NANTUCKET (3) SPLIT RAIL FENCE
- 18" HIGH NANTUCKET FIELDSTONE WALL
- PROPOSED NANTUCKET STYLE PERGOLA
- BENCH — PROPOSED TEAK BENCH
- PROPOSED TRASH RECEPTACLE

LANDSCAPE NOTES:

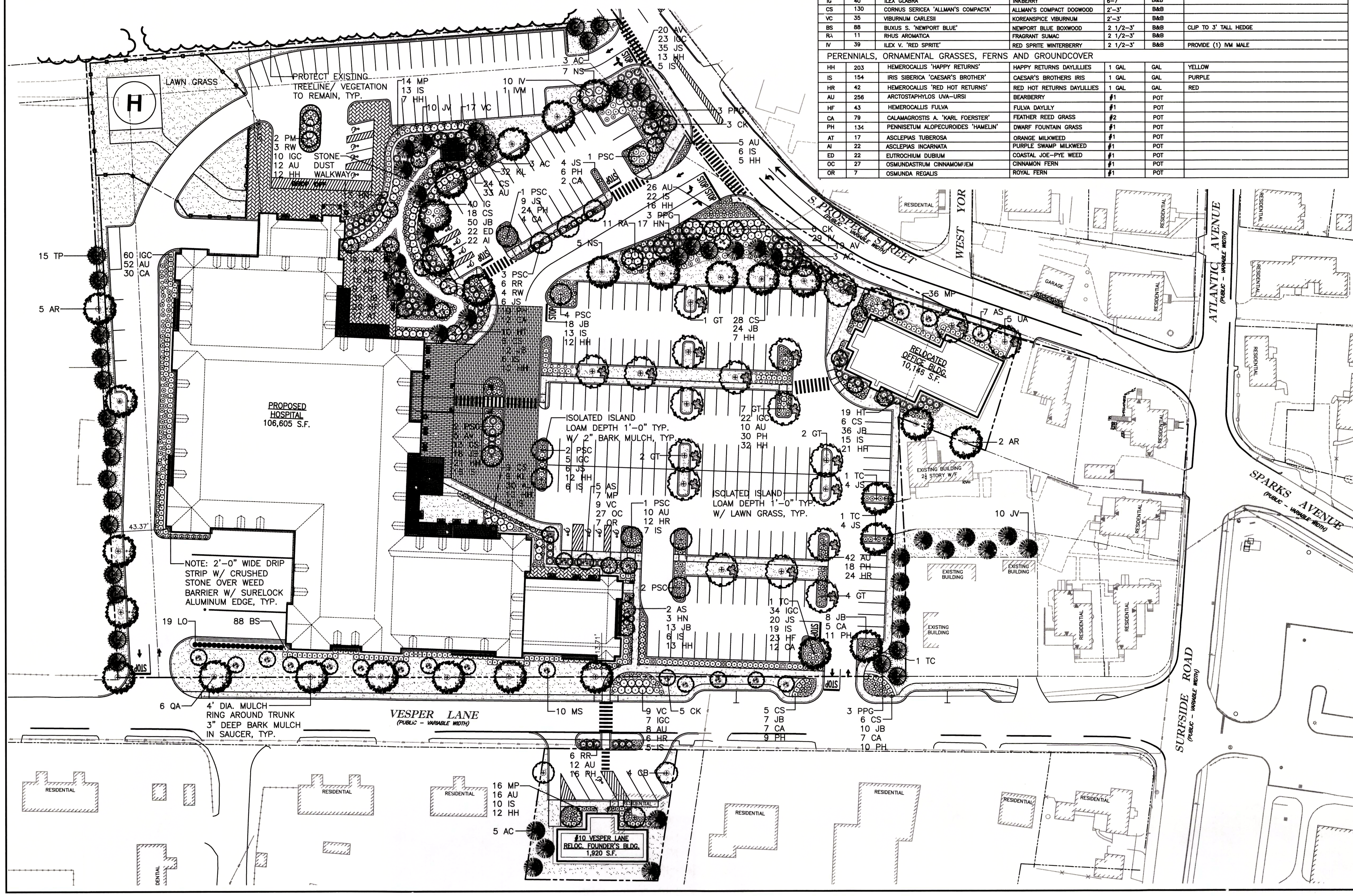
LOAM DEPTHS SHALL BE AS FOLLOWS:

A. LAWN AREAS – 6" ROLLED LOAM THICKNESS SEE DETAIL 1 SHEET L-2 INCORPORATE SOIL TESTING LABORATORIES RECOMMENDATIONS FOR FERTILIZER / LIMESTONE RECOMMENDATIONS FOR LAWN AREAS.
LAWN GRASS
(PACIFIC NORTHWEST SEED, LTD. WILMINGTON, MA.)
LANDSCAPE/UTILITY MIXTURE FOR SUN/SHADE:
40% ENCHANTED PERENNIAL RYEGRASS
40% CREEPING RED FESCUE
20% GOLDRUSH KENTUCKY BLUEGRASS

B. PLANT BEDS – 1 -0" LOAM DEPTH IN THE PLANTED AREA WITH 2" MULCH.
(3) PARTS SANDY LOAM
(1) PART PEAT MOSS
(1) PART AGED COMPOST COW MANURE BY VOLUME
*INCORPORATE HYDROGEL (VITERRA GELSCAPE OR APPROVED EQUAL) AND A FERTILIZER (DRY-ROOTS) AND LIMESTONE (SUPERPHOSPHATE) INTO THE PLANTING MIX DURING THE MIXING PROCESS AT A RATE RECOMMENDED BY THE SOILS TESTING LABORATORY TO INSURE GOOD GROWTH. PLANTING MIX FOR PLANTS SHALL BE USED WHERE SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED (TREES & SHRUBS PH'S).

C. ISOLATED PLANTED ISLANDS / SIDEWALK TREES – 3' – 0" LOAM DEPTH (SEE DETAIL) INCORPORATE SOIL TESTING LABORATORIES RECOMMENDATIONS FOR FERTILIZER / LIMESTONE RECOMMENDATIONS FOR LAWN AREAS.
(3) PARTS SANDY LOAM
(1) PART PEAT MOSS
(1) PART AGED COMPOST COW MANURE BY VOLUME
*INCORPORATE HYDROGEL (VITERRA GELSCAPE OR APPROVED EQUAL) AND A FERTILIZER (DRY-ROOTS) AND LIMESTONE (SUPERPHOSPHATE) INTO THE PLANTING MIX DURING THE MIXING PROCESS AT A RATE RECOMMENDED BY THE SOILS TESTING LABORATORY & HYDROGEL MANUFACTURER TO INSURE GOOD GROWTH. PLANTING MIX FOR PLANTS SHALL BE USED WHERE SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED (TREES & SHRUBS PH'S).

FOR LANDSCAPE DETAILS SEE SHEETS L2 + L-3



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GRAPHIC SCALE IN FEET (40 0 20 40 80)

Planning Board

Chairman

Vice Chairman

Member

Member

Member

DATE APPROVED:________

DATE ENDORSED:________

PLANNING BD. FILE NO.:________

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS — WILLIAM JOHN FLEMING — REGISTERED LANDSCAPE ARCHITECT — NO. 759 — 04.11.16

Designed by:	WJF
Drawn by:	WFF
Checked by:	WJF
Scale:	AS NOTED
Date:	04/11/2016

Prepared for:
NANTUCKET COTTAGE HOSPITAL
57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared by:
WILLIAM FLEMING ASSOCIATES Incorporated
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SUITE #3
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F 781 438 3611
E wfa@williamfleming.com

Prepared by:
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CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
80 MONTVALE AVE
STONEHAM, MA 02180
781-279-0180
FAX: 781-279-0173

Project Name:
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:
LANDSCAPE PLAN

Drawing No.: **L-1**

Project No.: 13081

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Planning Board

Chairman _____

Vice Chairman _____

Member _____

Member _____

Member _____

DATE APPROVED: _____

DATE ENDORSED: _____

PLANNING BD. FILE NO.: _____

No.	Revision	Date
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Drawn by:	WFF
Checked by:	WJF
Scale:	AS NOTED
Date:	04/11/2016

Prepared for:

NANTUCKET COTTAGE HOSPITAL

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Project Name:

NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:

AERIAL SITE PLAN

Drawing No.:

ASP-1

Project No.: 13081

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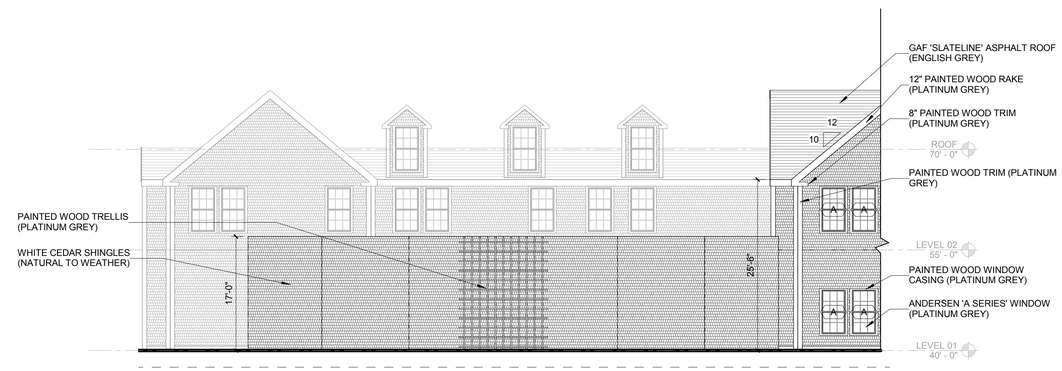
4 EAST ELEVATION A
3/32" = 1'-0"

3 EAST ELEVATION B
3/32" = 1'-0"



2 SOUTH ELEVATION B
3/32" = 1'-0"

1 SOUTH ELEVATION A
3/32" = 1'-0"

NANTUCKET COTTAGE HOSPITAL

Replacement Hospital
Nantucket, MA

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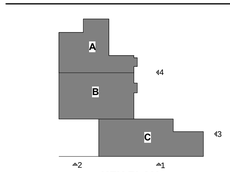
99 Summer Street, Suite 600
Boston, Massachusetts 02110
T: 617.742.5440
F: 617.723.8832

NOT FOR CONSTRUCTION

Subject to Historic District Commission (HDC) Approval

Submitted for Informational Purposes Only

No.	Description	Date
1	SITE PLAN REVIEW	06 APR 2016



KEY PLAN

Drawing Title:

BUILDING ELEVATIONS

Project No.: 004174.00 Checked by: DK

A301

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3 SOUTH ELEVATION C
3/32" = 1'-0"
0 21'-4"

2 WEST ELEVATION A
3/32" = 1'-0"
0 21'-4"

1 WEST ELEVATION B
3/32" = 1'-0"
0 21'-4"

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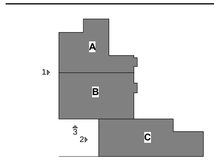

KEY PLAN

Drawing Title:

BUILDING ELEVATIONS

Project No.: 004174.00 Checked by: DK

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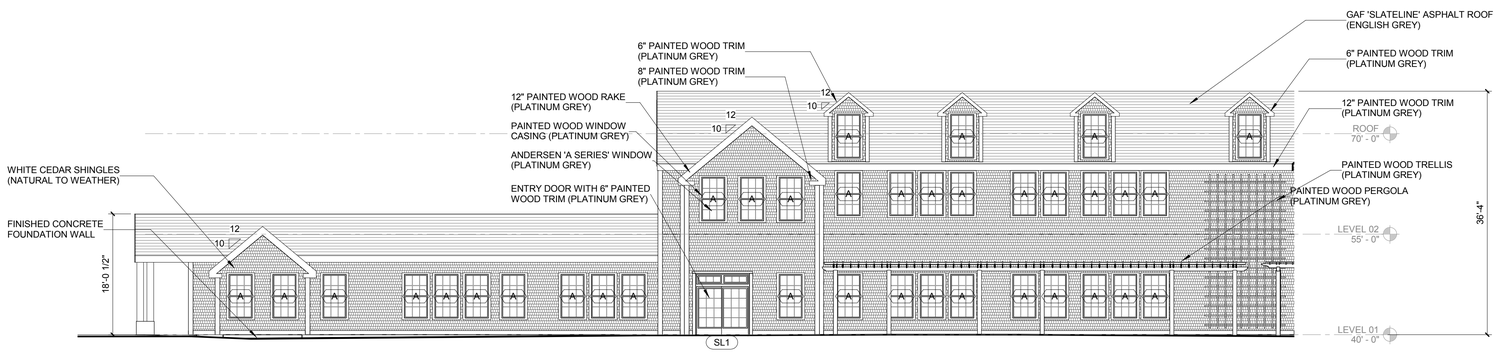
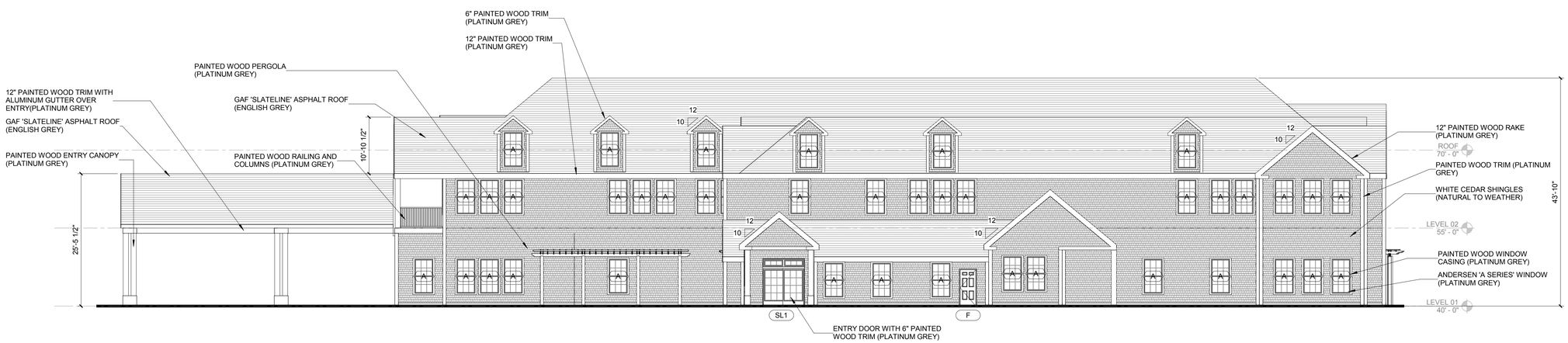


2 NORTH ELEVATION B

3/32" = 1'-0"

0 21'-4"



1 NORTH ELEVATION A

3/32" = 1'-0"

0 21'-4"

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No.	Description	Date
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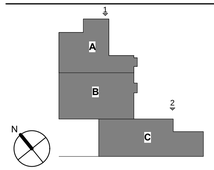

KEY PLAN

Drawing Title:

BUILDING ELEVATIONS

Project No.: 004174.00 Checked by: DK

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LUMINAIRE SCHEDULE

QTY	IMAGE	PLAN SYMBOL	DESCRIPTION	INSTALLATION METHOD	LIGHT SOURCE SPEC	INPUT WATTS	SHIELDING/OPTICS	REFERENCED PRODUCTS
38			DECORATIVE POST TOP-PEDESTRIAN SCALE	POLE 12'-0"	2040 LM LED 2700K 80+ CRI	30.8	TYPE 3 OPTICS Type III	STERNBERG - 6590SRLED-PT-1RND-27-T3
12			DECORATIVE POST TOP-PEDESTRIAN SCALE	POLE 12'-0"	2245LM LED 2700K 80+ CRI	31.2	TYPE 5 OPTICS Type V Square	STERNBERG - 6590SRLED-PT-1RND-27-T5
67			POST TOP-VEHICULAR SCALE	POLE 21'-0"	5255 LM LED 3000k 75+ CRI	69W	TYPE 3 OPTICS HOUSE SIDE SHEILD AVAILABLE Type III	KIM LIGHTING - WP9-S-3-P-35-60L-3K-VOLTS
5			POST TOP-VEHICULAR SCALE	POLE 21'-0"	5353 LM LED 3000k 75+ CRI	69W	TYPE 4 OPTICS HOUSE SIDE SHIELD AVAILABLE Type IV Forward Throw	KIM LIGHTING - WP9-S-4-P-35-60L-3K-VOLTS

0.5 fc
1.0 fc
2.0 fc
3.0 fc

IES Parking Lot Design Criteria (Enhanced Security):
Min: 0.5 fc
Max: 5.0 fc
Max to Min: 15:1

Designed Calculation Summary:
Min: 0.5 fc
Max: 4.1 fc
Max to Min: 10.25:1

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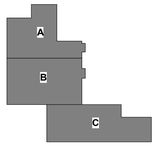
No.	Description	Date
1	SITE PLAN REVIEW	06 APR 2016



KEY PLAN

Drawing Title:

SITE LIGHTING PLAN

Project No.: 004174.00 Checked by: DK

SL 1

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GENERAL NOTES

1. THESE PLANS HAVE BEEN PREPARED FROM THE FOLLOWING:

   A. EXISTING CONDITIONS PLAN, NANTUCKET COTTAGE HOSPITAL PREPARED BY BLACKWELL & ASSOCIATES RECEIVED ON 12/10/2014.

   B. FIELD SURVEY CONDUCTED NOVEMBER 2015 BY R.J. O'CONNELL & ASSOCIATES, INC., STONEHAM, MA.

2. ELEVATIONS ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

3. THE CONTRACTOR IS SPECIFICALLY ADVISED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES ESPECIALLY WHERE NEW WORK CONNECTS TO EXISTING SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG SAFE" (1-800-344-7233) AT LEAST TWO (2) WEEKS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL HORIZONTAL CONTROL POINTS AND VERTICAL BENCH MARKS NECESSARY FOR THE WORK.

5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY PERMITS AND/OR CONNECTION FEES REQUIRED TO CARRY OUT THE WORK INCLUDING BUT NOT LIMITED TO DEMOLITION.

6. THE LIMIT OF WORK LINE IS THE SAME AS THE LIMIT OF WORK LINE NECESSARY FOR GRADING PURPOSES, (I.E.., THE GRADING LIMITS AROUND THE PERIMETER OF THE PROJECT AREA).

7. DISPOSAL OF ALL DEMOLISHED MATERIALS MUST BE OFF-SITE BY THE CONTRACTOR AND IN ACCORDANCE WITH ALL FEDERAL, STATE AND MUNICIPAL REQUIREMENTS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL INFORMATION SHOWN ON THESE PLANS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL SITE CONDITIONS AND EXISTING SITE CONDITIONS AS SHOWN ON THESE PLANS.

9. REFER TO THE ARCHITECTURAL PLANS FOR EXACT BUILDING LOCATIONS, BUILDING DIMENSIONS, EXACT UTILITY ENTRANCE LOCATIONS, TRUCK DOCKS, BUILDING SIDEWALKS, AND DOOR LOCATIONS.

10. ALL CONSTRUCTION DUMPSTERS SHALL BE PROPERLY MAINTAINED. ALL DUMPSTERS SHALL BE LOCATED ON A BITUMINOUS CONCRETE OR CONCRETE SURFACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRASH DISPOSAL ON A REGULAR BASIS AND SHALL ENSURE THAT THE DUMPSTER AREAS ARE PROPERLY MAINTAINED.

11. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE GENERAL UPKEEP AND ROUTINE MAINTENANCE OF THE ENTIRE SITE TO ENSURE AN AESTHETICALLY PLEASING APPEARANCE DURING ALL PHASES OF CONSTRUCTION.

12. UNLESS OTHERWISE INDICATED, AREAS DISTURBED BY CONSTRUCTION SHALL HAVE 6-INCHES OF LOAM EVENLY SPREAD AND COMPACTED ON A PREPARED SUBGRADE AND PLANTED WITH LAWN SEED MIX PER THE SPECIFICATIONS.

13. ALL LANDSCAPED AREAS SHALL BE KEPT FREE OF WEEDS AND DEBRIS. ALL VEGETATION WITHIN THE SITE SHALL BE MAINTAINED FREE OF PHYSICAL DAMAGE CAUSED BY CHEMICALS, INSECTS, DISEASES, LACK OF WATER, OR OTHER CAUSES. DAMAGED PLANTS SHALL BE REPLACED WITH THE SAME VEGETATION.

14. THE CONTRACTOR SHALL SUPPLY AND MAINTAIN ALL MATERIAL, EQUIPMENT AND LABOR ASSOCIATED WITH TEMPORARY TRAFFIC DIVERSIONS THROUGHOUT CONSTRUCTION IN ACCORDANCE WITH M.U.T.C.D. STANDARDS AND AS APPROVED BY THE OWNER'S REPRESENTATIVE.

15. THE GENERAL CONTRACTOR AND SUBCONTRACTORS WILL HAVE A COPY OF THE SITE PLAN REVIEW CONDITIONS ON SITE AT ALL TIMES AND WILL BE INCORPORATED INTO ALL CONSTRUCTION CONTRACTS.

16. NO AUTHORIZED ACTIVITY SHALL AFFECT ABUTTING PROPERTIES. IF THE APPLICANT MUST WORK ON AN ABUTTING PROPERTY, WRITTEN AUTHORIZATION FROM THE OWNER OF SAID LAND SHALL BE OBTAINED AND PROVIDED TO THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO THE START OF WORK.

17. THE OWNER'S REPRESENTATIVE AND/OR GENERAL CONTRACTOR MUST CONTACT THE DEPARTMENT OF PUBLIC HEALTH AND THE NANTUCKET FIRE DEPARTMENT IN THE EVENT OF A HAZARDOUS LEAK OR SPILL.

18. ALL TYPES OF FILL MATERIAL IMPORTED TO THE SITE MUST BE CLEAN AND SUITABLE FOR THE USE SPECIFIED. THE GENERAL CONTRACTOR WILL PROVIDE THE OWNER'S GEOTECHNICAL ENGINEER WITH RECORDS INDICATING THE TYPE, QUANTITY, ORIGIN AND SOURCE OF ANY FILL MATERIAL IMPORTED TO THE SITE.

19. THE CONTRACTOR SHALL PROVIDE THE ENGINEER TWO (2) COMPLETE SETS OF AS-BUILT DRAWINGS PREPARED AND STAMPED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS SHOWING EXACT DIMENSIONS, LOCATIONS AND ELEVATIONS OF ALL BUILDINGS, UTILITIES, STRUCTURES, PIPES, CURBING, STRIPING, LANDSCAPING, ETC AS INSTALLED. DELIVERABLES ARE TO BE STAMPED REPRODUCIBLE DRAWINGS AND AUTOCAD 2012 OR NEWER ELECTRONIC FILES.

20. EXISTING DRIVEWAY FOR #10 VESPER LANE TO BE REMOVED, LOAMED AND SEEDED IF CONSENTED BY THE COAST GUARD.

21. GREENLIGHT BUILDING TO BE RELOCATED UPON APPROVAL AND FUNDING AS WELL AS FINALIZATION OF BIKE PATH NETWORK AND EASEMENTS.

DEMOLITION NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF DEMOLISHED MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.

2. SUITABLE BUILDING MATERIALS THAT CAN BE REUSED AS ON-SITE FILL, AS DETERMINED BY THE OWNER'S GEOTECHNICAL ENGINEER (I.E. BRICK, BLOCK AND CONCRETE) SHALL BE RECYCLED TO PRODUCE PROCESSED SITE FILL PER THE GRADATION REQUIREMENTS NOTED IN THE SITE WORK SPECIFICATION AND SHALL COMPLY WITH THE DEP'S ASPHALT, BRICK AND CONCRETE (ABC) POLICY. NOTIFY THE LOCAL BOARD OF HEALTH AT LEAST 30 DAYS PRIOR TO THE START OF CRUSHING OPERATIONS.

3. PRIOR TO THE START OF ANY DEMOLITION ACTIVITIES, ON-SITE EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON DRAWING C-1 MUST BE INSTALLED AND APPROVED BY THE OWNER'S REPRESENTATIVE.

4. THE CONTRACTOR SHALL PROTECT AND/OR CAP OFF ALL EXISTING ON-SITE UTILITY SERVICES WHETHER DESIGNATED ON THESE DRAWINGS OR DISCOVERED IN THE FIELD. SERVICES SHALL BE CAPPED OFF AT THE PROPERTY IN ACCORDANCE WITH THE APPROPRIATE UTILITY COMPANY/ENTITY STANDARDS.

5. ALL EXISTING BITUMINOUS CONCRETE PAVEMENT SHALL BE PULVERIZED, STRIPED AND STOCKPILED IN AREAS TO BE DETERMINED BY THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER OWNER'S REPRESENTATIVE AND USED AS RECLAIMED ASPHALT PAVEMENT BORROW MATERIAL IN ACCORDANCE WITH THE SITEWORK SPECIFICATIONS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND PROTECTING ALL EXISTING AND NEW DRAINAGE AND UTILITIES TO REMAIN AND/OR BE CONSTRUCTED.

7. DURING ON-SITE DEMOLITION WORK, STORM RUNOFF SHALL BE CONTROLLED AND DIRECTED TOWARD TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES.

EROSION CONTROL NOTES

1. ALL PROPOSED SLOPES WILL BE NO STEEPER THAN 2H:1V. ALL 3H:1V SLOPES OR STEEPER WILL BE STABILIZED WITH A CURLEX EROSION CONTROL MATTING BY AMERICAN EXCELSIOR COMPANY (OR ENGINEER APPROVED EQUAL) PRIOR TO HYDRO SEEDING AND PROTECTED FROM EROSION.

2. THE CONTRACTOR SHALL MAINTAIN ON SITE AT ALL TIMES ADDITIONAL STRAW WATTLES, MATERIALS FOR CONSTRUCTING WATTLES AND EXTRA SILTATION FENCING FOR INSTALLATION AT THE DIRECTION OF THE ENGINEER AND/OR OWNER'S REPRESENTATIVE TO CORRECT ANY EMERGENCY EROSION OR SILTATION PROBLEMS.

3. THE AREA OR AREAS OF ENTRANCE AND EXIT TO AND FROM THE SITE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHT-OF-WAY. ALL SEDIMENT OR DEBRIS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.

4. SILT SACKS SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASINS LOCATED IN DISTURBED AREAS AND SUBJECT TO STORMWATER RUNOFF FROM THE SITE THROUGHOUT CONSTRUCTION. NO SEDIMENT SHALL BE ALLOWED TO ENTER THE DRAINAGE SYSTEM (ON OR OFF-SITE) AT ANY TIME.

5. CATCH BASINS WHICH SERVE AS TEMPORARY SEDIMENT TRAPS MUST BE INSPECTED EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF A RAIN EVENT OF 0.25 INCHES OR GREATER.

6. UPON COMPLETION OF ALL SITE WORK CONSTRUCTION, THE SITE CONTRACTOR SHALL INSPECT ALL ON-SITE CATCH BASINS AND DRAINAGE STRUCTURES AND REMOVE ALL SEDIMENT, TRASH AND DEBRIS THAT HAS ACCUMULATED WITHIN EACH STRUCTURE DURING THE COURSE OF CONSTRUCTION.

7. ALL CONSTRUCTION SHALL MEET OR EXCEED THE TOWN OF NANTUCKET'S RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND AND CONSTRUCTION SPECIFICATIONS FOR STABILIZED ROAD SURFACES.

8. ALL SLOPES EXCEEDING FIFTEEN (15) PERCENT RESULTING FROM THE SITE GRADING ACTIVITIES SHALL BE EITHER COVERED WITH SIX (6) INCHES OF TOPSOIL AND PLANTED WITH A VEGETATIVE COVER SUFFICIENT TO PREVENT EROSION OR BE STABILIZED BY A RETAINING WALL.

9. PRIOR TO THE START OF ANY AUTHORIZED ACTIVITY THE GENERAL CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A DUST CONTROL PLAN TO THE OWNER'S REPRESENTATIVE. THE DUST CONTROL PLAN WILL OUTLINE MEASURES TO CONTROL AND MITIGATE DUST DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION AND IN ALL TYPES OF WEATHER CONDITIONS. THE APPROVED DUST CONTROL PLAN SHALL BE IMPLEMENTED DURING ALL PHASES OF THE AUTHORIZED ACTIVITIES AND WILL CONTINUE UNTIL THE PROJECT HAS BEEN GRANTED AS-BUILT APPROVAL.

10. THE EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS DEPICT THE MINIMUM REQUIRED CONTROL AND ARE REPRESENTATIVE OF A SINGLE STAGE OF CONSTRUCTION FOR EACH PHASE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SITING, RELOCATION AND AUGMENTATION OF EROSION CONTROL DEVICES AS THE PROJECT PROGRESSES AND SITE DRAINAGE CONDITIONS CHANGE.

11. THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES IF REQUIRED DUE TO WEATHER CONDITIONS, SEASON AND/OR CONSTRUCTION ACTIVITIES.

12. THE CONTRACTOR SHALL MINIMIZE THE AREA OF DISTURBED SOIL. EFFORTS SHALL BE MADE TO LIMIT THE TIME OF EXPOSURE OF DISTURBED AREAS.

13. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES AT THE SITE, THE CONTRACTOR SHALL ENGAGE AN INDIVIDUAL WITH SPECIFIC PROFESSIONAL TRAINING AND EXPERTISE IN EROSION AND SEDIMENT CONTROL. THE EROSION CONTROL MONITOR SHALL CONDUCT AN INSPECTION BASED ON THE FREQUENCY OUTLINED IN NOTE 5 AND PREPARE AN INSPECTION REPORT WHICH SHALL BE KEPT ON SITE AT ALL TIMES AND SHOWN TO LOCAL, STATE AND FEDERAL AGENTS UPON REQUEST. THIS REPORT SHALL INDICATE THE STATUS OF THE EROSION CONTROLS AND ANY MAINTENANCE REQUIRED AND PERFORMED. THIS REPORT SHALL CONFORM TO THE REQUIREMENTS OF THE EPA'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES.

14. REFER TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR DETAILED DESCRIPTIONS OF THE TYPE, INSTALLATION, INSPECTION AND MAINTENANCE PROCEDURES FOR STRUCTURAL AND NON-STRUCTURAL MEASURES REQUIRED TO CONTROL SEDIMENT AND EROSION ON-SITE DURING CONSTUCTION.

15. WINTER CONSTRUCTION AND STABILIZATION
    THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15

    SEDIMENT BARRIERS: DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

    MULCHING: ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1000 SF OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCH THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW WILL BE REMOVED DOWN TO A 1-INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, ASPHALT EMULSION CHEMICAL, OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH WORKDAY DURING FINAL GRADING ACTIVITIES.

    SOIL STOCKPILING: STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A 4-INCH LAYER OF EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND REESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.

    SEEDING: BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOOMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1000 SF. ALL AREAS SEEDED DURING THE WINTER WILL BE INSPECTED IN THE SPRING BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE RE-VEGETATED IN THE SPRING.

    WINTER STABILIZATION OF DITCHES AND CHANNELS: ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A DITCH OR CHANNEL IS NOT GRASS-LINED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE DITCH:
    INSTALL A SOD LINING IN THE DITCH: A DITCH MUST BE LINED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES: PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD ONTO AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING SOD AT THE BASE OF THE DITCH WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD FROM SLOUGHING DURING FLOW CONDITIONS.
    INSTALL A STONE LINING IN THE DITCH: A DITCH MUST BE LINED WITH STONE RIP RAP BY NOVEMBER 15. CONTACT REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH.

    WINTER STABILIZATION OF DISTURBED SLOPES: ALL STONE-COVERED SLOPES GREATER THAN 15% MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. AND ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED BY SEPTEMBER 1. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SLOPE.
    TEMPORARY VEGETATION AND EROSION CONTROL MATS: BY OCTOBER 1 THE DISTURBED SLOPE MUST BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1000 SF AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST 3 INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1, THEN THE CONTRACTOR WILL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIP RAP.
    SOD: THE DISTURBED SLOPE MUST BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR WILL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
    EROSION CONTROL MIX: EROSION CONTROL MIX MUST BE PROPERLY INSTALLED BY NOVEMBER 15. THE CONTRACTOR WILL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
    STONE RIP RAP: PLACE A LAYER OF STONE RIP RAP ON THE SLOPE BY NOVEMBER 15. CONTACT THE PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIP RAP.

    WINTER STABILIZATION OF DISTURBED SOILS: BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN:
    TEMPORARY VEGETATION: BY OCTOBER 1, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1000 SF, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SF, AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST 3 INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1, THEN MULCH THE AREA FOR WINTER PROTECTION AS DESCRIBED BELOW.
    SOD: STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
    SOD: BY NOVEMBER 15, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 LBS PER 1000 SF ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

16. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DEQE'S (D.E.P.) EROSION AND SEDIMENT CONTROL GUIDELINES, AUGUST 1983 AND USDA S.C.S. EROSION AND SEDIMENT CONTROL IN SITE DEVELOPMENT, MASSACHUSETTS CONSERVATION GUIDE, SEPTEMBER 1983 AND ALL LOCAL MUNICIPAL REGULATIONS.

17. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK, SHALL BE MAINTAINED DURING CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.

18. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH STAKED WATTLES AND/OR SILTATION FENCES TO PREVENT AND/OR CONTROL SILTATION AND EROSION.

19. TOPS OF STOCKPILES SHALL BE COVERED IN SUCH A MANNER THAT STORMWATER DOES NOT INFILTRATE THE MATERIALS AND THEREBY RENDER THE SAME UNSUITABLE FOR FILL USE.

20. ALL DISTURBED OR EXPOSED AREAS SUBJECT TO EROSION SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER. NO AREA SHALL BE LEFT DISTURBED AND UNSTABILIZED FOR PERIODS LONGER THAN 14 DAYS AFTER SOIL HAS BEEN DISTURBED.

21. ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED, CLEANED AND REPAIRED OR REPLACED AS NECESSARY THROUGHOUT ALL PHASES OF CONSTRUCTION.

22. THE ROWS OF STAKED WATTLES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION IN GOOD WORKING ORDER AND SHALL NOT BE REMOVED UNTIL THE SITE IS PERMANENTLY STABILIZED. UPON COMPLETION OF THE PROJECT, THE WATTLES SHALL BE PROPERLY DISPOSED OF OR RECYCLED.

23. ALL CONSTRUCTION MATERIAL, DEBRIS, FILL AND EXCAVATED MATERIAL SHALL BE STOCKPILED IN AREAS DESIGNATED BY THE OWNER'S REPRESENTATIVE. ALL MATERIAL SHALL BE STABILIZED TO PREVENT EROSION. ALL EXCESS FILL AND EXCAVATED MATERIALS THAT ARE NOT USED IN CONJUNCTION WITH CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE & LOCAL REGULATIONS. AT NO TIME SHALL ANY DEBRIS OR OTHER CONSTRUCTION RELATED MATERIALS BE BURIED ON-SITE.

DRAINAGE NOTES:

1. CORRUGATED POLYETHYLENE PIPE (CPP) SHALL CONFORM WITH ASTM 2648 AND ASTM F477, SHALL BE MANUFACTURED WITH HIGH DENSITY POLYETHYLENE PLASTIC AND SHALL BE ADS N-12 "MEGA GREEN" PIPE AS MANUFACTURED BY ADVANCE DRAINAGE SYSTEM, INC. OR APPROVED EQUAL UNLESS OTHERWISE NOTED OR DETAILED.

2. ALL RAINWATER ROOF AND CANOPY DRAINS SHALL BE INSTALLED TO A POINT 10 FEET FROM THE BUILDING WALL UNLESS OTHERWISE NOTED OR DETAILED.

3. ALL CATCH BASINS AND OTHER DRAINAGE STRUCTURES TO BE CONSTRUCTED, REPLACED, OR RECONSTRUCTED SHALL CONFORM TO CURRENT MASSACHUSETTS HIGHWAY DEPARTMENT STANDARDS AND DESIGNED AND INSTALLED FOR H20 LOADING. ALL NEW CATCH BASINS SHALL BE EQUIPPED WITH APPROPRIATELY SIZED "TEE" OR ENVIRONMENTAL HOODS. FOUR (4') FOOT SUMPS SHALL BE PROVIDED IN ALL NEW CATCH BASINS.

4. ALL MANHOLES, CATCH BASINS AND OIL/PARTICLE SEPARATORS SHALL BE PUMPED AND CLEANED AT THE END OF CONSTRUCTION. SEDIMENT AND OTHER POLLUTANTS SHALL BE REMOVED OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.

5. ALL EXISTING STRUCTURES AND/OR DRAINAGE LINES DESIGNATED AS "TO BE REMOVED" SHALL BE REMOVED IN THEIR ENTIRETY AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. AFFECTED AREAS SHALL BE BACK FILLED WITH SUITABLE FILL MATERIAL AND COMPACTED IN 12" LIFTS TO REACH REQUIRED GRADE.

6. ALL PROPOSED CATCH BASIN FRAMES AND GRATES SHALL BE AS SPECIFIED OR APPROVED EQUAL.

7. ALL PROPOSED DOUBLE CATCH BASIN FRAMES AND GRATES SHALL BE AS SPECIFIED OR APPROVED EQUAL. TWO (2) GRATES PER DOUBLE CATCH BASIN.

8. THE EXISTING UTILITIES SHOWN HEREON SHALL BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION AND CONFIRM WITH TEST PITS PRIOR TO EXCAVATION AND CONSTRUCTION.

9. ALL EXISTING UTILITY SERVICES MAY NOT BE SHOWN ON THE UTILITY PLAN (DRAWING NUMBER C-3). THE SITE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANY FOR LOCATION AND ELEVATION.

10. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY-DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.

11. DETECTABLE WARNING TAPE TO BE INSTALLED A MINIMUM ONE (1') FOOT ABOVE DRAINAGE PIPE.

UTILITY NOTES (GENERAL)

1. DUE TO THE SCALE OF THE SITE WORK DRAWINGS, EXACT LOCATION OF UTILITY STUBS FOR BUILDING CONNECTIONS SHALL BE VERIFIED WITH THE BUILDING DRAWINGS. SERVICE STUBS TO THE BUILDINGS SHALL BE INSTALLED TO A POINT 10 FEET (10') FROM THE BUILDING WALL UNLESS OTHERWISE NOTED OR DETAILED AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END.

2. ALL REQUIRED UTILITY SERVICE ENCASEMENTS (CONCRETE) SHALL EXTEND 10 FEET (10') FROM THE CROSSING IN EITHER DIRECTION.

3. ALL EXISTING LIGHT POLE BASES AND CONDUIT THAT ARE TO BE REMOVED WILL BE DISPOSED OF OFF-SITE BY CONTRACTOR. EXISTING CONCRETE LIGHT POLE BASES MAY BE CRUSHED ON-SITE FOR USE IN AREAS THAT REQUIRE PROCESSED SITE FILL.

4. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY THE TOWN OF NANTUCKET AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO FINAL CONNECTION AND BACKFILLING OF SERVICES.

5. ALL REQUIRED UTILITIES SERVICING THE BUILDINGS SHALL BE PROVIDED BY THE SITE CONTRACTOR TO WITHIN TEN (10') FEET OF THE BUILDING AT THE LOCATIONS SHOWN ON THE UTILITY PLANS. ALL REQUIRED CONNECTION FEES FOR THE UTILITIES TO THE BUILDINGS SHALL BE PAID FOR BY THE BUILDING CONTRACTOR. ANY NECESSARY EXTENSIONS, RELOCATIONS OR CONNECTIONS BEYOND TEN FEET (10') OF THE BUILDING TO COMPLETE THE CONNECTION OF UTILITIES SHALL BE MADE BY THE SITE CONTRACTOR.

6. THE SITE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY/ALL PERMITS REQUIRED FOR THE INSTALLATION OF ALL SITE UTILITIES.

7. ALL EXISTING UTILITY CASTINGS INDICATED TO REMAIN SHALL BE RESET TO FINISHED GRADE AS REQUIRED.

8. DETECTABLE WARNING TAPE TO BE INSTALLED A MINIMUM ONE (1') FOOT ABOVE UTILITIES AND IN ACCORDANCE WITH THE APPROPRIATE UTILITY COMPANY REQUIREMENTS.

9. PRIOR TO THE START OF ANY AUTHORIZED ACTIVITY THE SITE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE TOWN OF NANTUCKET AND PROVIDE COPIES TO THE OWNER.

10. APPROXIMATE LOCATION OF UNDERGROUND FUEL TANK SUBJECT TO FIRE DEPARTMENT REVIEW.

SEWER NOTES

1. ALL GRAVITY SEWER PIPE SHALL BE POLYVINYL CHLORIDE PIPE (P.V.C.), S.D.R. 35 AND SHALL CONFORM WITH ASTM-D3034 UNLESS NOTED OTHERWISE.

2. WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST EIGHTEEN INCHES BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A DISTANCE OF TEN FEET (10') ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IF MECHANICAL JOINT PIPE IS NOT USED THEN BOTH THE WATER MAIN AND SANITARY SEWER SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.

3. ALL SEWER MAIN APPURTENANCES, MATERIALS, METHODS OF INSTALLATION AND TESTING REQUIREMENTS SHALL MEET OR EXCEED THE TOWN OF NANTUCKET DEPARTMENT OF PUBLIC WORKS STANDARDS.

4. SANITARY SEWER SERVICE TO BUILDING WILL END TEN FEET (10') OUTSIDE THE BUILDING LIMITS AS SHOWN ON THE PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END.

5. ALL SEWER WORK MUST BE INSPECTED BY NANTUCKET DPW PERSONNEL PRIOR TO BACKFILLING. ALLOW AT LEAST 3 BUSINESS DAYS FOR DPW TO SCHEDULE THE INSPECTION.

6. DETECTABLE WARNING TAPE TO BE INSTALLED A MINIMUM ONE (1') FOOT ABOVE SEWER MAIN AND IN ACCORDANCE WITH THE SEWER DEPARTMENT REQUIREMENTS.

WATER NOTES

1. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 5'-0" OF COVER AND MAXIMUM OF 6'-0" OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE.

2. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. THE CONTRACTOR SHALL NOTE THAT NOT ALL FITTINGS ARE NOTED, SHOWN OR INDICATED.

3. ALL WATER MAIN FITTINGS, TEES ETC. SHALL BE RESTRAINED WITH APPROPRIATELY SIZED THRUST BLOCKS.

4. ALL HYDRANTS SHALL MEET THE WANNACOMET WATER COMPANY AND NANTUCKET FIRE DEPARTMENT REQUIREMENTS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE WANNACOMET WATER COMPANY'S AND FIRE DEPARTMENT'S REQUIREMENTS.

5. A MINIMUM DISTANCE OF 10 FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN SANITARY SEWER MAINS AND WATER MAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER MAIN, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE ELEVATION OF THE CROWN OF THE SEWER SHALL BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN.

6. DOMESTIC WATER SERVICES 2-1/2" AND SMALLER SHALL BE TYPE K COPPER TUBING AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED CORPORATION STOP, SADDLE, CURB STOP AND BOX.

7. ALL POTABLE WATER MAINS 3" OR LARGER SHALL BE CEMENT LINED DUCTILE IRON PIPE CLASS 52 AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED FITTINGS AND GATE VALVES. FITTINGS SHALL BE MECHANICAL JOINT WITH, DUCTILE IRON CLASS 350 RESTRAINT DEVICE (MEGALUG) AS MANFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL

8. FIRE SERVICES SHALL BE INSTALLED WITH APPROPRIATELY SIZED GATE VALVE AND REQUIRED ACCESSORIES. DOMESTIC WATER SERVICES SHALL BE INSTALLED WITH APPROPRIATELY SIZED GATE BOX, AND TEE FITTINGS.

9. WATER METERS AND BACK FLOW PREVENTERS TO BE LOCATED WITHIN THE BUILDING.

10. PRESSURE AND LEAKAGE TEST, DISINFECTION AND FLUSHING SHALL BE IN ACCORDANCE WITH THE WANNACOMET WATER COMPANY STANDARDS AND REQUIREMENTS. IN THE ABSENCE OF STANDARDS, THEY SHALL CONFORM TO THE REQUIREMENTS IN THE SITEWORK SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTION WITH UTILITY TESTS, FLUSHING AND INSPECTIONS AS REQUIRED BY THE AUBURN WATER DISTRICT. COPIES OF TEST RESULTS WILL BE SUBMITTED TO THE WANNACOMET WATER COMPANY FOR APPROVAL.

11. MAINTAIN A MINIMUM SEPARATION OF THREE FEET (3') BETWEEN GAS AND WATER MAINS (MEASURED FROM THE CENTER OF THE PIPE).

12. ALL NEW GATE VALVES INSTALLED FOR THIS PROJECT WILL OPEN IN THE DIRECTION REQUIRED BY THE WANNACOMET WATER COMPANY.

13. ALL WATER MAIN APPURTENANCES, MATERIALS, METHODS OF INSTALLATION AND TESTING REQUIREMENTS SHALL MEET OR EXCEED WANNACOMET WATER COMPANY'S STANDARDS.

14. DETECTABLE WARNING TAPE TO BE INSTALLED A MINIMUM OF SIX(6) INCHES ABOVE THE WATER MAIN AND IN ACCORDANCE WITH THE WATER DEPARTMENT REQUIREMENTS.

LAYOUT & TRAFFIC CONTROL PLAN NOTES:

1. HANDICAP ACCESSIBLE PARKING SPACES SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (A.D.A.) ACCESSIBILITY GUIDELINES AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD REGULATION, 521 CMR, LATEST EDITIONS UNLESS OTHERWISE NOTED.

2. VAN ACCESSIBLE HANDICAP PARKING SPACES SHALL BE SIGNED AS "VAN ACCESSIBLE" PER 521CMR23.4.7B.

3. ALL PROPOSED CURBING SHALL BE PRECAST CONCRETE CURBING UNLESS OTHERWISE NOTED.

4. ALL PAVEMENT STRIPING SHALL BE PAINTED WITH 2 COATS OF PAINT.

5. PARKING AND TRAFFIC CONTROL PLAN IS SCHEMATIC AND FOR LOCATION OF MARKINGS ONLY. SPECIFIC DETAILS OF PAVEMENT MARKINGS ARE PROVIDED AS PART OF THIS PLAN SET.

6. ALL EXISTING CURBING TO BE REMOVED WILL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

7. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/BUILDING PLANS FOR EXACT BUILDING LOCATIONS, BUILDING DIMENSIONS, EXACT UTILITY ENTRANCE LOCATIONS, TRUCK DOCKS, BUILDING SIDEWALKS AND DOOR LOCATIONS.

8. FOR PAVEMENT SECTION SEE DETAIL SHEET C-10.

9. ALL LIMITS OF PAVEMENT SHALL BE CURBED UNLESS NOTED OR INDICATED OTHERWISE.

Planning Board

Chairman

Vice Chairman

Member

Member

Member

DATE APPROVED: ____________

DATE ENDORSED: ____________

PLANNING BD. FILE NO.: ____________

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS RICHARD J. O'CONNELL CIVIL No. 34677 REGISTERED PROFESSIONAL ENGINEER 4/11/16

Designed by:	SPG
Drawn by:	MCR
Checked by:	SPG
Scale:	1"=40'
Date:	04/11/2016

Prepared for:

NANTUCKET COTTAGE HOSPITAL

57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared by:

RJO'CONNELL & ASSOCIATES, INC.

CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
80 MONTVALE AVE
STONEHAM, MA 02180
781-279-0180
FAX: 781-279-0173

Project Name:

NEW NANTUCKET COTTAGE HOSPITAL NANTUCKET, MA

Drawing Name:

GENERAL NOTES

Drawing No.: **N-1**

Project No.: 13081

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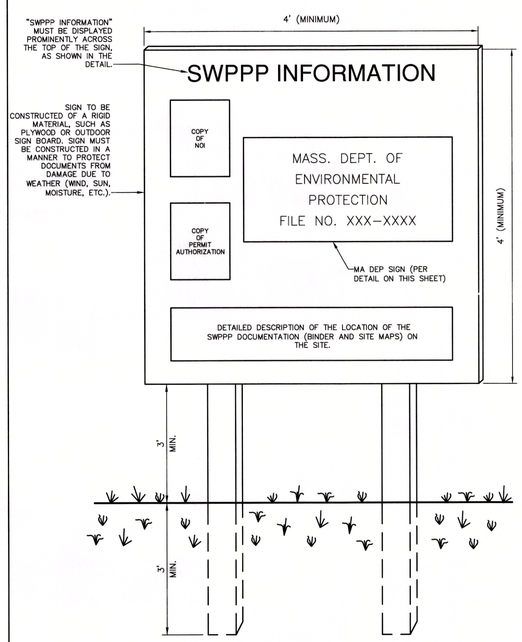
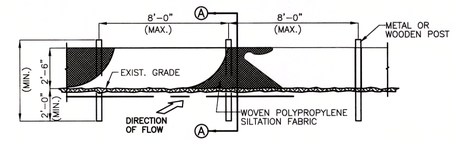
Apr 08, 2016 - 15:34pm

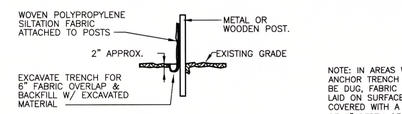


NOTES:
1) THE SWPPP INFORMATION SIGN MUST BE LOCATED NEAR THE CONSTRUCTION EXIT OF THE SITE, SUCH THAT IT IS ACCESSIBLE AND VIEWABLE BY THE GENERAL PUBLIC, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A SAFETY HAZARD.
2) ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-OF-TERMINATION (NOT) IS FILED FOR THE PERMIT.
3) CONTRACTOR SHALL POST OTHER STORM WATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCY.
4) SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
5) CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THE SWPPP INFORMATION SIGN.

SWPPP INFORMATION SIGN
SCALE: N.T.S.



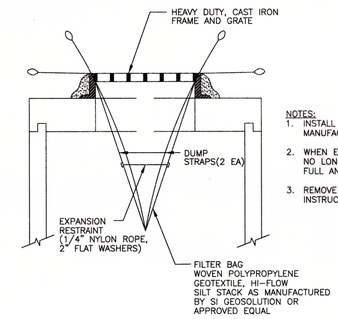
SILT FENCE ELEVATION



SILT FENCE SECTION A-A

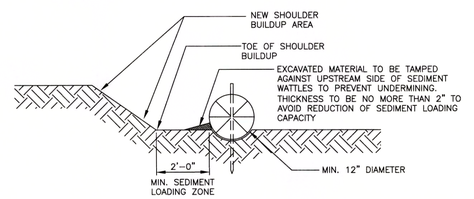
NOTE: IN AREAS WHERE ANCHOR TRENCH CANNOT BE DUG, FABRIC WILL BE LAID ON SURFACE AND COVERED WITH A MINIMUM OF 6" DEPTH OF SOIL.

SILTATION FENCE DETAIL
SCALE: N.T.S.

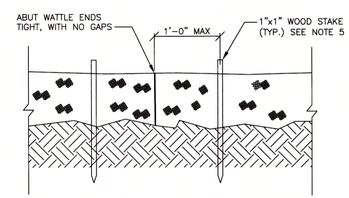


NOTES:
1. INSTALL SILT BAG IN ACCORDANCE WITH MANUFACTURES INSTRUCTIONS.
2. WHEN EXPANSION RESTRAINT CORD IS NO LONGER VISIBLE, THE SILT BAG IS FULL AND SHOULD BE EMPTIED.
3. REMOVE SILT BAG PER MANUFACTURES INSTRUCTIONS.

TYPICAL FILTER BAG DETAIL
SCALE: N.T.S.



SECTION SEDIMENT WATTLE



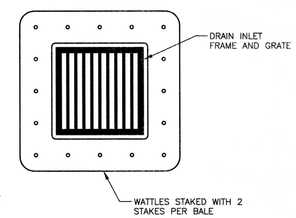
ELEVATION SEDIMENT WATTLES CONNECTION

NOTES:
1. SEDIMENT WATTLES ARE TO BE INSTALLED, AS SLOPES ARE CONSTRUCTED TO GRADE OR AS DIRECTED BY THE ENGINEER. SIZE, INSTALLATION AND MAINTENANCE SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS FOR SLOPE, SWALE, AND PERIMETER PROTECTION AND AS FILED CONDITIONS WARRANT.
2. TRENCHES TO BE CONSTRUCTED ALONG AND PARALLEL TO THE CONTOURS. TRENCH DEPTH TO BE ⅓ THE THICKNESS OF THE SEDIMENT WATTLE. PLACE EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
3. LOCATE SEDIMENT WATTLES AS INDICATED ON PLANS OR AS DIRECTED BY THE ENGINEER. SPACE WATTLE TRENCHES ACCORDING TO THE FOLLOWING SCHEDULE:

SLOPE RATIO	MAX SPACING INTERVALS
1:1 AND STEEPER, APPLY MINIBENCHING OR OTHER SUITABLE BMP'S.	
2:1	10'-0"
3:1	20'-0"
4:1	30'-0"
5:1	40'-0"
6:1	40'-0"

4. SEDIMENT WATTLES TO BE IN CONTINUOUS CONTACT WITH TRENCH BOTTOM AND SIDES. NO DAYLIGHT SHOULD BE SEEN UNDER THE WATTLE. DO NOT OVERLAP THE ENDS ON TOP OF EACH OTHER.
5. STAKES TO PENETRATE SOIL OF TRENCH BOTTOM 12" MINIMUM. STAKES TO BE EXPOSED 3" MAXIMUM ABOVE THE TOP OF WATTLE. SPACE STAKES 4'-0" O.C. MAX., 1'-0" MAX. AT WATTLE ENDS. A 20" DIAMETER WATTLE MAY NEED TO BE MADE FROM 2-3 ROLLED EXCELSIOR OR STRAW BLANKETS.
6. REPAIR ANY RILLS OR GULLIES PROMPTLY.
7. THE INSTALLATION AND MAINTENANCE OF SEDIMENT WATTLE BMP'S SHALL NOT NEGATIVELY IMPACT TRAFFIC SAFETY.

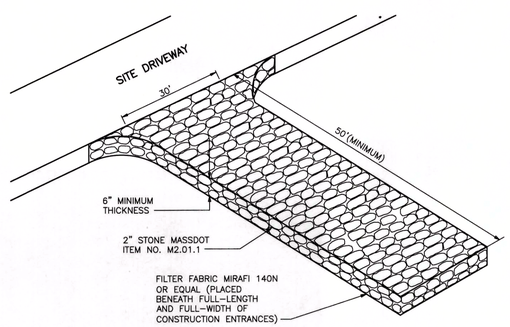
WATTLE EROSION AND SILTATION BARRIER
SCALE: N.T.S.



NOTE:
THIS DETAIL IS TO BE USED WHEN PARKING AREAS ARE AT SUBGRADE ELEVATION.

NOTES:
1. BALES SHALL BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

TYPICAL WATTLE INLET PROTECTION DETAIL
SCALE: N.T.S.



PERSPECTIVE

VEHICLE TRACKING PAD
SCALE: N.T.S.

Planning Board

Chairman _____

Vice Chairman _____

Member _____

Member _____

Member _____

DATE APPROVED: _____

DATE ENDORSED: _____

PLANNING BD. FILE NO.: _____

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS RICHARD J. O'CONNELL CIVIL No. 34677 REGISTERED PROFESSIONAL ENGINEER 4/11/16

Designed by:	SPG
Drawn by:	MCR
Checked by:	SPG
Scale:	N.T.S.
Date:	04/11/2016

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Project Name:
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:
EROSION CONTROL DETAILS

Drawing No.:
C-5
Project No.: 13081

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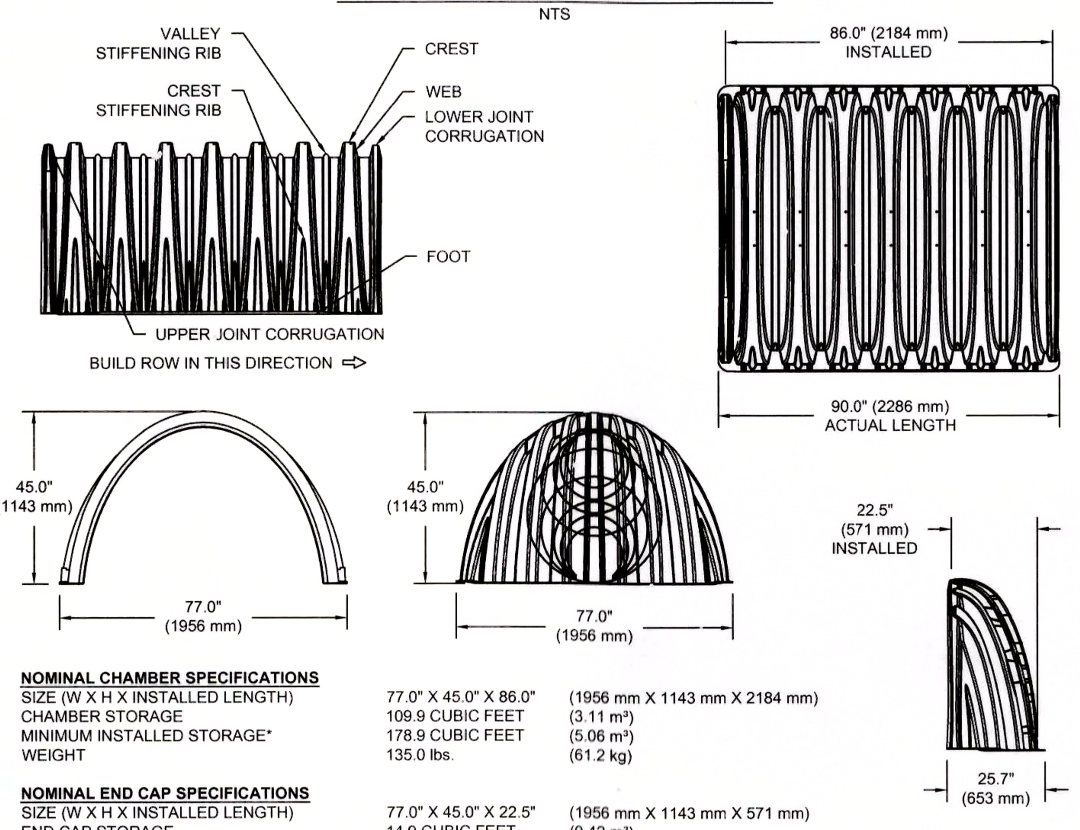
MC-3500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	178.9 CUBIC FEET	(5.06 m³)
WEIGHT	135.0 lbs.	(61.2 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 22.5"	(1956 mm X 1143 mm X 571 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	46.0 CUBIC FEET	(1.30 m³)
WEIGHT	50.0 lbs.	(22.7 kg)

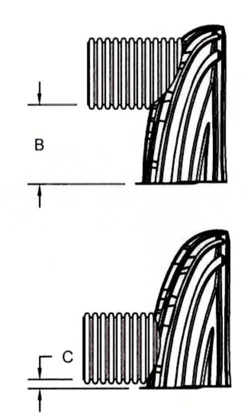
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP30BC	30" (750 mm)	---	

NOTE: ALL DIMENSIONS ARE NOMINAL

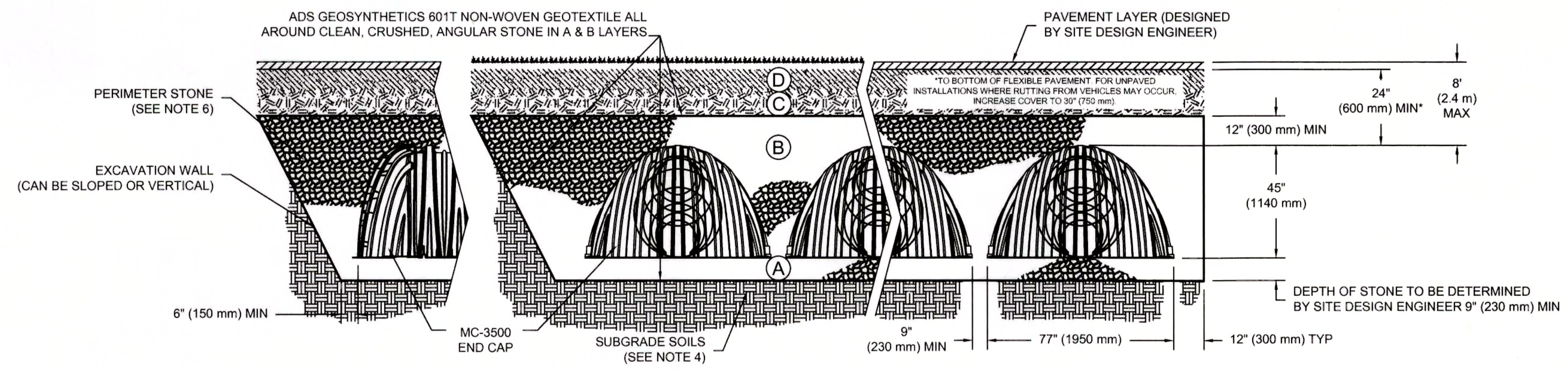
CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS.
CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm)
THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.



ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

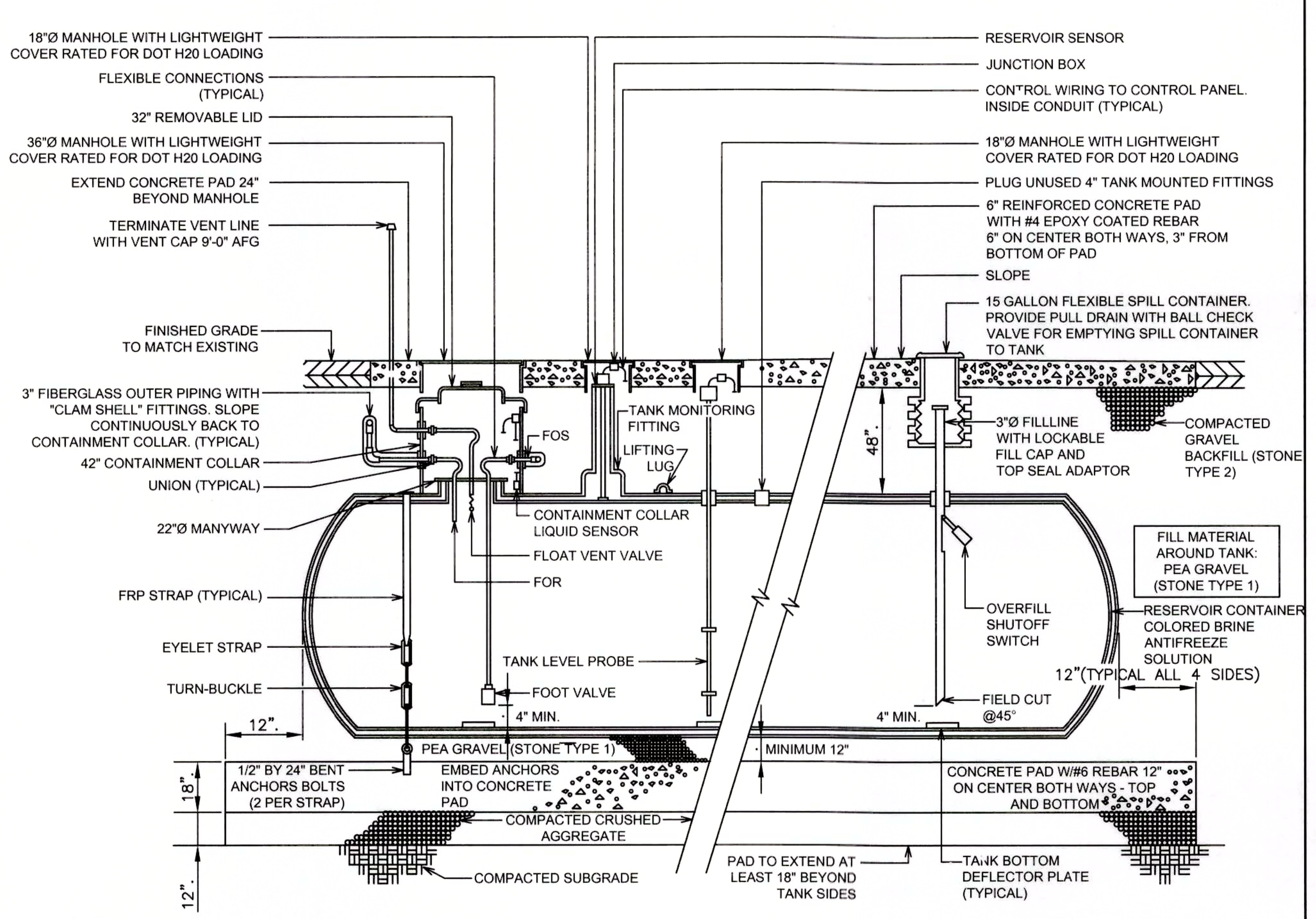
1. MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

REV | DRW | CHK | DESCRIPTION
DATE: | DRAWN:
PROJECT #: | CHECKED:

ADS ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473
StormTech® Detention • Retention • Water Quality 70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067 860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 6 OF



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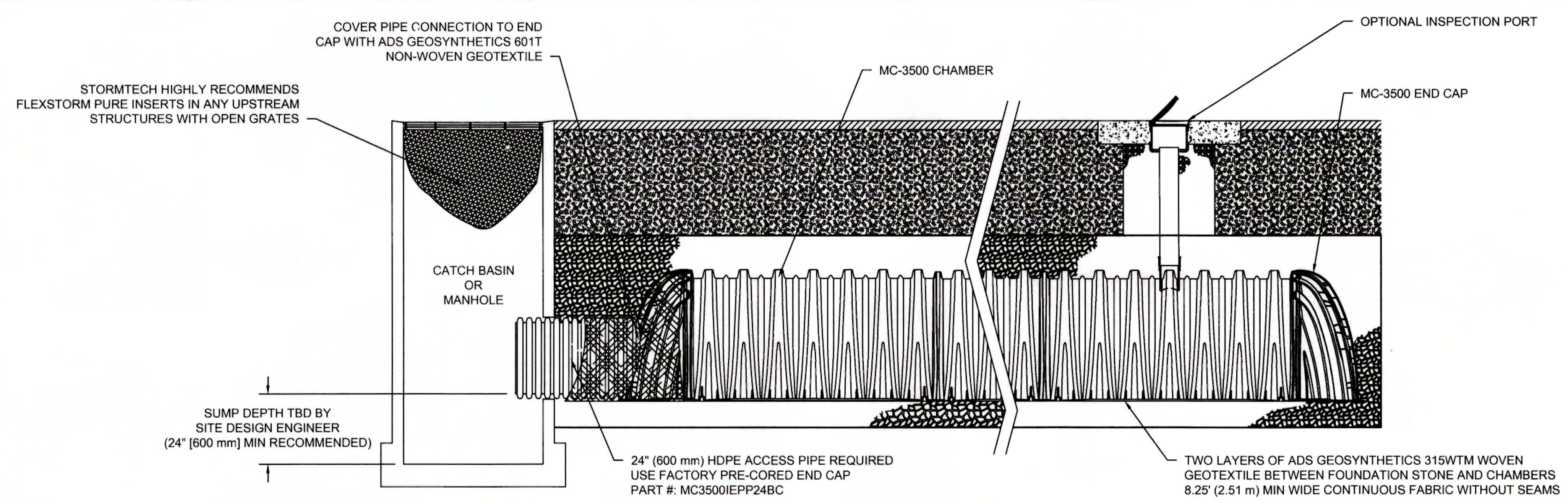


MC-3500 ISOLATOR ROW DETAIL

NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

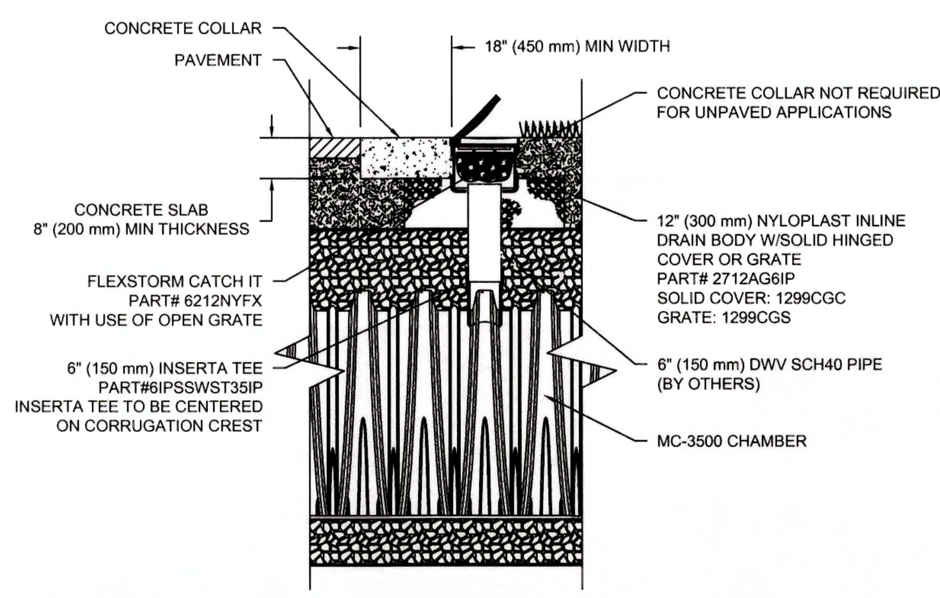
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



MC-3500 6" INSPECTION PORT DETAIL

NTS

REV | DRW | CHK | DESCRIPTION
DATE: | DRAWN:
PROJECT #: | CHECKED:

ADS ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473
StormTech® Detention • Retention • Water Quality 70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067 860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

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SHEET 7 OF

Drawing name: G:\MA\Nantucket\NED\Nantucket Cottage Hospital\Main\13081_C-7 DRAINAGE DETAILS-II.dwg
Apr 08, 2016 - 17:17pm

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS RICHARD J. O'CONNELL CIVIL No. 34677 REGISTERED PROFESSIONAL ENGINEER 4/11/16

Designed by:	SPG
Drawn by:	MCR
Checked by:	SPG
Scale:	N.T.S.
Date:	04/11/2016

Prepared for:
NANTUCKET COTTAGE HOSPITAL
57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
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Prepared by:
RJO'CONNELL & ASSOCIATES, INC.
CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
80 MONTVALE AVE
STONEHAM, MA 02180
781-279-0180
FAX: 781-279-0173

Planning Board

Chairman ____________

Vice Chairman ____________

Member ____________

Member ____________

Member ____________

DATE APPROVED: ____________

DATE ENDORSED: ____________

PLANNING BD. FILE NO.: ____________

Project Name:
NEW NANTUCKET COTTAGE HOSPITAL NANTUCKET, MA

Drawing Name:
DRAINAGE DETAILS - II

Drawing No.:
C-7

Project No.: 13081

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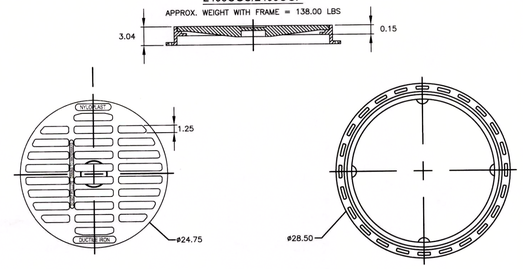
2499CGC/2499CGP

APPROX. WEIGHT WITH FRAME = 138.00 LBS



NOTES:

ALL DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE.
COVER AND GRATE SHALL MEET H-20 LOAD RATING.
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT

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DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	3-8-06		
APPD BY	CJA	PROJECT NO./NAME	
DATE	3-8-06		
DWG SIZE	A	SCALE 1:10	SHEET 1 OF 1

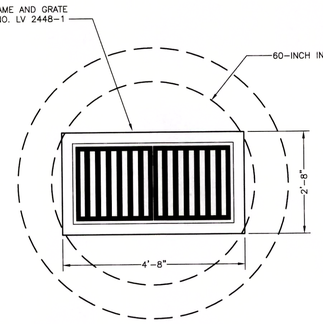
Nyloplast — 3128 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2499 www.nyloplast-us.com

TITLE: 24 IN SOLID COVER ASSEMBLY - TYPE S; 24 IN STANDARD GRATE ASSEMBLY - TYPE B

DWG NO. 7001-110-216 REV B

NYLOPLAST AREA DRAIN GRATE

SCALE: N.T.S.



NOTES:

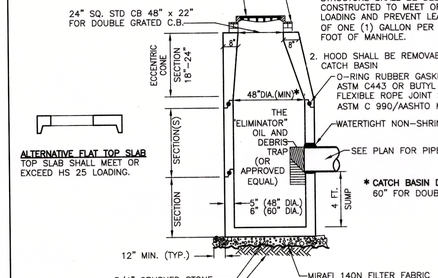
1. CATCH BASIN COVER SLAB TO BE CAST WITH 22" x 48" OPENING TO ACCOMMODATE FRAME AND GRATE.
2. COVER SLAB TO MEET OR EXCEED H-20 LOADING.

TYPICAL DOUBLE CATCH BASIN GRATE DETAIL

SCALE: N.T.S.

ADJUST TO GRADE WITH SEWER BRICK SET IN FULL MORTAR BED OR PRECAST CONCRETE RINGS MAX 12" ADJUSTMENT

CATCH BASIN FRAME & GRATE BY EAST JORDAN IRON WORKS, CAT NO. LF246-000 OR APPROVED EQUAL FOR STD. CATCH BASIN, EAST JORDAN IRON WORKS CAT NO. LV 2448-1-000 FOR DOUBLE GRATED CATCH BASIN.



ALTERNATIVE FLAT TOP SLAB
TOP SLAB SHALL MEET OR EXCEED HS 25 LOADING.

NOTES:

1. MANHOLES AND ALL COMPONENT PARTS SHALL BE OF SIZE, STRENGTH AND CONFIGURATION AS SHOWN EXCEPT THAT TOP SLABS MAYBE SUBSTITUTED FOR ECCENTRIC CONE SECTIONS. MANHOLES SHALL BE AN ASSEMBLY OF REINFORCED, PRECAST CONCRETE BASE RISER SECTIONS PER ASTM C478 OR MONOLITHICALLY, CAST-IN-PLACE REINFORCED CONCRETE. APPROVED MANHOLE STRUCTURE SHALL BE DESIGNED AND CONSTRUCTED TO MEET OR EXCEED HS25 LOADING AND PREVENT LEAKAGE IN EXCESS OF ONE (1) GALLON PER DAY PER VERTICAL FOOT OF MANHOLE.
2. HOOD SHALL BE REMOVABLE FROM INSIDE OF CATCH BASIN

O-RING RUBBER GASKET JOINT PER ASTM C443 OR BUTYL RUBBER FLEXIBLE ROPE JOINT SEALANT PER ASTM C 990/AASHTO M-198B

WATERTIGHT NON-SHRINK GROUT (TYP.)

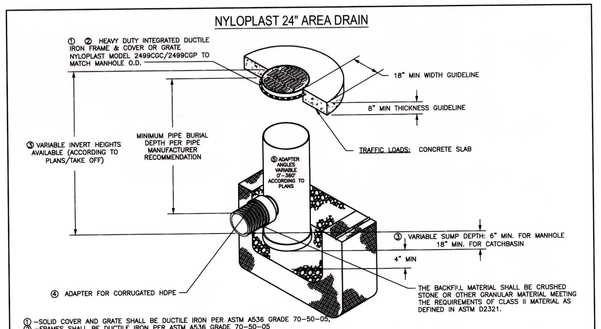
SEE PLAN FOR PIPE SIZE 12" MIN.

* CATCH BASIN DIAMETER
60" FOR DOUBLE GRATE

CATCH BASIN WITH HOOD

SCALE: N.T.S.

NYLOPLAST 24" AREA DRAIN



① -SOLID COVER AND GRATE SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
② -FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
③ -DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-085
④ -DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
⑤ -ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-013.

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DRAWN BY	EBC	MATERIAL	
DATE	4-3-06		
APPD BY	CJA	PROJECT NO./NAME	
DATE	4-3-06		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

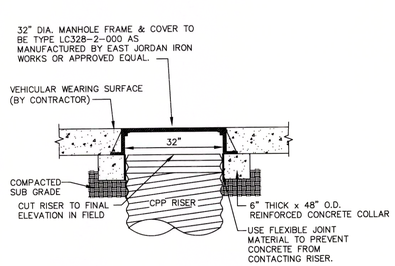
Nyloplast — 3128 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2499 www.nyloplast-us.com

TITLE: 24 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-192 REV B

NYLOPLAST 24" AREA DRAIN DETAIL

SCALE: N.T.S.



NOTE:
THE FLEXIBLE JOINT MATERIAL (RECYCLED VINYL OR EQ.) TO BE STIFF ENOUGH SO THAT THE CONCRETE CAN NEVER ENGAGE WITH THE RISER CORRUGATIONS.

MANHOLE COVER GUIDELINES

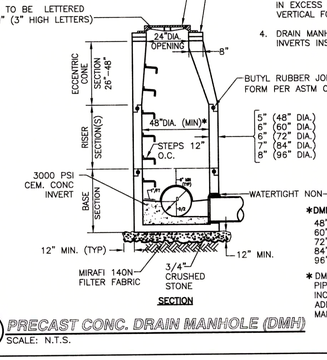
SUBSURFACE DETENTION SYSTEM OBSERVATION HOLE DETAIL

SCALE: N.T.S.

ADJUST TO GRADE WITH SEWER BRICK PER ASTM C32, GRADE SS SET IN FULL MORTAR BED OR PRECAST CONCRETE RINGS MAX 12" ADJUSTMENT

24" DIA. MANHOLE FRAME & COVER TO BE TYPE LK110A-000 AS MANUFACTURED BY EAST JORDAN IRON WORKS OR APPROVED EQUAL

COVER TO BE LETTERED "DRAIN" (3" HIGH LETTERS)



NOTES:

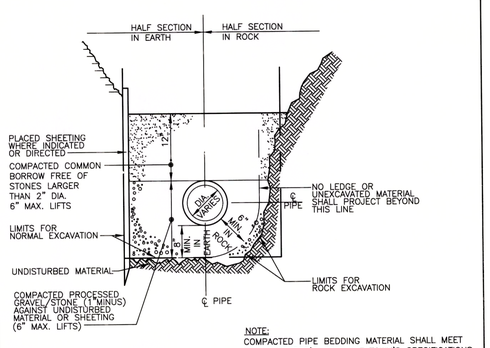
1. MANHOLES AND ALL COMPONENT PARTS SHALL BE OF SIZE, STRENGTH AND CONFIGURATION AS SHOWN EXCEPT THAT TOP SLABS MAYBE SUBSTITUTED FOR ECCENTRIC CONE SECTIONS.
2. MANHOLES SHALL BE AN ASSEMBLY OF REINFORCED, PRECAST CONCRETE BASE RISER SECTIONS PER ASTM C478 OR MONOLITHICALLY, CAST-IN-PLACE REINFORCED CONCRETE.
3. APPROVED MANHOLE STRUCTURE SHALL BE DESIGNED AND CONSTRUCTED TO MEET OR EXCEED H-20 LOADING AND PREVENT LEAKAGE IN EXCESS OF ONE (1) GALLON PER DAY PER VERTICAL FOOT OF MANHOLE.
4. DRAIN MANHOLES SHALL HAVE CONCRETE INVERTS INSTALLED.

*DMH DIAMETER
48" FOR PIPES UP TO 30"
60" FOR 36" AND 42" PIPES
72" FOR 48" PIPES
84" FOR 54" AND 60" PIPES
96" FOR 66" AND 72" PIPES

* DMH DIA. ARE FOR STRAIGHT THROUGH PIPE. DIAMETER MAY HAVE TO BE INCREASED DUE TO ACCOMMODATE ADDITIONAL PIPES CONNECTING TO MANHOLE AT ANGLES

PRECAST CONC. DRAIN MANHOLE (DMH)

SCALE: N.T.S.



NOTE:
COMPACTED PIPE BEDDING MATERIAL SHALL MEET MANUFACTURER'S, AND THE TOWN'S SPECIFICATIONS.

TYPICAL DRAINAGE TRENCH DETAIL

SCALE: N.T.S.

Planning Board

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DATE ENDORSED:

PLANNING BD. FILE NO.:

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS — RICHARD J. O'CONNELL — CIVIL — No. 34677 — REGISTERED PROFESSIONAL ENGINEER — 4/11/16

Designed by:	SPG
Drawn by:	MCR
Checked by:	SPG
Scale:	N.T.S.
Date:	04/11/2016

Prepared for:
NANTUCKET COTTAGE HOSPITAL
57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared by:
RJO'CONNELL & ASSOCIATES, INC.
CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
80 MONTVALE AVE
STONEHAM, MA 02180
781-279-0180
FAX: 781-279-0173

Project Name:
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:
DRAINAGE DETAILS - I

Drawing No.: **C-6**

Project No.: 13081

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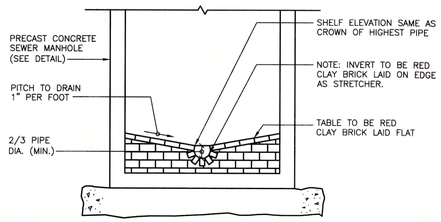
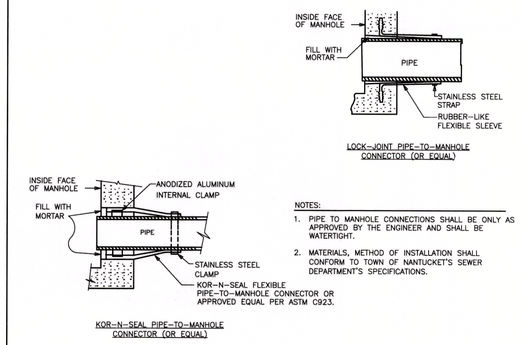
Drawing name: G:\MA\Nantucket\NED\Nantucket Cottage Hospital\Main\13081_C-6 DRAINAGE DETAILS-I.dwg
Apr 06, 2016 - 10:50am



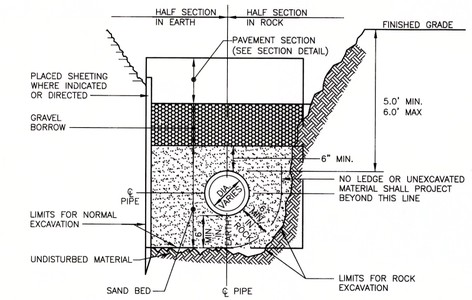
NOTES:
1. MATERIALS, METHOD OF INSTALLATION SHALL CONFORM TO THE TOWN OF NANTUCKET'S SEWER DEPARTMENT SPECIFICATIONS

BRICK INVERT AND CHANNEL DETAIL FOR SEWER MANHOLE
SCALE: N.T.S.



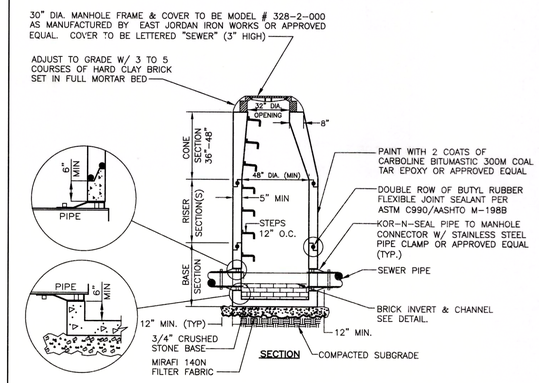
NOTES:
1. PIPE TO MANHOLE CONNECTIONS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND SHALL BE WATERTIGHT.
2. MATERIALS, METHOD OF INSTALLATION SHALL CONFORM TO TOWN OF NANTUCKET'S SEWER DEPARTMENT'S SPECIFICATIONS.

PIPE CONNECTIONS TO SEWER MANHOLE DETAIL
SCALE: N.T.S.



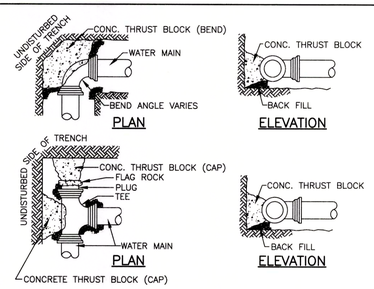
NOTE:
WHERE MORE STRINGENT, CONTRACTOR SHALL COMPLY WITH THE WANNACOMET WATER COMPANY REQUIREMENTS.

TYPICAL WATER TRENCH DETAIL
SCALE: N.T.S.



NOTES:
1. MANHOLES AND ALL COMPONENT PARTS SHALL BE OF SIZE, STRENGTH AND CONFIGURATION AS SHOWN EXCEPT THAT TOP SLABS MAYBE SUBSTITUTED FOR ECCENTRIC CONE SECTIONS. MANHOLES SHALL BE AN ASSEMBLY OF REINFORCED, PRECAST CONCRETE BASE RISER SECTIONS PER ASTM C478 OR MONOLITHICALLY, CAST-IN-PLACE REINFORCED CONCRETE. APPROVED MANHOLE STRUCTURE SHALL BE DESIGNED AND CONSTRUCTED TO MEET OR EXCEED H-20 LOADING AND PREVENT LEAKAGE IN EXCESS OF ONE (1) GALLON PER DAY PER VERTICAL FOOT OF MANHOLE.
2. MANHOLE STEPS TO BE STEEL REINFORCED, CO-PLYMER, POLY-PROPLYLENE PLASTIC CONFORMING TO ASTM D4101. STEEL REINFORCING SHALL BE A DEFORMED 1/2" ROD, GRADE 60, ASTM A615. ALIGN STEPS WITH MANHOLE OPENING.

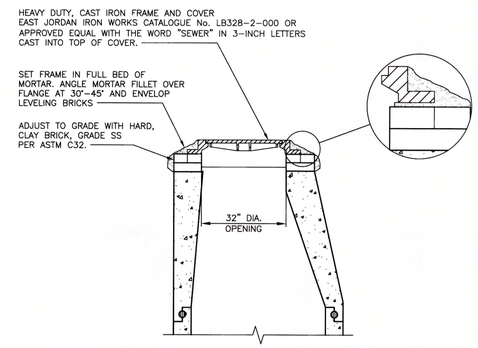
PRECAST CONC. SEWER MANHOLE (SMH) WITH BRICK INVERT
SCALE: N.T.S.



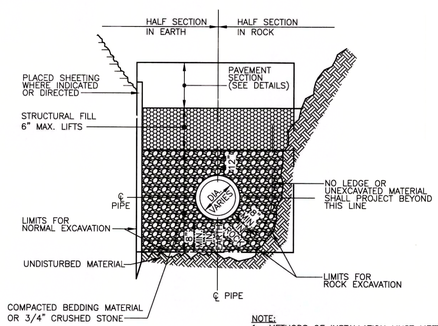
MINIMUM THRUST BLOCKING BEARING AREAS IN SQUARE FEET					
PIPE DIA.	TEES/CAP/HYD	90° BEND	45° BEND	22.5° BEND	11.25° BEND
4"	2	2	2	2	1
6"	4	5	3	2	1
8"	6	8	5	2	1
10"	9	13	7	3	2
12"	13	18	10	4	3
14"	18	25	14	6	4
16"	23	32	18	8	6

NOTES:
1. ALL WATER MAIN FITTINGS, BENDS, TEES, PLUGS ETC. SHALL BE RESTRAINED W/ THRUST BLOCKS EXCEPT WHERE NOTED.
2. ALL THRUST BLOCKS & COLLARS SHALL BE INSTALLED SO THAT THEY BEAR AGAINST UNDISTURBED EARTH.
3. SIZE OF CONCRETE THRUST BLOCKS AS NOTED BELOW.
4. MINIMUM COMPRESSIVE STRENGTH OF THRUST BLOCK CONCRETE SHALL BE 4,000 P.S.I.
5. MINIMUM BEARING AREA BASED ON 2000 LB/SF ALLOWABLE SOIL BEARING PRESSURE WITH A 1.5 SAFETY FACTOR.
6. A MINIMUM OF 1/3 CUBIC YARD OF CONCRETE MUST BE USED FOR THRUST BLOCKS
7. MATERIALS, METHOD INSTALLATION SHALL CONFORM TO THE WANNACOMET WATER COMPANY SPECIFICATIONS.

TYPICAL THRUST BLOCK DETAIL
SCALE: N.T.S.

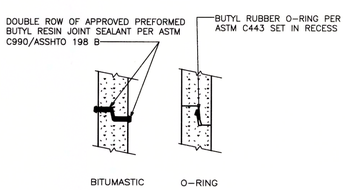


PRECAST CONCRETE SEWER MANHOLE (SMH) CASTING DETAIL
SCALE: N.T.S.



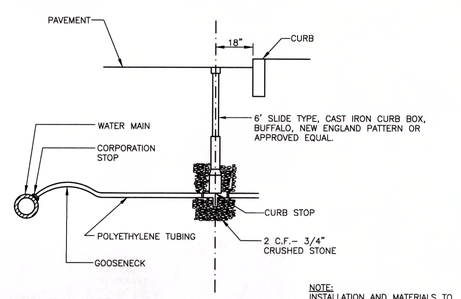
NOTE:
1. METHODS OF INSTALLATION MUST MEET OR EXCEED THE TOWN OF NANTUCKET'S SEWER DEPARTMENT AND PIPE MANUFACTURER'S SPECIFICATION'S.
2. PROVIDE AT LEAST ONE IMPERVIOUS DAM IN GRAVEL BEDDING BETWEEN EACH MANHOLE OR EVERY 300' WHICHEVER IS LESS.
3. ALL BUILDING SEWERS AND SEWER LINES SHALL HAVE A METALLIC TRACE TAPE IN THE TRENCH ONE FOOT BELOW FINISHED GRADE.

TYPICAL SEWER TRENCH DETAIL
SCALE: N.T.S.



NOTES:
1. HORIZONTAL JOINTS BETWEEN PRECAST CONCRETE MANHOLE SECTIONS SHALL BE OF A TYPE APPROVED BY THE ENGINEER. JOINTS SHALL BE MADE WATERTIGHT WITH A BUTYL RUBBER O-RING PER ASTM C443 OR A DOUBLE ROW OF BUTYL RESIN JOINT SEALANT IN ROPE FORM CONFORMING TO AASHTO 198 B/ASTM C990.
2. ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. MATERIALS AND METHOD OF INSTALLATION SHALL CONFORM TO THE TOWN OF NANTUCKET'S SPECIFICATIONS.

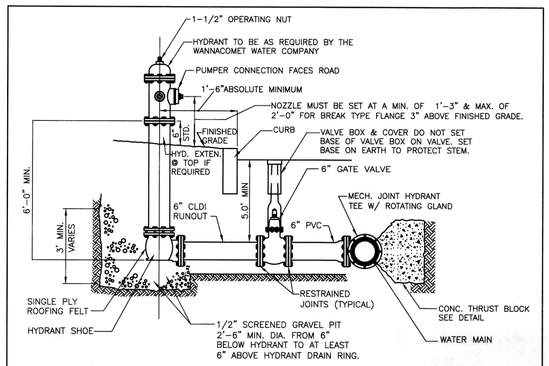
DETAIL 'A' SEWER MANHOLE JOINTING METHODS
SCALE: N.T.S.



NOTE: WATER SERVICES LARGER THAN 1" ARE TO BE RESTRAINED TO MAIN W/ APPROVED SADDLE.

NOTE:
INSTALLATION AND MATERIALS TO BE IN ACCORDANCE WITH THE WANNACOMET WATER COMPANY SPECIFICATIONS.

TYPICAL WATER SERVICE CONNECTION DETAIL
SCALE: N.T.S.



NOTE:
1. HYDRANT MATERIALS AND INSTALLATION SHALL MEET OR EXCEED THE TOWN OF NANTUCKET'S WATER DISTRICT DEPARTMENT'S SPECIFICATIONS.
2. HYDRANTS SHALL BE INSTALLED NOT LESS THAN 34 INCHES FROM GROUND AND NOT MORE THAN 40 INCHES HIGH.

TYPICAL FIRE HYDRANT CONNECTION DETAIL
SCALE: N.T.S.

Planning Board

Chairman _____

Vice Chairman _____

Member _____

Member _____

Member _____

DATE APPROVED: _____

DATE ENDORSED: _____

PLANNING BD. FILE NO.: _____

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS RICHARD J. O'CONNELL CIVIL No. 34677 REGISTERED PROFESSIONAL ENGINEER 4/11/16

Designed by:	SPG
Drawn by:	MCR
Checked by:	SPG
Scale:	N.T.S.
Date:	04/11/2016

Prepared for:
NANTUCKET COTTAGE HOSPITAL
57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared by:
RJO'CONNELL & ASSOCIATES, INC.
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80 MONTVALE AVE
STONEHAM, MA 02180
781-279-0180
FAX: 781-279-0173

Project Name:
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:
UTILITY DETAILS

Drawing No.:
C-8
Project No.: 13081

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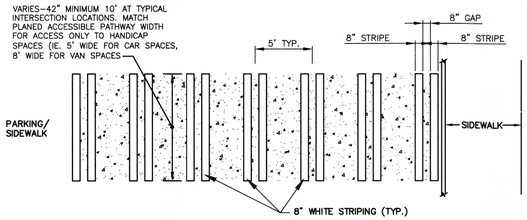
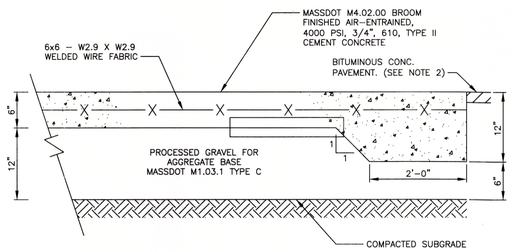
Drawing name: G:\MA\Nantucket\NED\Nantucket Cottage Hospital\Main\13081_C-8 UTILITY DETAILS.dwg
Apr 06, 2016 - 10:54am



GENERAL NOTES

1. LADDER BARS SHALL BE 5'–0" CENTER TO CENTER, BEGINNING AT THE MARKED CENTERLINE OF THE ROADWAY.
2. STRIPING TO BE SOLID WHITE NON–REFLECTIVE TRAFFIC PAINT OR THERMOPLASTIC AS SPECIFIED ON PROJECT PLANS.
3. STRIPING SHALL HAVE TWO COATS OF PAINT, ALKYD BASE SYNTHETIC RESIN, FED. SPEC. TTP–115 TYPE 1. IF SEAL COAT IS USED, IT SHALL BE COMPATIBLE WITH STRIPING COMPOUND.

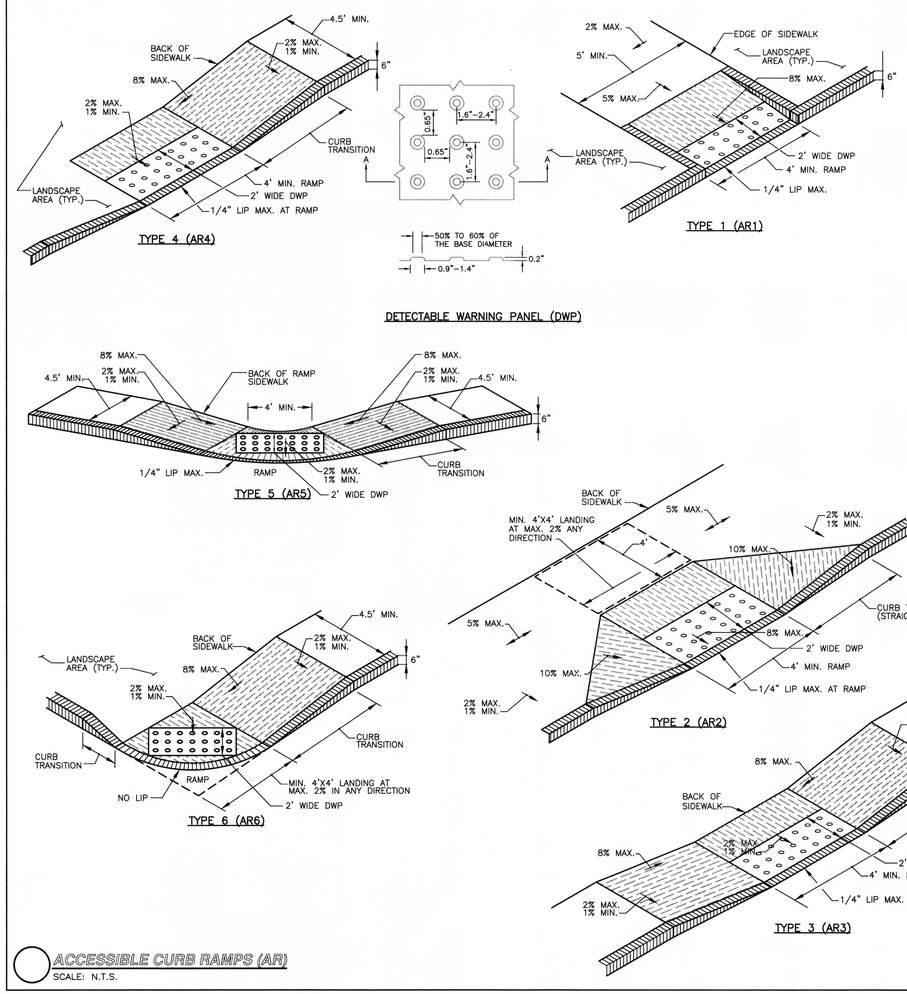
PAINTED CROSSWALK DETAIL
SCALE: N.T.S.



NOTES:

1. CONSTRUCTION AND MATERIALS PER GEOTECHNICAL ANALYSIS.
2. WHERE CONCRETE PAVEMENT ABUTS BITUMINOUS CONCRETE PAVEMENT, INCREASE THE OUTER 2' OF THE CONCRETE PAVEMENT TO 12".

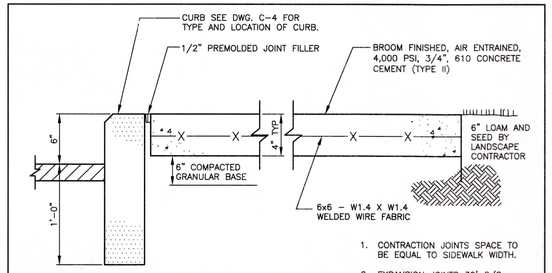
TYPICAL CONCRETE PAVEMENT SECTION
SCALE: N.T.S.



NOTES:

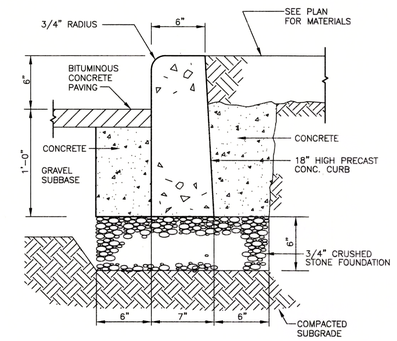
1. SEE PLANS FOR CURB TYPE.
2. CURBS AND WALKS ALONG ACCESSIBLE ROUTES SHALL MEET OR EXCEED THE APPLICABLE MA REGULATIONS AND ADA.
3. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 2% (1% MIN).
4. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
5. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 8%.
6. MAINTAIN A MINIMUM OF 3 FEET CLEAR AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS ETC.)
7. GRADE BASE OF RAMP TO PREVENT PONDING.
8. RAMP CONSTRUCTION SHALL CONFORM TO TYPICAL SIDEWALK SECTION.
9. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5'X5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
10. ALL CURBING AT RAMPS SHALL BE VERTICAL CURBING SET FLUSH WHERE IT ABUTS ROADWAY.
11. ALL RAMPS SHALL BE CEMENT CONCRETE WITH BROOM NON–SLIP SURFACE.
12. ALL RAMPS SHALL HAVE A 24" WIDE DETECTABLE WARNING PANEL EXTENDING THE FULL WIDTH OF THE FLUSH RAMP EDGE.

ACCESSIBLE CURB RAMPS (AR)
SCALE: N.T.S.



1. CONTRACTION JOINTS SPACE TO BE EQUAL TO SIDEWALK WIDTH.
2. EXPANSION JOINTS 30' O/C
3. ALL JOINTS SEALED PER SPEC

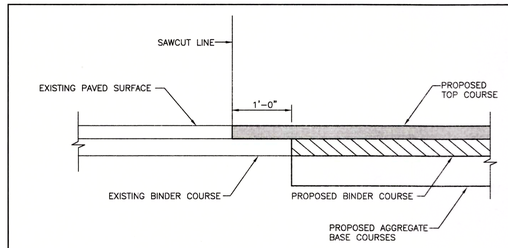
TYPICAL CONCRETE SIDEWALK DETAIL
SCALE: N.T.S.



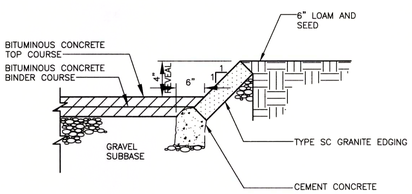
NOTES:

1. PLACE GRAVEL AND CRUSHED STONE AND THOROUGHLY COMPACT SO THAT CURBING IS COMPLETELY SUPPORTED THROUGHOUT ITS LENGTH.
2. CURBING SHALL BE FITTED TOGETHER AS CLOSELY AS POSSIBLE, JOINTS FILLED WITH CEMENT MORTAR AND NEATLY POINTED ON THE TOP AND FRONT EXPOSED PORTIONS. AFTER POINTING, CURBING SHALL BE CLEANED OF ALL EXCESS MORTAR FORCED OUT OF JOINTS.
3. SEE DWG. C–4 FOR LOCATION.

TYPE A CURB (PRE-CAST CONCRETE) DETAIL
SCALE: N.T.S.



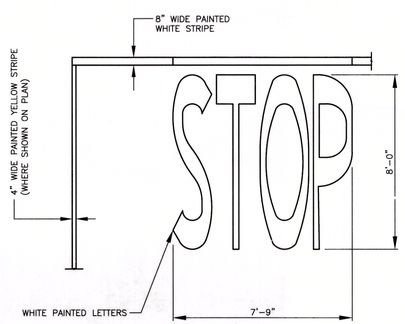
TYPICAL MATCH EXISTING PAVEMENT DETAIL
SCALE: N.T.S.



NOTES:

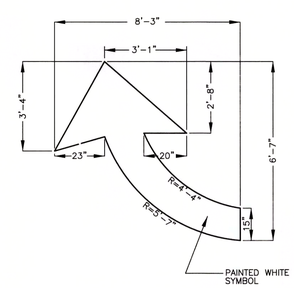
1. PLACE GRAVEL TO SETTING EDGING. SPACES BEHIND THE EDGING SHALL BE FILLED WITH GRAVEL AND THOROUGHLY COMPACTED SO THAT THE EDGING IS COMPLETELY SUPPORTED THROUGHOUT ITS LENGTH.
2. EDGING SHALL BE FITTED TOGETHER AS CLOSELY AS POSSIBLE, JOINTS FILLED WITH CEMENT MORTAR AND NEATLY POINTED ON THE TOP AND FRONT EXPOSED PORTIONS. AFTER POINTING, EDGING SHALL BE CLEANED OF ALL EXCESS MORTAR FORCED OUT OF JOINTS.
3. SEE DWG. C–4 FOR LOCATION.

TYPE B CURB (SLOPED GRANITE) DETAIL
SCALE: N.T.S.



NOTE:
ALL OTHER PAVEMENT LETTERINGS SHALL CONFORM TO THE DIMENSIONS OF THIS DETAIL UNLESS OTHERWISE NOTED.

TYPICAL PAINTED 'STOP' DETAIL
SCALE: N.T.S.



TYPICAL PAINTED TURN ARROW DETAIL
SCALE: N.T.S.

Planning Board

Chairman _____

Vice Chairman _____

Member _____

Member _____

Member _____

DATE APPROVED: _____

DATE ENDORSED: _____

PLANNING BD. FILE NO.: _____

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS RICHARD J. O'CONNELL CIVIL No. 34677 REGISTERED PROFESSIONAL ENGINEER 4/11/16

Designed by:	SPG
Drawn by:	MCR
Checked by:	SPG
Scale:	N.T.S.
Date:	04/11/2016

Prepared for:
NANTUCKET COTTAGE HOSPITAL
57 SOUTH PROSPECT STREET
NANTUCKET, MA 02554
(508) 825-8100

Prepared by:
RJO'CONNELL & ASSOCIATES, INC.
CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
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781-279-0180
FAX: 781-279-0173

Project Name:
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:
SITE DETAILS - I

Drawing No.: **C-9**
Project No.: 13081

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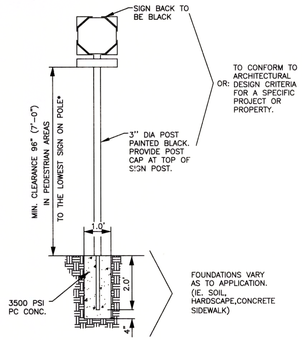
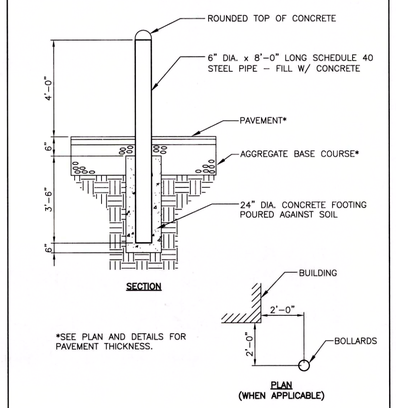
Apr 06, 2016 – 10:56am



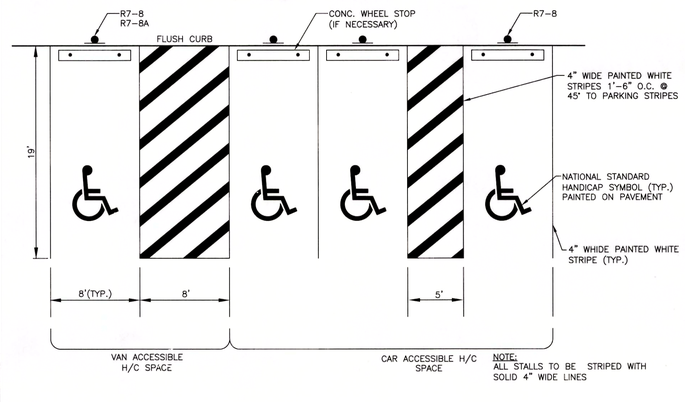
TYPICAL REGULATORY SIGNS, INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
(1) STOP SIGN
(2) YIELD SIGN
(3) SPEED LIMIT SIGN
(4) PEDESTRIAN CROSSWALK
(5) DIRECTIONAL SIGN
*NOTE: IN NON-PEDESTRIAN AREAS ADJUST SIGN HEIGHT FOR CLEAR VISIBILITY BASED UPON SITE SPECIFIC CONDITIONS.

INTERIOR REGULATORY SIGN
SCALE: N.T.S.

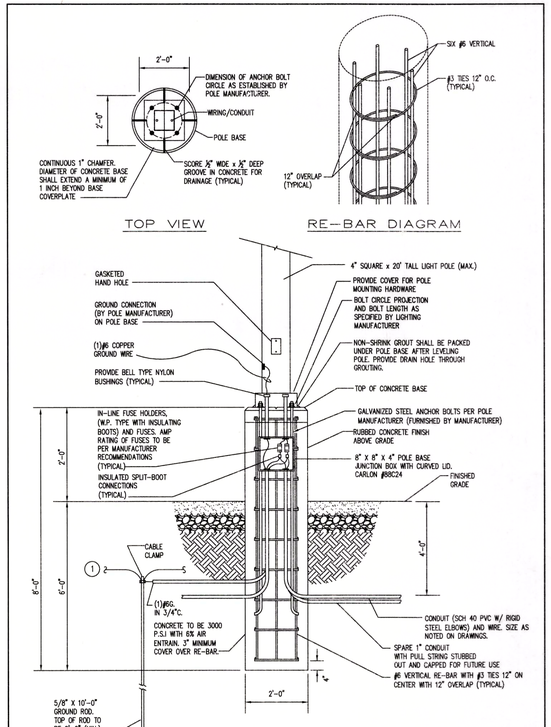


*SEE PLAN AND DETAILS FOR PAVEMENT THICKNESS.

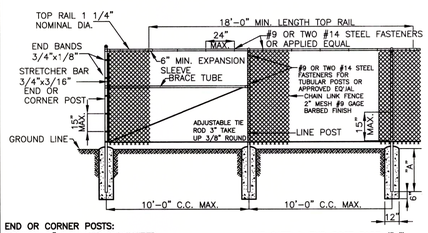
TYPICAL 6-INCH BOLLARD DETAIL
SCALE: N.T.S.



HANDICAP PARKING STALLS DETAIL
SCALE: N.T.S.



LIGHT POLE MOUNTING FOUNDATION
SCALE: N.T.S.



END OR CORNER POSTS:
NOMINAL 2" DIAMETER GALVANIZED STEEL PIPE, OR 2 1/2"x2"H SECTION.

LINE POSTS:
NOMINAL 1-1/2" DIAMETER GALVANIZED STEEL PIPE OR 1-7/8"x1-5/8" STEEL H SECTION.

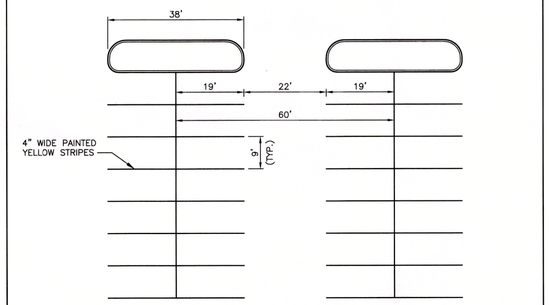
BRACE TUBES
NOMINAL 1-1/4" DIA. GALVANIZED STEEL PIPE.

LINE GATE & END POST BASE ("A")
2'-6" FOR 4 FT. FENCE. 3'-0" FOR 6 FT. FENCE. 5'-0" FOR ALL OTHERS

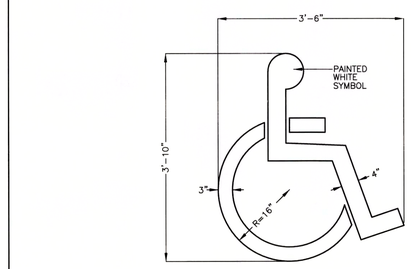
STRETCHER BARS LENGTH TO BE 1 INCH LESS THAN FULL HEIGHT OF FABRIC. ONE STRETCHER BAR FOR EACH GATE & END POST & TWO STRETCHER BARS FOR CORNER & BRACING.

NOTES:
1.ROUND BASES MAY BE SUBSTITUTED FOR THE SQUARE BASES SHOWN BY USING FIBER TUBULAR FORMS.
2.BRACING NOT REQUIRED FOR 4'-0" FENCE

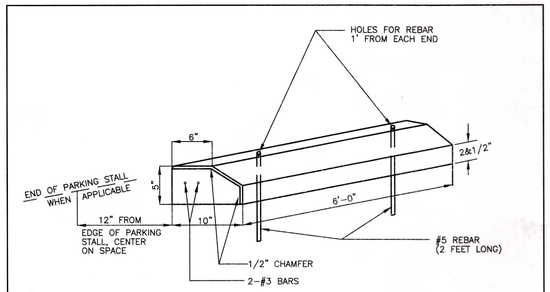
TYPICAL CHAIN LINK FENCE DETAIL
SCALE: N.T.S.



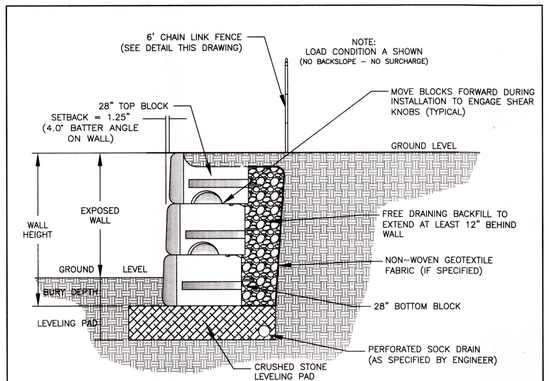
TYPICAL PARKING LOT STRIPING DETAIL
SCALE: N.T.S.



TYPICAL PAINTED HANDICAP SYMBOL DETAIL
SCALE: N.T.S.

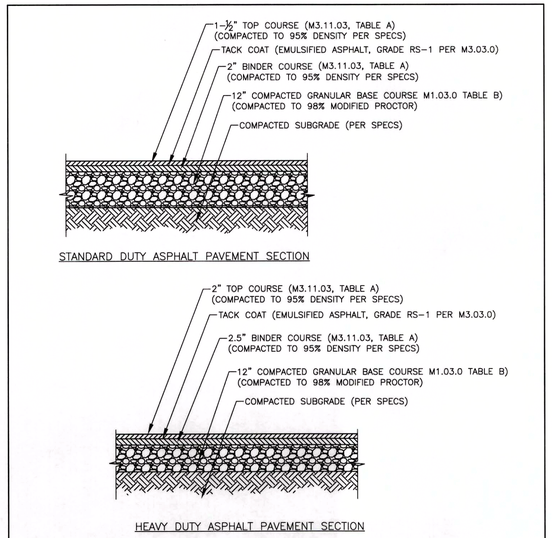


TYPICAL PRECAST CONCRETE WHEEL STOP DETAIL
SCALE: N.T.S.

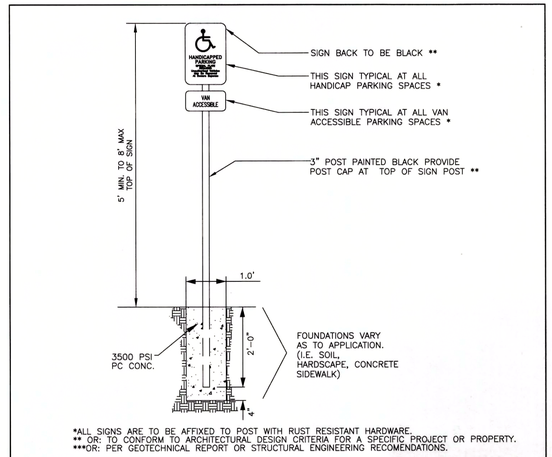


SEE REDI-ROCK.COM FOR DETAILED SECTION DRAWINGS OF EACH CONDITION SHOWN IN THE DESIGN CHARTS

TYPICAL GRAVITY 'DESIGN BUILD' WALL WITH 28-INCH BLOCKS (REDI-ROCK)
SCALE: N.T.S.



PAVEMENT SECTION
SCALE: N.T.S.



*ALL SIGNS ARE TO BE AFFIXED TO POST WITH RUST RESISTANT HARDWARE.
** OR: TO CONFORM TO ARCHITECTURAL DESIGN CRITERIA FOR A SPECIFIC PROJECT OR PROPERTY.
***OR: PER GEOTECHNICAL REPORT OR STRUCTURAL ENGINEERING RECOMENDATIONS.

HANDICAP SIGN ASSEMBLY WITHOUT BOLLARD
SCALE: N.T.S.

Planning Board

Chairman _____

Vice Chairman _____

Member _____

Member _____

Member _____

DATE APPROVED: _____

DATE ENDORSED: _____

PLANNING BD. FILE NO.: _____

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: COMMONWEALTH OF MASSACHUSETTS RICHARD J. O'CONNELL CIVIL No. 34677 REGISTERED PROFESSIONAL ENGINEER 4/11/16

Designed by:	SPG
Drawn by:	MCR
Checked by:	SPG
Scale:	N.T.S.
Date:	04/11/2016

Prepared for:
NANTUCKET COTTAGE HOSPITAL
57 SOUTH PROSPECT STREET
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(508) 825-8100

Prepared by:

RJO'CONNELL & ASSOCIATES, INC.
CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
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Project Name:
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:
SITE DETAILS - II

Drawing No.: **C-10**
Project No.: 13081

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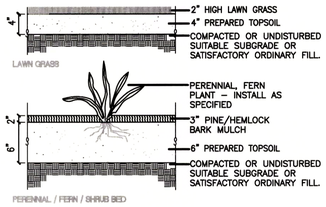
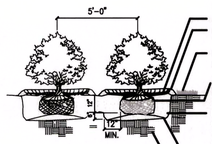
Drawing name: G:\MA\Nantucket\NED\Nantucket Cottage Hospital\Main\13081_C-10 SITE DETAILS-II.dwg
Apr 08, 2016 - 11:00am

FOR OVERALL PLANT MATERIAL LIST / INFORMATION SEE SHEET L-1
FOR ADDITIONAL LANDSCAPE DETAILS SEE SHEET L-3



1 PERENNIAL & LAWN GRASS
SCALE: N.T.S.

NOTE: INCORPORATE HYDROGEL (VITERRA GELSCAPE OR APPROVED EQUAL) AND A FERTILIZER (DRY–ROOTS) AND LIMESTONE (SUPERPHOSPHATE) INTO THE PLANTING MIX DURING THE MIXING PROCESS AT A RATE RECOMMENDED BY THE SOILS TESTING LABORATORY & HYDROGEL MANUFACTURER TO INSURE GOOD GROWTH. PLANTING MIX FOR PLANTS SHALL BE USED WHERE SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED (TREES & SHRUBS PH'S).



NOTES: SHRUB SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS IT BORE TO NURSERY OR FIELD GRADE
SHRUB SHALL BE PLANTED PLUMB AND REMAIN SO AFTER WATERING. RAISE AND REPLANT ANY SHRUBS WHICH SETTLE MORE THAN 1" AFTER PLANTING AND WATERING IN.
PRUNE SHRUBS AS DIRECTED BY THE LANDSCAPE ARCHITECT. REMOVE ALL DEADWOOD AND WEEDS.

- 3" SETTLED BARK MULCH IN SAUCER
- PLANT SAUCER, 3" CONTINUOUS NO SAUCER WHERE SHRUBS OCCUR IN BEDS
- FINISH GRADE
- LOOSE OR CRACKED ROOTBALLS WILL NOT BE ACCEPTED
- REMOVE ALL SYNTHETIC BURLAP & LACING COMPLETELY CUT AND REMOVE BURLAP FROM TOP 1/3 OF ROOTBALL
- PLANTING SOIL MIX: BACKFILL IN LOOSE LIFTS OF 6–8" DEPTH. TOP 6" BACKFILL: 1/3 LOAM, 1/3 COMPOSTED MANURE & 1/3 PEAT MOSS. SETTLE WITH THOROUGH WATER SOAKING TWICE IN FIRST 24 HOURS AFTER PLANTING
- MOUND OF SOIL IN CENTER OF PLANT PIT TO SUPPORT BALL AT REQUIRED ELEVATION
- COMPACTED OR UNDISTURBED SUITABLE SUBGRADE OR SATISFACTORY ORDINARY FILL

2 TYPICAL SHRUB PLANTING
SCALE: N.T.S.

NOTE: INCORPORATE HYDROGEL (VITERRA GELSCAPE OR APPROVED EQUAL) AND A FERTILIZER (DRY–ROOTS) AND LIMESTONE (SUPERPHOSPHATE) INTO THE PLANTING MIX DURING THE MIXING PROCESS AT A RATE RECOMMENDED BY THE SOILS TESTING LABORATORY & HYDROGEL MANUFACTURER TO INSURE GOOD GROWTH. PLANTING MIX FOR PLANTS SHALL BE USED WHERE SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED (TREES & SHRUBS PH'S).

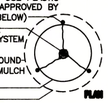
NOTE: TREES SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS IT BORE TO NURSERY OR FIELD GRADE

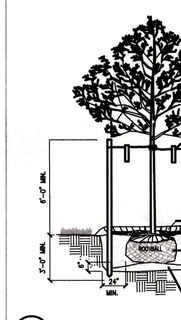
- DEEPROOT ARBOR TIE SYSTEM INSTALL TREE GUYS PER DEEPROOT ARBOR TIE SYSTEM SPECIFICATIONS.
- 4' DIA. MULCH RING AROUND TRUNK 3" DEEP BARK MULCH IN SAUCER
- PLANT SAUCER, 3" CONTINUOUS NO SAUCER WHERE TREES OCCUR IN BEDS
- WHITE PLASTIC FLAGGING 18" ABOVE FINISH GRADE (SEE SPEC.)
- FINISH GRADE
- SET ANGLE OF GUYS TO ENTER GROUND @ LIMIT OF BRANCH SPREAD
- GROUND ANCHORS PER DEEPROOT ARBOR TIE SYSTEM
- CUT & REMOVE BURLAP FROM TOP 1/3 OF ROOTBALL
- PLANTING SOIL MIX: BACKFILL IN LOOSE LIFTS OF 6"–8" DEPTH. SETTLE WITH THOROUGH WATER SOAKING
- MOUND OF SOIL IN CENTER OF PLANT PIT TO SUPPORT BALL AT REQUIRED ELEVATION
- COMPACTED OR UNDISTURBED SUITABLE SUBGRADE OR SATISFACTORY ORDINARY FILL

3 EVERGREEN TREE PLANTING
SCALE: N.T.S.

NOTE: INCORPORATE HYDROGEL (VITERRA GELSCAPE OR APPROVED EQUAL) AND A FERTILIZER (DRY–ROOTS) AND LIMESTONE (SUPERPHOSPHATE) INTO THE PLANTING MIX DURING THE MIXING PROCESS AT A RATE RECOMMENDED BY THE SOILS TESTING LABORATORY & HYDROGEL MANUFACTURER TO INSURE GOOD GROWTH. PLANTING MIX FOR PLANTS SHALL BE USED WHERE SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED (TREES & SHRUBS PH'S).

NOTE: CONTRACTOR MAY USE PLASTIC TREE GUYING CHAIN IF APPROVED BY L.A. C–CHANNEL. (SEE BELOW)

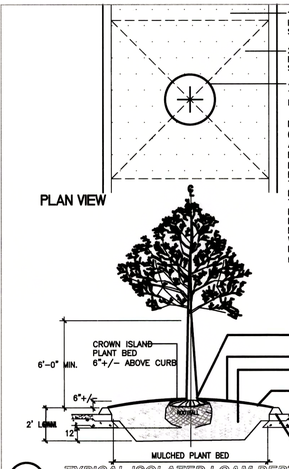




NOTES: TREE SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS IT BORE TO ORIGINAL GRADE BEFORE DIGGING
TREE SHALL HAVE A STRAIGHT TRUNK & SINGLE NO DOUBLE LEADERS SHALL BE ACCEPTED.
IF DIRECTED BY LANDSCAPE ARCHITECT: PRUNE BACK 25% WHILE RETAINING NATURAL SHAPE OF THE TREE. NEVER CUT A LEADER.
TREE SHALL BE PLUMB.

- 1" WIDE WHITE PLASTIC FLAGGING TIED TO ARBOR TIE SYSTEM 1'–0" LONG TAIL
- PROVIDE 2 x 4 WOOD STAKES OR 11 GAUGE C–CHANNEL FOR STAKING; DEEPROOT ARBOR TIE SYSTEM INSTALL TREE GUYS PER DEEPROOT ARBOR TIE SYSTEM SPECIFICATIONS.
- 4' DIA. MULCH RING AROUND TRUNK 3" DEEP BARK MULCH IN PLANT SAUCER, 3" CONTINUOUS
- FINISH GRADE
- CUT & REMOVE BURLAP FROM TOP 1/3 OF ROOTBALL
- PLANTING SOIL MIX: BACKFILL IN LOOSE LIFTS OF 6"–8" DEPTH. SETTLE WITH THOROUGH WATERING TWICE IN FIRST 24 HOURS AFTER PLANTING
- MOUND OF SOIL IN CENTER OF PLANT PIT TO SUPPORT BALL AT REQUIRED ELEVATION

4 DECIDUOUS TREE PLANTING AND STAKING
SCALE: N.T.S.

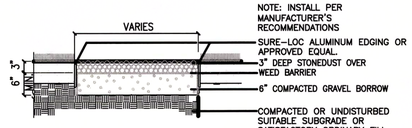


NOTE: INCORPORATE HYDROGEL (VITERRA GELSCAPE OR APPROVED EQUAL) AND A FERTILIZER (DRY–ROOTS) AND LIMESTONE (SUPERPHOSPHATE) INTO THE PLANTING MIX DURING THE MIXING PROCESS AT A RATE RECOMMENDED BY THE SOILS TESTING LABORATORY & HYDROGEL MANUFACTURER TO INSURE GOOD GROWTH. PLANTING MIX FOR PLANTS SHALL BE USED WHERE SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED (TREES & SHRUBS PH'S).

NOTE: 2'–0" LOAM DEPTH IN PLANT PIT, TYPICAL SEE LANDSCAPE PLAN FOR FURTHER PLANTING INFO. SEE SPEC. 02920

5 TYPICAL ISOLATED LOAM DEPTHS
SCALE: N.T.S.

NOTE: INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

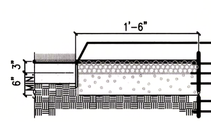


NOTE: INSTALL PER MANUFACTURER'S RECOMMENDATIONS

- SURE–LOC ALUMINUM EDGING OR APPROVED EQUAL.
- 3" DEEP STONEDUST OVER WEED BARRIER
- 6" COMPACTED GRAVEL BORROW
- COMPACTED OR UNDISTURBED SUITABLE SUBGRADE OR SATISFACTORY ORDINARY FILL.

6 STONEDUST WALKWAY W/ ALUMINUM EDGE
SCALE: N.T.S.

NOTE: INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

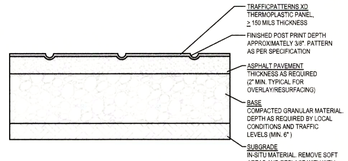


NOTE: INSTALL PER MANUFACTURER'S RECOMMENDATIONS

- SURE–LOC ALUMINUM EDGING OR APPROVED EQUAL.
- 3" DEEP 3/4" ROUNDED GRAVEL OVER WEED BARRIER
- 6" COMPACTED GRAVEL BORROW
- FACE OF BLDG.
- COMPACTED OR UNDISTURBED SUITABLE SUBGRADE OR SATISFACTORY ORDINARY FILL.

7 ALUMINUM EDGE W/ GRAVEL DRIP STRIP
SCALE: N.T.S.

NOTE: INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.



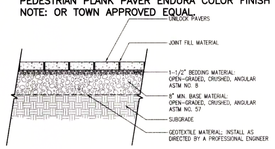
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.

8 STAMPED ASPHALT SURFACING SYSTEM
SCALE: N.T.S.

NOTE: INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

NOTES:
1) THIS PERMEABLE PAVEMENT DETAIL IS A RECOMMENDED MINIMUM AND MUST BE DESIGNED BY A PROFESSIONAL ENGINEER.
2) ALL AGGREGATE MATERIAL SHALL BE CRUSHED, ANGULAR STONE AND FREE OF FINES.
3) COMPACT SUBSOIL WITH A CALIFORNIA BEARING RATIO (CBR) OF LESS THAN 5% AS DIRECTED BY A PROFESSIONAL ENGINEER.
4) SURFACE SLOPE SHALL BE A MINIMUM OF 1% AND A MAXIMUM OF 5%.
5) INSTALL PVC UNDERDRAIN PIPE WHERE INFILTRATION RATE OF SUBSOIL IS LESS THAN 0.5 IN./HR. SIZE AS DIRECTED BY A PROFESSIONAL ENGINEER.
6) NEVER BUILD PERMEABLE PAVEMENTS ON ORGANIC CLAY SOILS OF HIGH PLASTICITY AND/OR PEAT, MUCK, SOILS WITH HIGH ORGANIC CONTENT.
7) MAINTAIN A MINIMUM DISTANCE OF 2' BETWEEN BOTTOM OF PERMEABLE BASE AND WATER TABLE.
8) THE MINIMUM AGGREGATE THICKNESSES ARE AFTER COMPACTION.
9) CROWN ROADWAY APPLICATIONS AT A 1.5 TO 1.7% SLOPE FOR INCREASED PAVEMENT STIFFNESS. (CROWNING IS NOT FOR DRAINAGE PURPOSES.)
10) ONLY USE CRUSHED, ANGULAR GRANITE CHIPS FOR JOINT MATERIAL IN ROADWAY APPLICATIONS.

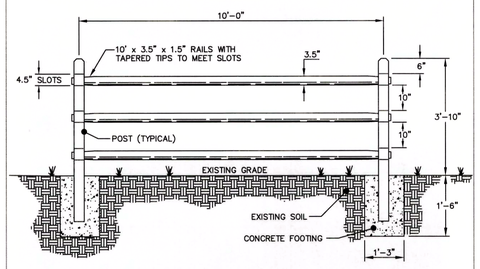
UNILOCK (4X16) PATTERN B PROMENADE
UNILOCK (4X16) PATTERN C PROMENADE
PEDESTRIAN PLANK PAVER ENDURA COLOR FINISH
NOTE: OR TOWN APPROVED EQUAL.



9 PEDESTRIAN PLANK PAVER DETAIL
SCALE: N.T.S.

NOTES:
1) END POST SHALL BE TERMINAL POST.

NOTE: FENCE TO BE STAINED W/ BLEACHING OIL TO WEATHER, TYP.
3'–10" NANTUCKET (3) SPLIT RAIL CEDAR FENCE OR TOWN APPROVED EQUAL.



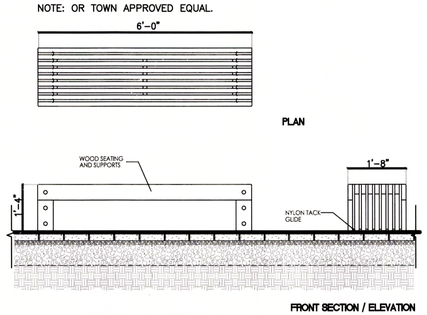
10 NATURAL CEDAR (3) SPLIT RAIL FENCING DETAIL
SCALE: N.T.S.

landscape forms
431 LAWNDALE AVE. KALAMAZOO, MI 49048 PHONE: 800-521-2846 FAX: 269-381-3455

Palisade Bench, 72", Freestanding, Backless

NOTE: OR TOWN APPROVED EQUAL.

NOTE: INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.



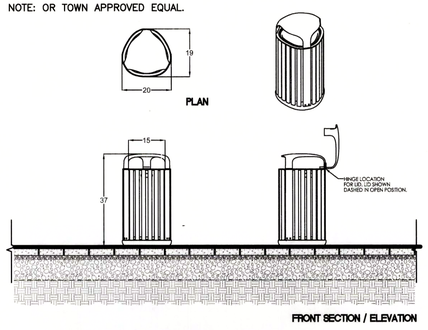
11 LANDSCAPE FORMS 6'-0" LONG PALISADE BENCH
SCALE: N.T.S.

landscape forms
431 LAWNDALE AVE. KALAMAZOO, MI 49048 PHONE: 800-521-2846 FAX: 269-381-3455

FGP Side opening litter receptacle, wood

NOTE: OR TOWN APPROVED EQUAL.

NOTE: INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.



12 LANDSCAPE FORMS FGP TRASH RECEPTACLE
SCALE: N.T.S.

Planning Board

Chairman _____
Vice Chairman _____
Member _____
Member _____
Member _____

DATE APPROVED: _____
DATE ENDORSED: _____
PLANNING BD. FILE NO.: _____

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: MASSACHUSETTS WILLIAM JOHN FLEMING NO. 789 LANDSCAPE ARCHITECT
4.11.16

Designed by:	WJF
Drawn by:	WFF
Checked by:	WJF
Scale:	AS NOTED
Date:	04/11/2016

Prepared for:
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Prepared by:
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Project Name:
NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:
LANDSCAPE DETAILS

Drawing No.: **L-2**
Project No.: 13081

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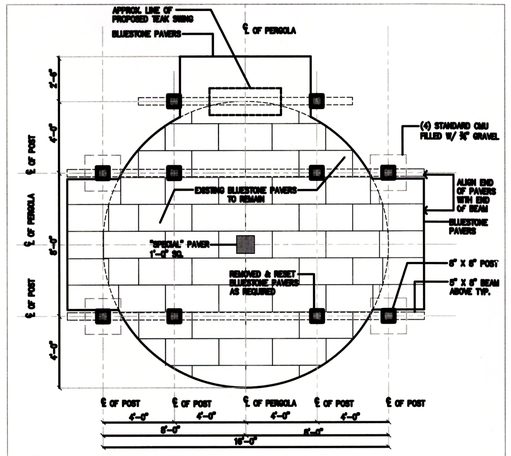
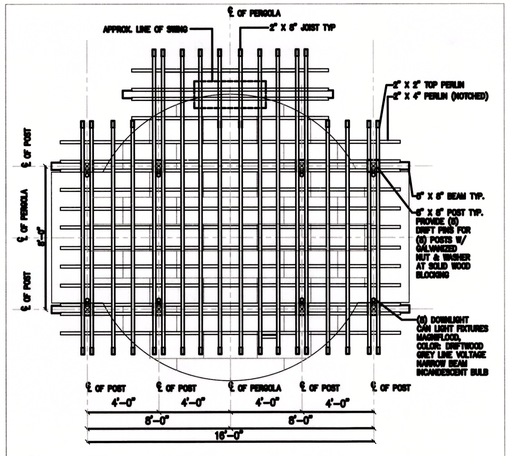
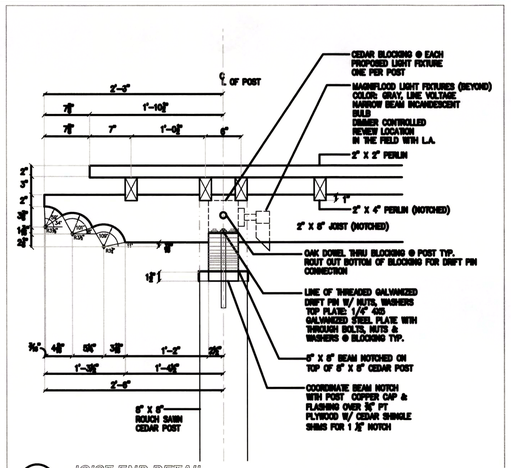


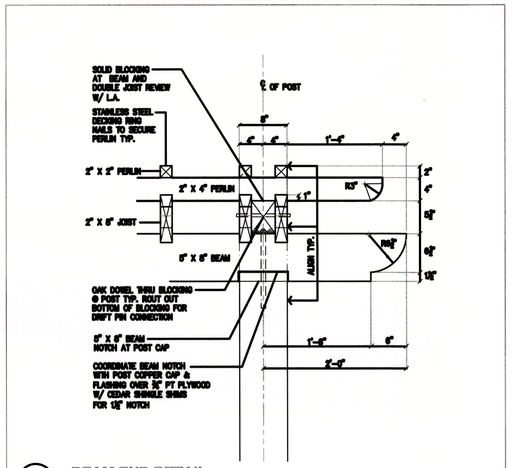
1 PERGOLA PLAN
SCALE: 1/4"=1'-0"



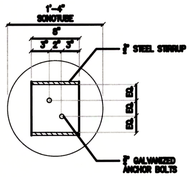
2 PERGOLA ROOF PLAN
SCALE: 1/4"=1'-0"



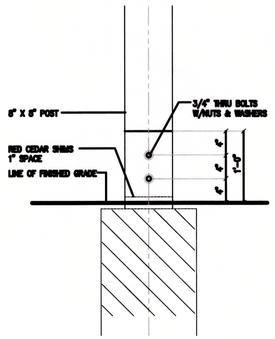
3 JOIST END DETAIL
SCALE: 1"=1'-0"



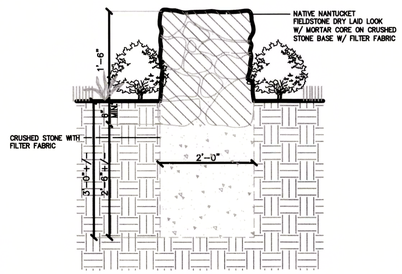
4 BEAM END DETAIL
SCALE: 1"=1'-0"



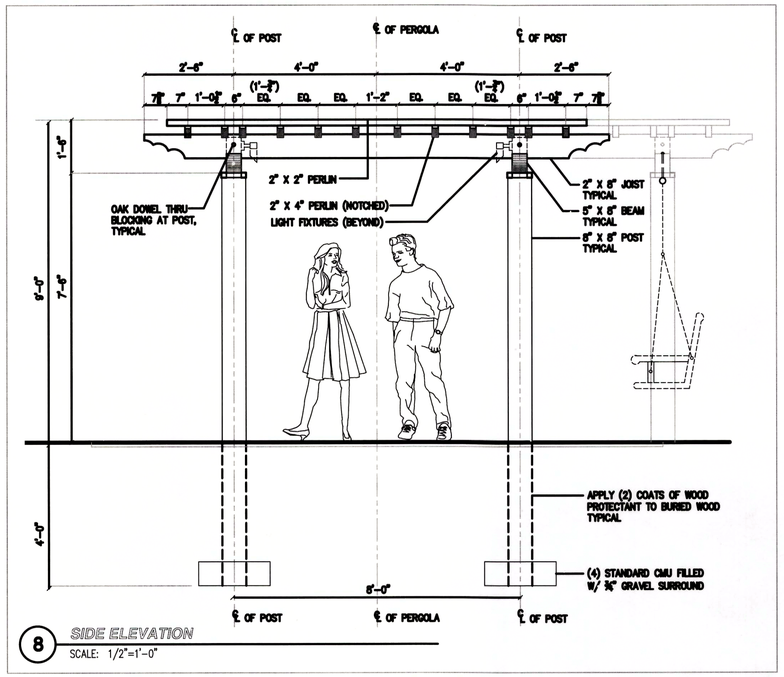
5 POST / SONOTUBE PLAN
SCALE: 1"=1'-0"



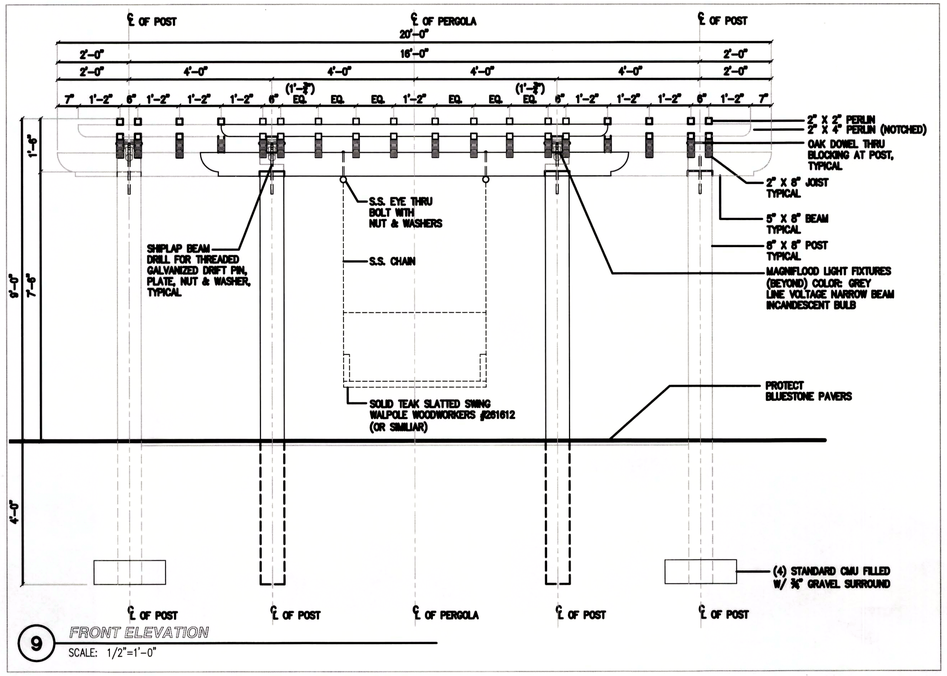
6 POST / SONOTUBE ELEVATION
SCALE: 1"=1'-0"



7 SECTION THRU FIELDSTONE WALL
SCALE: 1"=1'-0"



8 SIDE ELEVATION
SCALE: 1/2"=1'-0"



9 FRONT ELEVATION
SCALE: 1/2"=1'-0"

PERGOLA SPECIFICATIONS:

1. ALL WOOD COMPONANTS ROUGH SAWN, EASTERN HEMLOCK.
2. PRIOR TO ASSEMBLY, ALL NOTCHES SHALL BE COATED WITH (1) COAT OF A CLEAR PRESERVATIVE (BLEACHING OIL). 30 DAYS AFTER INSTALLATION, APPLY ANOTHER COAT. 30 DAYS LATER, APPLY ANOTHER COAT.
3. (2) 3/4" DIA. X 1'-6" LONG THREADED HOT DIPPED GALVANIZED ANCHOR BOLTS W/GALV. NUT AND WASHERS PER SONOTUBE FOOTINGS.
4. (4) ⅛" THICK STEEL STIRRUP 8x8 WITH
   (2) VERTICAL PLATES 8x1'-0".
   (2) ¾" GALV. THREADED RODS WITH GALV. NUTS AND WASHERS.
5. (4) COPPER CAP FLASHING, REVERSE PAN.
6. (4) 8" X 8" X 8' LONG HEMLOCK POSTS. (SEE DETAIL).
7. (2) 6" X 10" HEMLOCK BEAMS, 19'-6"+/-, NOTCHED ON TOP OF POST, SHIP LAPPED.
8. (14) 2" X 10" HEMLOCK JOISTS, 13'-0"+/-, NOTCHED ON TOP OF BEAMS.
9. (7) 2" X 4" PERLIN, 16'-4" +/-, NOTCHED ON TOP OF JOISTS AND TOE NAILED.
10. (14) 2" X 2" PERLIN, 10'-0" +/-, NAILED.
11. ALL FASTNERS TO BE STAINLESS STEEL.
12. (4) 3/4" DIA. GALVANIZED THRU BOLTS W/NUTS AND WASHERS AT SOLID WOOD BLOCKING.
13. NOTE: EASTERN HEMLOCK IS RS GREEN AND MUST BE INSALLED AND ALLOWED TO DRY FOR 30 DAYS.

Planning Board

Chairman _____

Vice Chairman _____

Member _____

Member _____

Member _____

DATE APPROVED: _____

DATE ENDORSED: _____

PLANNING BD. FILE NO.: _____

No.	Revision	Date
1.	ISSUED FOR SITE PLAN REVIEW	04/11/2016

Seal: MASSACHUSETTS WILLIAM JOHN FLEMING REGISTERED LANDSCAPE ARCHITECT NO. 46 — 4.11.16

Designed by:	WJF
Drawn by:	WFF
Checked by:	WJF
Scale:	AS NOTED
Date:	04/11/2016

Prepared for:

NANTUCKET COTTAGE HOSPITAL

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Project Name:

NEW NANTUCKET COTTAGE HOSPITAL
NANTUCKET, MA

Drawing Name:

LANDSCAPE DETAILS

Drawing No.: **L-3**

Project No.: 13081

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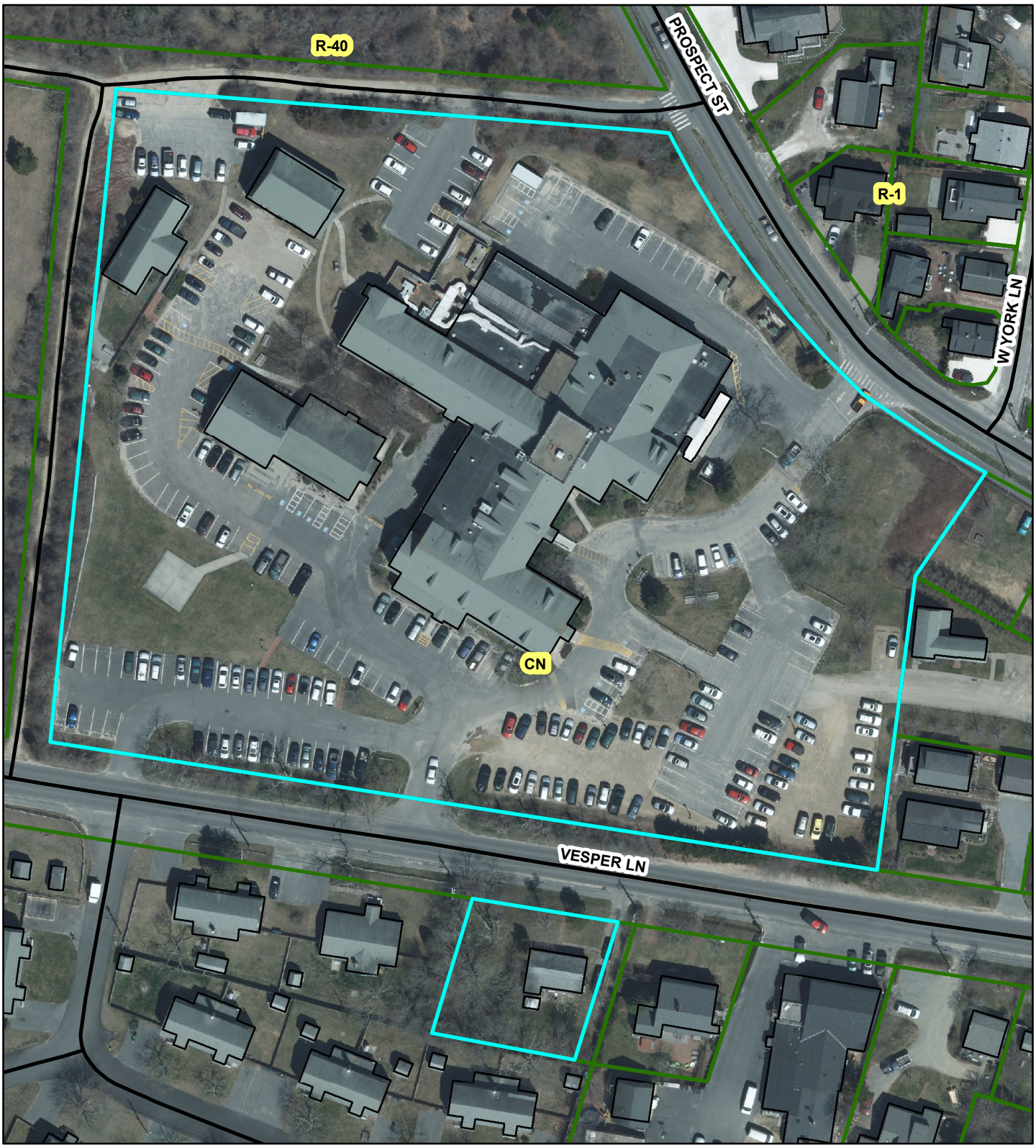
#25-16 Site Plan Review
Nantucket Cottage Hospital
57 & 59 South Prospect Street and 10 Vesper Lane
Map 55 Parcel 3, 130, 249 & 805



Stormwater Report

Nantucket Cottage Hospital
57 South Prospect Street
Nantucket, MA 02554

Prepared for:

Nantucket Cottage Hospital
57 South Prospect Street
Nantucket, MA 02554

Prepared by:

R.J. O'Connell & Associates, Inc.
80 Montvale Ave, Suite 201
Stoneham, MA 02180

Date:

April 11, 2016

COMMONWEALTH OF MASSACHUSETTS
RICHARD J. O'CONNELL
CIVIL
No. 34677
REGISTERED PROFESSIONAL ENGINEER

4/8/16

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- Summary of Hydraulic Conductivity Results

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- Pre-Redevelopment Hydrological Computations
- Post-Redevelopment Hydrological Computations

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- Subsurface Structures Information from Massachusetts Stormwater Handbook
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I. STORMWATER REPORT NARRATIVE

1.0 Introduction

R.J. O'Connell & Associates, Inc. (RJOC) has prepared this stormwater report on behalf of Nantucket Cottage Hospital for the proposed redevelopment of the Nantucket Cottage Hospital located at 57 South Prospect Street in Nantucket, Massachusetts (refer to Figure 1, "USGS Map"). This study uses the computer program HydroCAD, version 10.00 based on the Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service (SCS) TR-20 Computer Program for Project Formulation Hydrology, to model existing and proposed hydrologic site conditions. The study presents a comparative analysis of pre-redevelopment hydrologic conditions to post-redevelopment conditions and demonstrates that the proposed condition will be a significant improvement over the existing stormwater management condition.

2.0 Site Location and Description

The proposed project is located on a 6.25 acre parcel of land located at 57 South Prospect Street and 59 South Prospect Street in Nantucket, Massachusetts. The site is bounded by South Prospect Street and Surfside Road on the east, Vesper Lane on the south, an undeveloped parcel and Mill Hill Cemetery on the west, and Mill Hill Park on the north. Currently located on the site is the 3-story Nantucket Cottage Hospital, a 1-story medical office building, a 1-story Founder's Building, and a 2-story dormitory building. Also located on-site are approximately 250 paved parking spaces for patients, visitors, and staff. Stormwater runoff along the north and west side of the property is collected in catch basins that discharge either to leaching dry wells or a subsurface infiltration system in the southwest corner of the site. Runoff from the east side of the site sheet flows overland to a surface retention basin in the eastern corner of the property. Most stormwater runoff is retained on-site.

The proposed project also includes work to be done on the parcel at 10 Vesper Lane, which is also owned by the Nantucket Cottage Hospital. This parcel is bounded by Vesper Lane on the north, a residential home on the east, and U.S. Coast Guard apartment housing on the south and west. There is currently a 1-story residential building on the site. There are no drainage structures on the parcel, and the stormwater runoff flows into the Town's drainage system in Vesper Lane.

3.0 Proposed Project

The proposed project consists of the construction of a new 2-story, ±106,605 square foot hospital to replace the existing Nantucket Cottage Hospital. Parking areas will be reconfigured and reconstructed to accommodate approximately 230 vehicles and the existing helipad will be relocated. New utilities, including water, sanitary sewer, electric, and telephone will be provided to serve the proposed facility. South Prospect Street will be widened to accommodate a left hand turn lane into the site, which requires land from the hospital and a reconfiguration of the right-of-way. Construction will be phased to enable the existing hospital building to remain operational during construction of the new hospital. The existing dormitory will be demolished, and the Founder's Building and medical office buildings will be relocated prior to construction.

The proposed work on 10 Vesper Lane includes the relocation or demolition of the existing building. Once that building has been removed, the 1-story Founder's Building from 57 South Prospect Street will be relocated to 10 Vesper Lane.

A stormwater management system has been designed that will improve upon current stormwater runoff conditions, both in terms of peak flow control and water quality. The stormwater system is consistent with the objectives of the Massachusetts Stormwater Management Policy and all the standards for an undeveloped site. Runoff control, water quality improvement, and groundwater recharge will be accomplished by implementing the following drainage improvements:

- Collect storm runoff in catch basins with deep sumps and hooded outlets;
- Construct StormTech subsurface infiltration systems designed with Isolator Rows to remove 80% TSS for the 1-inch water quality volume storm event. Runoff exceeding the 1-inch water quality storm is directed to a StormTech chamber system to be temporarily retained and slowly infiltrated into the ground, thereby reducing the peak rates and volume of runoff discharged from the site;
- Implement a Stormwater Pollution Prevention Plan (SWPPP) to control erosion sedimentation and other construction related impacts in accordance with the requirements of the EPA's NPDES Construction General Permit for Discharges from Construction Activities;
- Implement an Operation and Maintenance Plan (O&M) for the proposed stormwater management system that describes the various components of the system, identifies inspection and maintenance tasks, and provides a schedule to follow, which will ensure the proper long-term performance of the system;
- Implement a Long Term Pollution Prevention Plan (LTPPP) to prevent illicit discharges to the stormwater management system.

The proposed stormwater management measures described above will have no adverse impacts to adjacent properties. Runoff quantity will be reduced, water quality enhanced, and existing conditions improved, resulting in an overall benefit to the surrounding area.

4.0 Compliance with MassDEP Stormwater Handbook

This redevelopment program includes a stormwater management system that will collect, pre-treat, treat, and reduce stormwater runoff in conformance with MassDEP's Stormwater Management Policy. According to Standard 7 in the Massachusetts Stormwater Handbook, a redevelopment project is defined as follows:

- *Development, rehabilitation, expansion and phased projects on previously developed sites, provided the redevelopment results in no net increase in impervious area.*

As a redevelopment project, the portion of the site previously developed is required to meet Standards 2 through 6 to the maximum extent practicable, and shall fully comply with Standards 1, 8, 9 and 10. This redevelopment program results in a net increase in impervious area. To that extent, stormwater Best Management Practices (BMPs) have been incorporated into the design so that the entire site complies fully with all the Stormwater Management Standards as if the site was previously undeveloped.

Standard 1: No new stormwater conveyances may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

Stormwater runoff from paved surface parking areas will be collected in deep sump catch basins with hooded outlets and directed to StormTech Isolator Rows for treatment of 1-inch of runoff from impervious areas prior to retention and infiltration in the chamber systems. These systems will be designed to hold and infiltrate runoff from the 25-year storm event. No new stormwater conveyances discharging untreated stormwater to wetlands or waters of the Commonwealth are proposed.

Standard 2: Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

The proposed redevelopment will retain and infiltrate runoff on-site from all storms up to and including the 25-year event, which will result in a net decrease in peak rates of runoff discharged from the site under post-redevelopment conditions compared to pre-redevelopment rates.

Standard 3: Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determine in accordance with the Massachusetts Stormwater Handbook.

Groundwater recharge will be increased through the use of subsurface infiltration systems sized to retain and infiltrate runoff from roofs and paved surfaces up to and including the 25-year storm event.

Standard 4: Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS).

A redevelopment project is required to meet the pretreatment requirements of Standard 4 (44% TSS removal). Runoff from paved surface parking areas will be collected in catch basins with deep sumps and hooded outlets, and will be directed to StormTech Isolator Rows designed for 80% TSS removal from the 1-inch of runoff from impervious areas of the post-redeveloped project. Any runoff exceeding 1-inch will bypass the Isolator Rows to be retained and infiltrated by the chamber systems.

Standard 5: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable.

The project is classified as a land use with higher pollutant loads (LUHPPL) due to having a parking lot with high intensity use. Stormwater Best Management Practices (BMPs) have been selected that MassDEP has determined suitable for pre-treating and treating runoff from such land uses, including catch basins with deep sumps and hooded outlets and StormTech subsurface

infiltration systems with Isolator Rows. As a result, discharge of stormwater with high pollutant loads will be significantly reduced.

Standard 6: Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook.

A portion of the site is located within a Zone II of a public water supply. Specific structural, stormwater best management practices suitable for managing and treating discharges to this area have been provided.

Standard 7: A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pre-treatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

Most of this project qualifies as a redevelopment project. Although there is an increase in impervious area, stormwater BMPs have been designed so that, not only the increased impervious area, but the entire site complies with all the Stormwater Management Standards.

Standard 8: A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentations, and pollution prevention plan) shall be developed and implemented.

A Stormwater Pollution Prevention Plan (SWPPP) to control erosion, sedimentation and other pollutant sources, and prevent erosion and sediment from moving off-site during construction and land disturbance activities has been developed for this project, and can be found in Appendix E. The SWPPP is preliminary, and subject to change. It will be finalized before construction commences. Erosion and Sediment Control Plans are included in the site plan set.

Standard 9: A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

An Operation and Maintenance Plan (O&M) has been developed and can be found in Appendix F. It will be implemented to ensure the long term, post-construction operation of the stormwater management system.

Standard 10: All illicit discharges to the stormwater management system are prohibited.

An illicit discharge compliance statement is included in the Operation and Maintenance Plan (O&M; refer to Appendix F).

TRANSPORTATION IMPACT ASSESSMENT

NANTUCKET COTTAGE HOSPITAL MODERNIZATION
NANTUCKET, MASSACHUSETTS

Prepared for:

NANTUCKET COTTAGE HOSPITAL
MASSACHUSETTS GENERAL HOSPITAL AFFILIATE

December 2015

Prepared by:

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Dear Reviewer:

This letter shall certify that this *Transportation Impact Assessment* has been prepared under my direct supervision and responsible charge. I am a Registered Professional Engineer (P.E.) in the Commonwealth of Massachusetts (Massachusetts P.E. No. 38871, Civil) and hold Certification as a Professional Traffic Operations Engineer (PTOE) from the Transportation Professional Certification Board, Inc. of the Institute of Transportation Engineers (ITE) (PTOE Certificate No. 993). I am also a Fellow of the Institute of Transportation Engineers (FITE).

Sincerely,

VANASSE & ASSOCIATES, INC.

Jeffrey S. Dirk

Jeffrey S. Dirk, P.E., PTOE, FITE
Principal

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EXECUTIVE SUMMARY

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed reconstruction and modernization of the Nantucket Cottage Hospital located at 57 South Prospect Street in Nantucket, Massachusetts (hereafter referred to as the "Project"). This study was prepared in consultation with the Town of Nantucket and the Massachusetts Department of Transportation (MassDOT); was performed in accordance with MassDOT's *Transportation Impact Assessment (TIA) Guidelines* and the requirements of the Nantucket Planning & Economic Development Commission; and was conducted pursuant to the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports. Based on this assessment, we have concluded the following with respect to the Project:

1. At the completion of the Project, the hospital campus is expected to generate approximately 1,166 vehicle trips on an average weekday (two-way, 24-hour volume), or an increase of 126 vehicle trips over the current volume of traffic generated by the hospital, with 180 vehicle trips expected during the weekday morning peak-hour and 158 vehicle trips expected during the weekday evening peak-hour, both of which represent an increase of 23 vehicle trips over the current volume of traffic generated by the hospital during the weekday peak hours. Increased visitations during the peak summer months may increase the peak-hour traffic volume projections for the hospital campus by between 40 and 50 vehicle trips over average-month conditions, with the daily traffic volume projection increasing by approximately 320 vehicle trips;

2. The addition of Project-related traffic to the study area intersections was not shown to result in a significant impact on operating conditions (motorist delays or vehicle queuing) at the study intersections over anticipated future conditions without the Project (No-Build average or peak-month conditions). Under average-month traffic conditions, the addition of Project-related traffic was shown to result in a degradation in level-of-service at only one (1) of the six (6) study area intersections; under peak-month traffic conditions, no intersections were shown to experience a degradation in level-of-service as a result of the Project;

3. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study intersections; and

4. Lines of sight at the Project site driveway intersections with South Prospect Street and Vesper Lane were found to exceed or could be made to exceed the required minimum sight distance for the appropriate design speed along the intersecting roadways, excepting a slight

limitation at the north Project site driveway on South Prospect Street which can be addressed with the installation of an advance warning sign (discussion follows).

Based on the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

RECOMMENDATIONS

A detailed transportation improvement program has been developed that is designed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

Project Access

Access to the Project site will be provided by way of four (4) driveways as follows: two (2) driveways that will intersect the north side of Vesper Lane consisting of an east driveway that will be located approximately 240 feet west of Surfside Road and will serve the primary parking field for the Project, and a west driveway that will be situated parallel to the west property line at the location of an existing gravel road and will serve the loading area for the reconstructed hospital building and as a connection to the northern access road within the campus; two (2) driveways that will intersect the west side of South Prospect Street consisting of a south driveway that will be located approximately 160 feet north of West York Lane and will serve as the primary entrance to the campus, and a north driveway that will be situated parallel to the north property line at the location of an existing gravel road and will serve the patient drop-off/pick-up area and the emergency room, with continuing access to the loading area and the west access to Vesper Lane. The existing driveways that serve the campus will be closed or modified as described above in conjunction with the Project. The following recommendations are offered with respect to affording safe and efficient access to the Project site:

- The primary access to the Project site will be from the South Prospect Street south driveway which should provide two (2) exiting travel lanes (separate left and right-turn lanes) and a single entering travel lane separated by a double-yellow centerline or raised median, with a left-turn lane provided on the South Prospect Street northbound approach. Vehicles exiting the primary Project site driveway should be placed under STOP-sign control with a marked STOP-line provided.

- The remaining Project site driveways should be 24-feet in width and accommodate one entering and one exiting travel lane, with vehicles exiting the Project site placed under STOP-sign control with a marked STOP-line provided.

- The South Prospect Street Project site driveways should be designed to incorporate the multi-use path crossing of the driveways in a safe manner, ensuring that clear sight lines are provided to and from the path for motorists, pedestrians and bicyclists (additional recommendations follow).

- All signs and pavement markings to be installed within the Project site shall conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).[1]

[1] *Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

- Sidewalks and crossings compliant with the Americans with Disabilities Act (ADA) should be provided within the Project site linking the proposed buildings and other amenities to the existing sidewalk infrastructure along Vesper Lane and South Prospect Street.

- Signs and landscaping along the roadways internal to the Project site and at the Project site driveway intersections with Vesper Lane and South Prospect Street should be designed and maintained so as not to restrict lines of sight.

- The existing split-rail fence along the Project site frontage on South Prospect Street should be relocated within the site so as to afford the required sight lines along South Prospect Street to and from the Project site driveways. In addition, a sign indicating "Hospital Entrance Ahead" should be installed on South Prospect Street approximately 100 feet south of the north Project site driveway.

- Existing vegetation located along the north side of Vesper Lane and adjacent to the Project site driveways should be trimmed and/or removed in order to provide the required lines of sight along Vesper Lane to and from the Project site driveways.

Off-Site Improvement Measures

Sparks Avenue at Surfside Road, Atlantic Avenue and South Prospect Street (a.k.a. Four Corners)

One or more approaches to this off-set, four-legged, unsignalized intersection were shown to be operating at an overall level-of-service (LOS) "D" during the peak hours under 2015 Existing peak-month traffic volume conditions, conditions that, absent improvements, are expected to degrade in the future independent of the Project. Recognizing these deficiencies, the Town undertook a detailed analysis of improvement strategies for the intersection that included: three (3) roundabout alternatives; installation of the traffic control signal; all-way STOP-sign control; and realignment of the approaches to the intersection. As a result of this evaluation, it was recommended that the intersection be reconstructed as a modern roundabout with a 100-foot diameter center island, and that a right-turn slip-ramp be provided for motorists travelling between Surfside Road northbound and Sparks Avenue eastbound. These improvements were included in the *Draft Nantucket Regional Transportation Plan 2016-2040.*[2] It was identified that the implementation of these improvements would require the acquisition of private property by the Town and the relocation or modification of one or more structures. With the reconstruction of the intersection as a modern roundabout as defined above, the improved intersection was shown to operate at LOS "A" under both average and peak-month conditions with no movement operating below LOS "C".

Recognizing the importance of this intersection in providing access to the Project and the residences and businesses in the area, and the relatively minor impact of the Project on overall operating conditions at the intersection, the Project proponent will work with the Town to advance the design and reconstruction of the Four Corners intersection as a modern roundabout. This effort will include the preparation of design plans for the improvements, up to and including the MassDOT 100 Percent Design/Project Specifications and Estimate (PS&E) design level, and all required supporting documentation for the Town to apply for State funding for the reconstruction of the intersection.

[2] *Draft Nantucket Regional Transportation Plan 2016 – 2040;* Nantucket Planning and Economic Development Commission; 2015.

Surfside Road at Vesper Lane and the Nantucket High School Driveway

All movements from the Vesper Lane approach to Surfside Road were shown to be operating at or over capacity (defined as LOS "E" or "F", respectively) during the peak hours under 2015 Existing peak-month traffic volume conditions. Absent improvements, these operating conditions are predicted to further degrade in the future independent of the Project. A review of the motor vehicle crash history at the intersection did not indicate an inherent safety deficiency. Given the proximity of this intersection to the Four Corners intersection, it is expected that the aforementioned improvements that are contemplated at Four Corners will extend to and include improvements at the Surfside Road/ Vesper Lane/Nantucket High School Driveway intersection. The improvements at Four Corners will provide operational benefits at the Surfside Road/Vesper Lane/Nantucket High School Driveway intersection by: i) reducing vehicle travel speeds approaching the intersection along Surfside Road; and ii) providing additional gaps in the flow of traffic approaching the intersection. In consideration of the Four Corners improvements and the relatively minor impact of the Project at this intersection, no improvements appear to be required to accommodate the relatively minor increase in traffic that is expected as a result of the Project (six (6) additional vehicles during the peak hours).

Pedestrian and Bicycle Improvements

The following pedestrian and bicycle improvements are recommended to provide safe and efficient pedestrian and bicycle access to the Project site:

- The South Prospect Street Project-site driveways and the associated multi-use path crossings will be constructed to provide enhanced safety for pedestrians and bicyclists crossing the driveways. These measures include: i) ensuring that sight lines are sufficient to and from the crossing; ii) providing warning signs for both motorists, pedestrians and bicyclists at and in advance of the crossing; and iii) installing pavement markings or using a textured surface to delineate the crossing from the driveway.

- Work with the Town to improve pedestrian and bicycle crossings along South Prospect Street, Vesper Lane and Surfside Road.

- In consultation with the Town, identify an appropriate location to construct a crosswalk across Vesper Lane to link the sidewalks that are to be constructed within the Project site to the sidewalk along the south side of Vesper Lane.

Transportation Demand Management Measures

At present, the Nantucket Regional Transit Authority (NRTA) does not provide bus service to the Project site; however, the NRTA *Mid-Island Loop* and *Miacomet Loop* bus lines travel along Surfside Road and South Prospect Street, respectively, proximate to the hospital. In addition, the Project will be connected to existing and proposed pedestrian and bicycle facilities in the area. These amenities provide opportunities to reduce automobile trips associated with the Project. In an effort to reduce the overall number of automobile trips in the area and to integrate the Project into the available transportation resources, the following Transportation Demand Management (TDM) measures will be implemented as a part of the Project:

- Assign a full-time, on-site Transportation Coordinator which coordinator may have other duties and responsibilities at the Project;

- Post information regarding public transportation services, maps, schedules and fare information in a central location;
- Provide a "commuting alternatives packet" to employees of the Project detailing available public transportation services, bicycle and walking alternatives, and commuter options available through MassRIDES' and their NuRide program which rewards individuals that choose to walk, bicycle, carpool, vanpool or that use public transportation to travel to and from work;
- Include pedestrian and bicycle accommodations within the Project site including sidewalks and paths linking buildings and on-site parking to sidewalks and bicycle paths along South Prospect Street and Vesper Lane (sidewalks only);
- Work with the Town and the NRTA to construct an NRTA bus stop with shelter within the Project site or along South Prospect Street to accommodate bus service to the Project site;
- Provide preferential parking for alternatively fueled vehicles and for car/vanpools;
- Provide electric vehicle (EV) charging stations in reserved parking spaces, and incorporate infrastructure to allow for future expansion of EV charging stations as demand increases;
- Offer direct deposit for employee paychecks;
- Provide a shower, changing room and locker facility for employees;
- Provide a kitchen facility with a refrigerator and microwave oven for employees;
- To the extent feasible, coordinate employee schedules to be consistent with public transportation schedules;
- Provide a "guaranteed-ride-home" to employees that car/vanpool, use public transportation or that walk/bicycle to work for use in the event of unplanned emergencies that may occur during the workday; and
- Provide secure bicycle parking throughout the hospital campus, including both exterior bicycle racks adjacent to building entrances and weather protected bicycle parking in a secure area.

Traffic Monitoring and Reporting Program

The Project proponent will conduct a post-development traffic monitoring and employee survey program in order to evaluate the success, and to refine the elements, of the TDM program, and to validate the trip projections for the Project. The monitoring program will include:

i) Obtaining traffic volume information over a continuous seven day, weeklong period at the driveways serving the Project site;

ii) Performing manual turning movement and vehicle classification counts at the Project site driveway intersections with South Prospect Street and Vesper Lane during the weekday morning (6:00 to 9:00 AM) and evening (3:00 to 6:00 PM) peak hours;

iii) Evaluating motor vehicle crash data at the Project site driveway intersections with South Prospect Street and Vesper Lane;

iv) Observing parking occupancy and utilization of car/vanpool spaces, alternatively fueled vehicle spaces and electric vehicle charging stations within the Project site;

v) Documenting bicycle parking demands for both outside and inside bicycle parking facilities; and

vi) Conducting an employee survey of commuting modes.

The monitoring program will commence six (6) months after issuance of the first Certificate of Occupancy for the Project and will continue on an annual basis for a period of 2-years thereafter. The results of the monitoring program will be summarized in a report to be provided to the NP&EDC within 2-months after the completion of the data collection effort. The report will document the traffic volumes associated with the Project as occupied at the time that the traffic counts are completed, and use of public transportation resources and alternative modes of transportation to single-occupant vehicles. If the measured traffic volumes exceed the traffic volume projections that form the basis of this assessment by more than 10 percent on a regular and sustained basis during the monitoring period, the Project proponent will identify and undertake corrective measures in conjunction with the appropriate parties and subject to receipt of all necessary rights permits and approvals. These measures may include without limitation:

- Sign and pavement marking installation
- Expansion of the TDM program to provide additional measures and inducements to reduce traffic and parking demands
- Increasing the amount of bicycle parking
- Expanding the number of electric vehicle charging stations, can/vanpool parking spaces and alternatively fueled vehicles if demands equal or exceed the supply provided
- Providing additional on-site amenities to encourage use of public transportation

The identified corrective measures, if any, will be documented in the transportation monitoring and reporting program report, and will identify the appropriate parties responsible for implementation, required approvals, and the timeline for implementation. The status of implementation of the identified improvement measure will be documented in the subsequent monitoring report.

With implementation of the above recommendations, safe and efficient access will be provided to the Project site and the Project can be accommodated within the confines of the existing and improved transportation system.