Environmental Impact Statement

Project:

Proposed Church
3313 Highway 33
Block 3301, Lot 4
Township of Neptune
Monmouth County, New Jersey

Applicant:

Galilee Eglise Adventiste, Inc.
3313 Highway 33
Neptune, New Jersey 07753

December 13, 2022

100 Overlook Center, Second Floor, Princeton, NJ 08540

EXECUTIVE SUMMARY

This Environmental Impact Statement has been prepared in support of the Preliminary and Final Site Plan application for the Galilee Eglise Adventiste, Inc. church project. The overall project site consists of 3.24 acres and is located on the north side of Corlies Avenue (NJ State Highway 33), approximately 2,200 feet east of West Bangs Avenue in the Township of Neptune, Monmouth County, New Jersey. The tract is also known as 3313 Highway 33 and designated as Block 3301, Lot 4 on the official tax map of the Township of Neptune.

The proposed development is shown on the Preliminary and Final Site Plan prepared by B&G Engineering, LLC, dated December 5, 2022.

The project will not cause significant adverse impacts on the topographic, soil, geological, ecological, hydrologic, water quality, air quality or noise environments at the site or in the surrounding area. Freshwater wetlands boundaries have been delineated and verification by the NJDEP Division of Land Resource Protection is pending. Unavoidable adverse environmental impacts include an increase from 0.21 acre to approximately 1.02 acres of impervious surfaces on the site (32 percent of the overall site). The site plan includes utilization of an on-site stormwater management basin to reduce the peak runoff of stormwater on the site. Impacts to surface water quality will be minimized by the treatment of stormwater within the on-site stormwater management facility. Potential impacts from air pollution, water pollution and noise will be short-term and minimal.

Overall, the proposed project plans are compatible with the environmental conditions at the site, the surrounding residential development and Neptune Township Zoning Ordinance and Master Plan.

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Environment. Health. Safety.

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1.0 Project Location and Description

This document has been prepared in accordance with the requirements of Article VIII, Section 811.01 of the Land Development Ordinance for the Township of Neptune in support of the Preliminary and Final Site Plan and Minor Subdivision application for Galilee Eglise Adventiste, Inc. (hereinafter referred to as the "project"). The document analyzes the existing conditions and potential impacts associated with the project on this site as shown on the Preliminary and Final Site Plan prepared by B&G Engineering, LLC, dated December 5, 2022. The Site Plan is included in **Appendix D**.

1.1 Site Location

The 3.24-acre tract is located on the north side of Corlies Avenue (NJ State Highway 33), approximately 2,200 feet east of West Bangs Avenue in the Township of Neptune, Monmouth County, New Jersey (hereinafter referred to as the "project site"). The tract is also known as 3313 Highway 33 and designated as Block 3301, Lot 4 on the official tax map of the Township of Neptune. The project site contains an existing residence with an attached 1-car garage, several detached accessory structures and undeveloped woodlands. Topographically, the project site generally slopes from south to north. The location of the project site is shown on the USGS Topographic Map (Asbury Park, NJ Quadrangle), the Monmouth County Road Map, the Neptune Township Tax Map and Neptune Township Zoning Map in Figures 1 through 4, respectively, which follow.

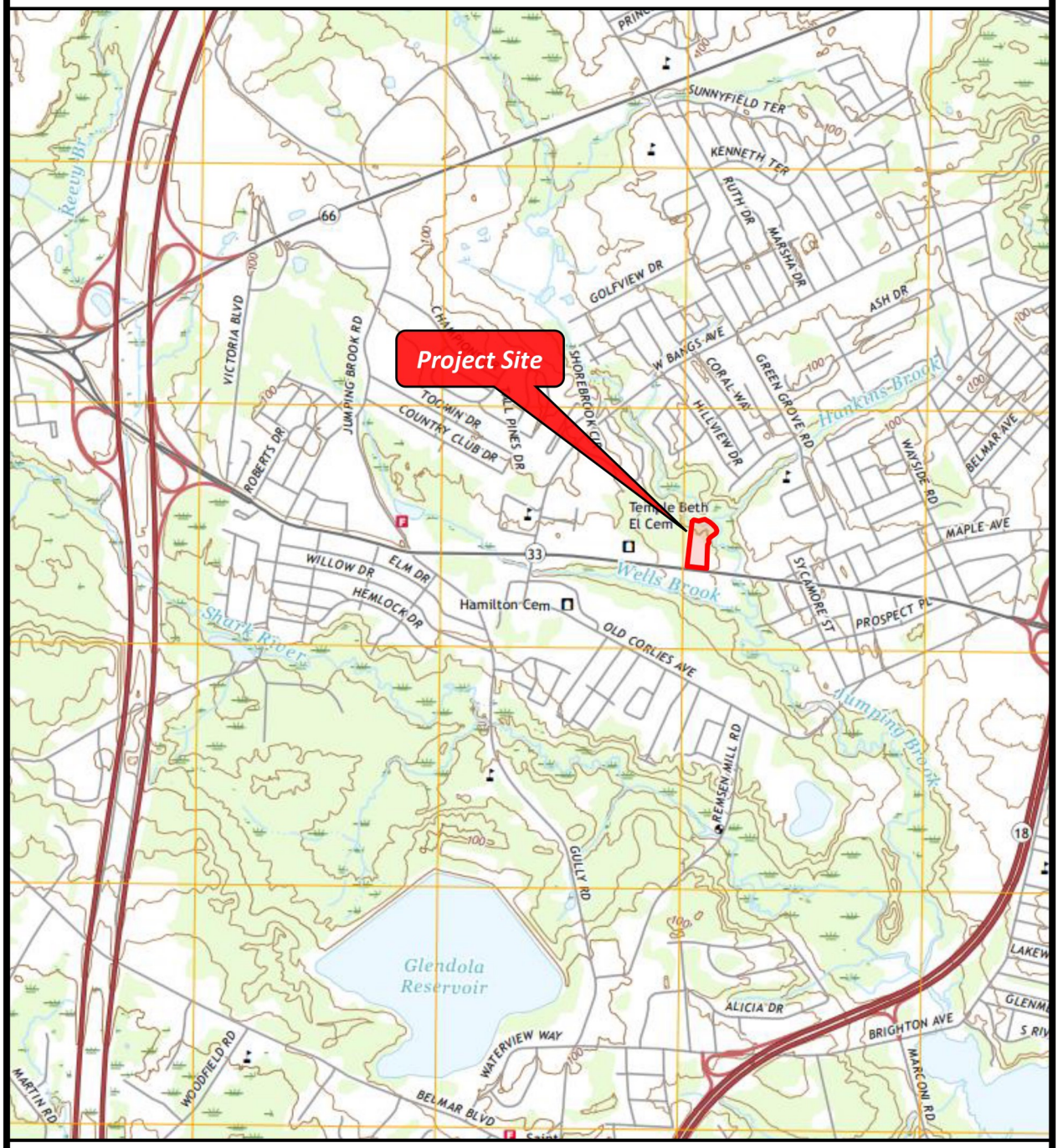
1.2 Zoning

The project site is situated within the R-2 (Low-Density Single-Family Residential) Zone of Neptune Township. Adjacent properties to the west, north and east are also situated within the R-2 Zone. Adjacent properties to the south are situated within the C-5 (Route 33W Commercial) Zone. According to the Neptune Township Land Development Ordinance, permitted uses in the R-2 Zone include Places of Worship. The church use proposed for the project site is a permitted use of this zone.

1.3 Project Description

The project site will be developed in accordance with the requirements of the R-2 Zoning District. The applicant proposes to construct a 1-story, 4,000-square foot church sanctuary, with a basement, adjacent to the existing 1.5-story dwelling. The church sanctuary will be physically connected to the existing house (garage section), and the existing house will be converted to religious office spaces and ancillary uses. The project also includes an improved vehicular driveway from Highway 33, the provision for a paved parking area accommodating 64 vehicles, the installation of new stormwater facilities, including an infiltration basin designed in accordance with the New Jersey Stormwater Management Rules (N.J.A.C. 7:8).

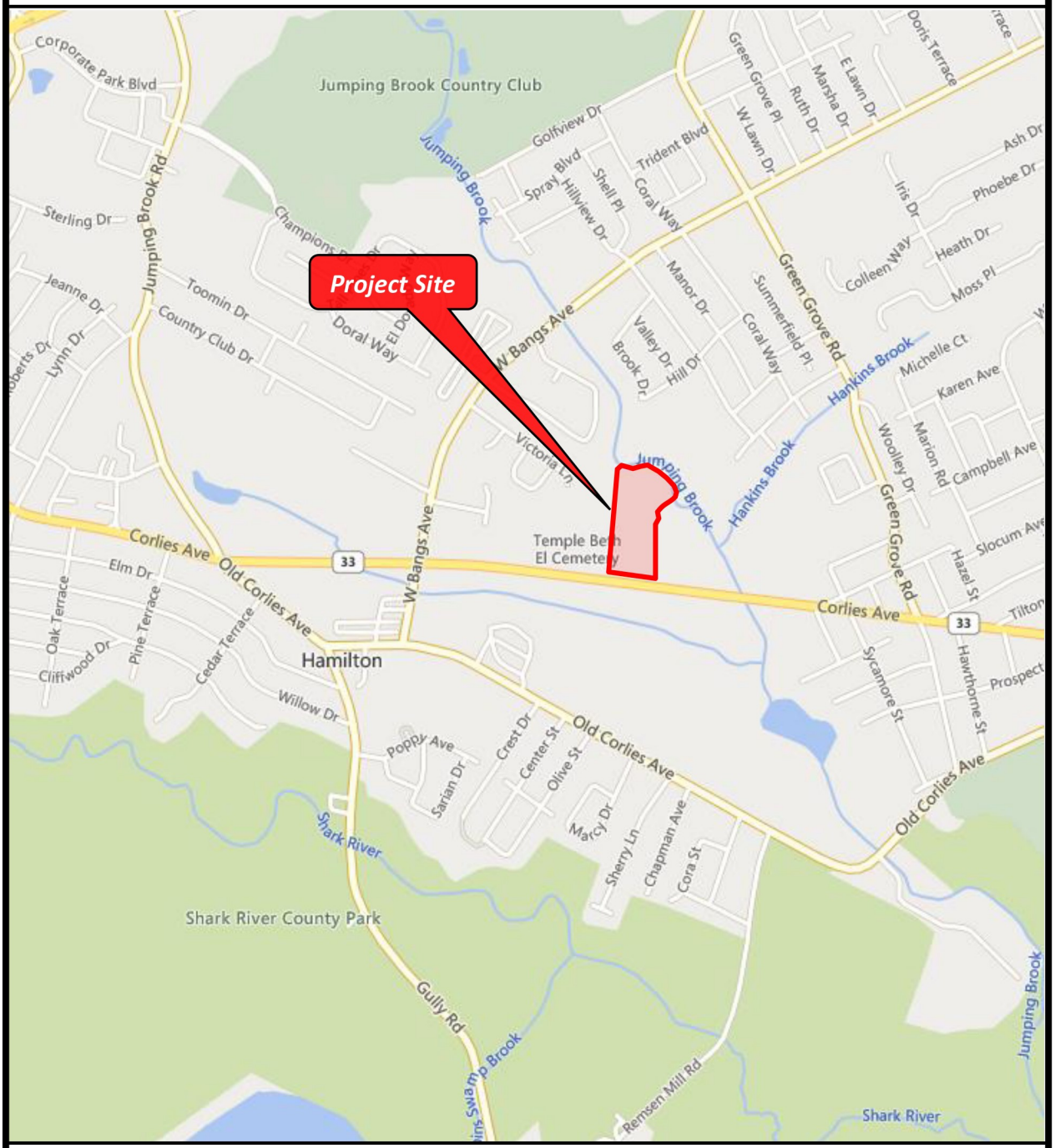
Figure 1
Project Location Map



NJ State Plane Coordinates: 612,020 feet (E), 501,471 feet (N)

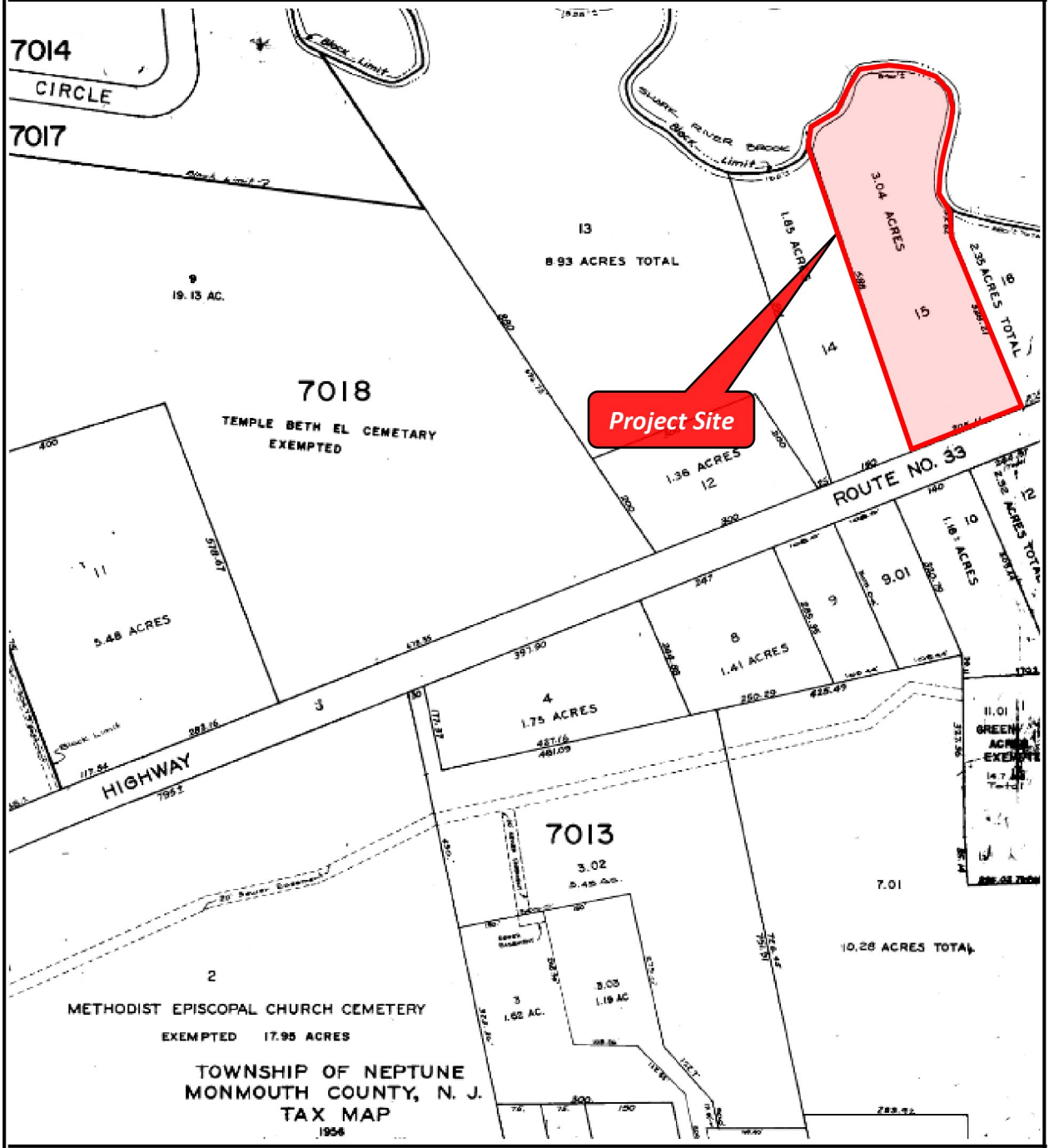
Map Source: USGS 7.5-Minute Series, Asbury Park, NJ Quadrangle (2019)

Figure 2
Road Map



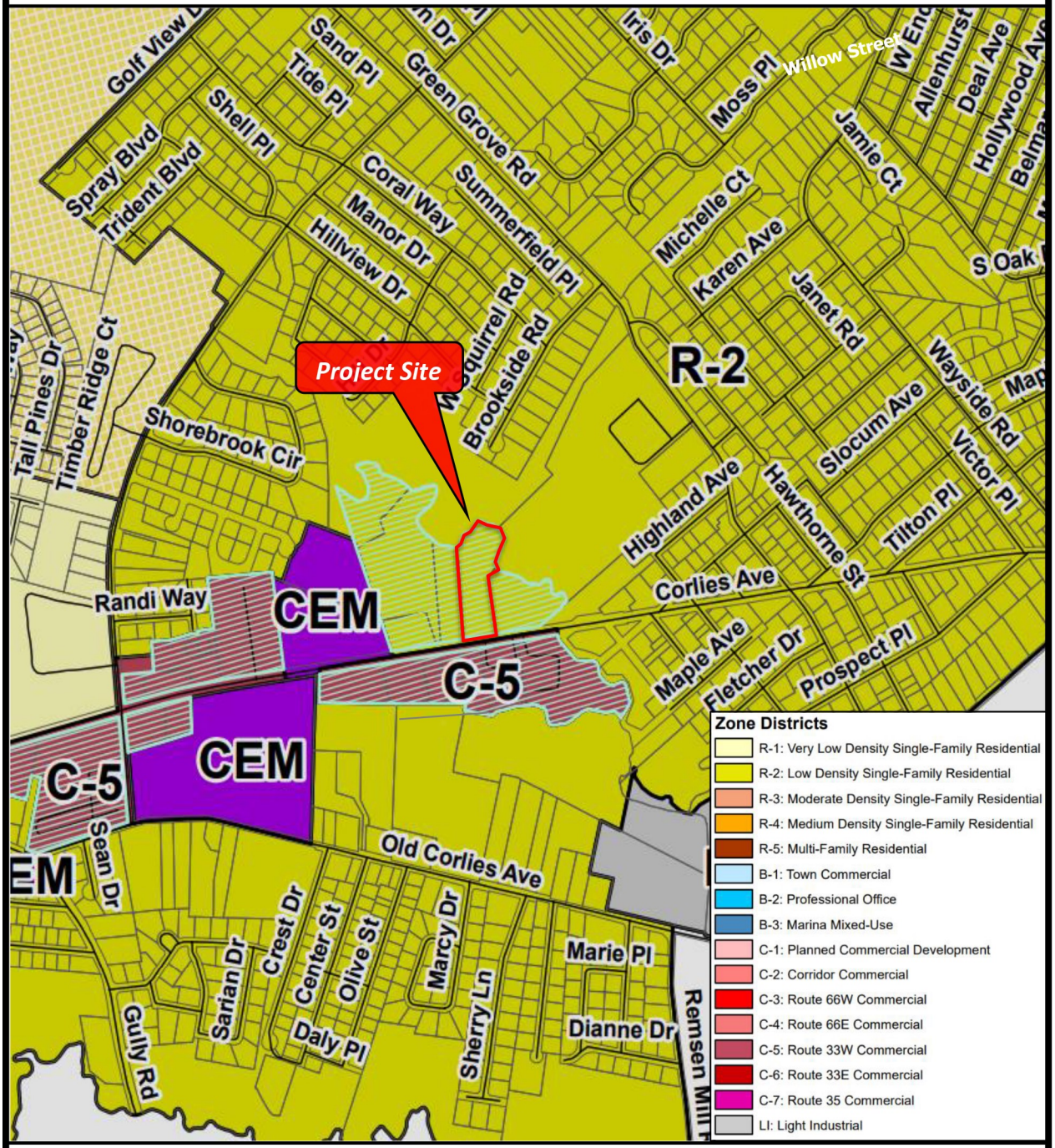
Map Source: NEPAssist EnviroMapper

Figure 3
Tax Map



Map Source: Township of Neptune

Figure 4
Zoning Map



Map Source: Township of Neptune

1.4 Service Demands

The proposed development will not generate any new residents to Neptune Township. The need for additional police, fire and rescue personnel is not anticipated, as a result of this project. The impact on public services is anticipated to be minimal.

1.5 Water Supply

The existing facility receives its potable water service from an on-site well. The proposed water demand will slightly increase for the proposed sanctuary use. The existing well will be able to accommodate the additional demand for potable water use.

1.6 Sewerage Systems

The existing facility discharges its sanitary wastewater via a 4-inch sanitary lateral to the municipal sewer utility's system located along Highway 33. The proposed increase in sewer discharge to the system will only slightly increase with the addition of the proposed sanctuary.

1.7 Solid Waste/Recycling

The Township of Neptune provides solid waste and recycling collection services to the Township. During construction, solid waste handling and removal will be handled by the contractor.

1.8 Operation and Construction Phases

1.8.1 Construction Phase

The construction sequence is as follows:

- Install all preconstruction soil erosion and sediment control measures.
- Clear site as shown on the project site plan with appropriate soil erosion control facilities.
- Provide and install temporary stabilization measures.
- Installation of infiltration basin.
- Installation of proposed utilities.
- Installation of additional inlet protections at new inlets.
- Construction of sanctuary building.
- Site grading for parking lot.
- Installation of concrete curb and sidewalks.
- Installation of pavement base courses.
- Installation of pavement surface courses.
- Regrading and stabilization of lawn areas.
- Installation of landscaping material.
- Removal of soil erosion and sediment control measures.

Qualified contracting firms for various disciplines will be retained to oversee the day-to-day construction of the overall site development. Construction will be completed in accordance with the approved construction plan. Contractors experienced with building construction, paving and earthwork will be employed.

Construction access for the project site will be from the existing driveway at Highway 33. A stabilized construction entrance in accordance with the "Standards for Soil Erosion and Sediment Control in New Jersey" will be utilized. The areas of the project site where improvements are proposed will be stripped of any existing vegetation and topsoil. All deleterious materials encountered below grade will be removed. Any soft or unsuitable materials will also be removed. Any subsurface utilities and or abandoned structures present below the ground surface will be relocated or removed. The area of the building, as well as any proposed pavement or concrete areas will be proof-rolled and compacted. Any imported structural material, if required, will be placed in lifts not exceeding 10-inches and compacted.

All necessary precautions and preventative measures will be implemented during construction to prevent adverse environmental impacts to the greatest extent practicable. An approved Soil Erosion and Sediment Control Plan will be followed to reduce erosion and sedimentation. The contractors, during dry weather, will water areas prone to dust, especially areas used by trucks, to control dust. Construction will be performed in accordance with local, State and Federal OSHA safety regulations. The side slopes of any excavations will be maintained at a one-to-one slope above the water table and even less steep below the water table.

The General Services Administration has developed Construction-Noise Specifications noise levels not to be exceeded at a distance of 50 feet for different types of construction equipment. Most construction equipment will maintain a noise level of 75 dB(A). Pneumatic tools, scrapers and pavers may be as loud as 80 dB(A). Occupational noise levels of 90 dB(A) for periods of eight hours are permitted. All Township ordinances dictating the times and conditions for such activities will be complied with. The use of construction equipment will be limited to the hours permitted by the Township of Neptune.

1.8.2 Operational Phase

Galilee Eglise Adventiste, Inc. will be responsible for the maintenance of the stormwater management facility during and after construction.

1.9 Required Licenses, Permits and Approvals

The following municipal, county and state approvals and permits are required for the project:

- Preliminary and Final Site Plan approval – Neptune Township
- Building Permit approval – Neptune Township
- Road Opening Permit approval – Neptune Township
- Performance Bond – Neptune Township
- Public Works Department approval – Neptune Township
- Planning Board approval - Monmouth County
- Minor Access Permit - NJDOT
- Soil Erosion and Sediment Control Plan Certification - Freehold Soil Conservation District
- Request for Authorization (RFA) for NJPDES Construction Stormwater General Permit (5G3) - NJDEP Division of Water Quality
- Letter of Interpretation (pending) - NJDEP Division of Land Resource Protection
- Freshwater Wetlands General Permit 7 and Transition Area Waiver: Averaging Plan (pending) – NJDEP Division of Land Resource Protection.

2.0 Description of Existing Environmental Conditions and Assessment of Environmental Impact

2.1 Topography/Slopes

According to the United States Geological Survey (USGS) 7.5-Minute, Asbury Park, NJ Quadrangle, the elevations on the subject site range from approximately 46 feet above mean sea level (msl) in the southern portion near Highway 33 to approximately 28 feet above mean sea level (msl) in the northern portion near Jumping Brook. A copy of the current USGS topographic map is presented as Figure 1. There are no unusual topographic features on the property. The project will involve the minor re-grading in order to accommodate site drainage and utilities, as well as providing adequate grade for the proposed sanctuary.

2.2 Geology

Local geologic conditions were identified from the Rutgers Engineering Soil Map for Monmouth County. According to the Bedrock Geologic Map of Southern and Central New Jersey, the site is underlain by the Kirkwood Formation formed in the Lower Miocene Period. The formation consists of quartz sands overlying pro-delta clays. No geologic features will be disturbed during construction of the project.

2.3 Soils

The U.S. Department of Agriculture and the Soil Conservation Service (SCS), in cooperation with the New Jersey Agricultural Experiment Station, has prepared a Soil Survey for Monmouth County, New Jersey. This survey contains data regarding soils and shallow subsurface conditions throughout the County. This information is useful at the planning level to draw general conclusions about the suitability of a site for certain land uses. According to the "Soil Survey of Monmouth County, New Jersey" the two (2) soil types that underly the project site include: Humaquepts, 0 to 3 percent slopes, frequently flooded (HumAt) and Lakehurst sand, 0 to 5 percent slopes (LakB).

Humaquepts consist of poorly-drained soils formed in floodplains or concave footslopes and toeslopes. Slope ranges from 0 to 3 percent. The seasonal high-water table is estimated to be near the surface.

Lakehurst sand consist of moderately well-drained soils formed on flats and terraces. Slope ranges from 0 to 5 percent. The seasonal high-water table is estimated to be 18 to 42 inches below the surface.

The Soils Map is included as Figure 5, which follows.

Figure 5
Soils Map

Legend

HumAt – Humaquepts, 0 to 3 percent slopes, frequently flooded
LakB – Lakehurst sand, 0 to 5 percent slopes

Map Source: USDA NRCS Web Soil Survey (2020)

2.4 Hydrology

2.4.1 Surface Waters

Jumping Brook flows along the northern and northeastern boundary of the subject site.

The natural hydrology of the tract is such that a majority of the existing drainage is directed towards the freshwater wetlands area in the northern portion of the project site and eventually the Jumping Brook. Some of the pre-development runoff also flows towards Highway 33 and to the adjacent residential property to the west. The waters of Jumping Brook receive the designation of FW-2/NT/SE1 in the NJDEP Surface Water Quality Standards N.J.A.C 7:9B-4.1 et seq. (last amended April 6, 2020). This designation means that Jumping Brook waters are not reserved for trout production or maintenance and are not designated as Category 1 waters. The proposed project will not impact Jumping Brook or its associated riparian buffer (50 feet from top of bank). No development is proposed within 50 feet of the banks of Jumping Brook.

2.4.1 Flood Hazard Areas

According to FEMA's *Flood Insurance Rate Map Community Panel No. 34025 C0329G,* included as Figure 6, and the NJDEP Flood Hazard Area Map included as Figure 7, the northernmost portion of project site contains mapped flood hazard areas. According to the FEMA Map, the 1 percent annual chance flood elevation (100-year flood elevation) is indicated to be 38 feet above mean sea level. However, pursuant to the New Jersey Flood Hazard AREA Control Act rules (N.J.A.C. 7:13), the NJDEP Flood Hazard Area Map for Jumping Brook supersedes the FEMA Map for the established New Jersey Flood Hazard Area Design Flood (NJFHADF) limit. The NJFHADF limit is indicated to be in the northern portion of the site. No development is proposed within the regulated flood hazard area.

2.5 Water Quality

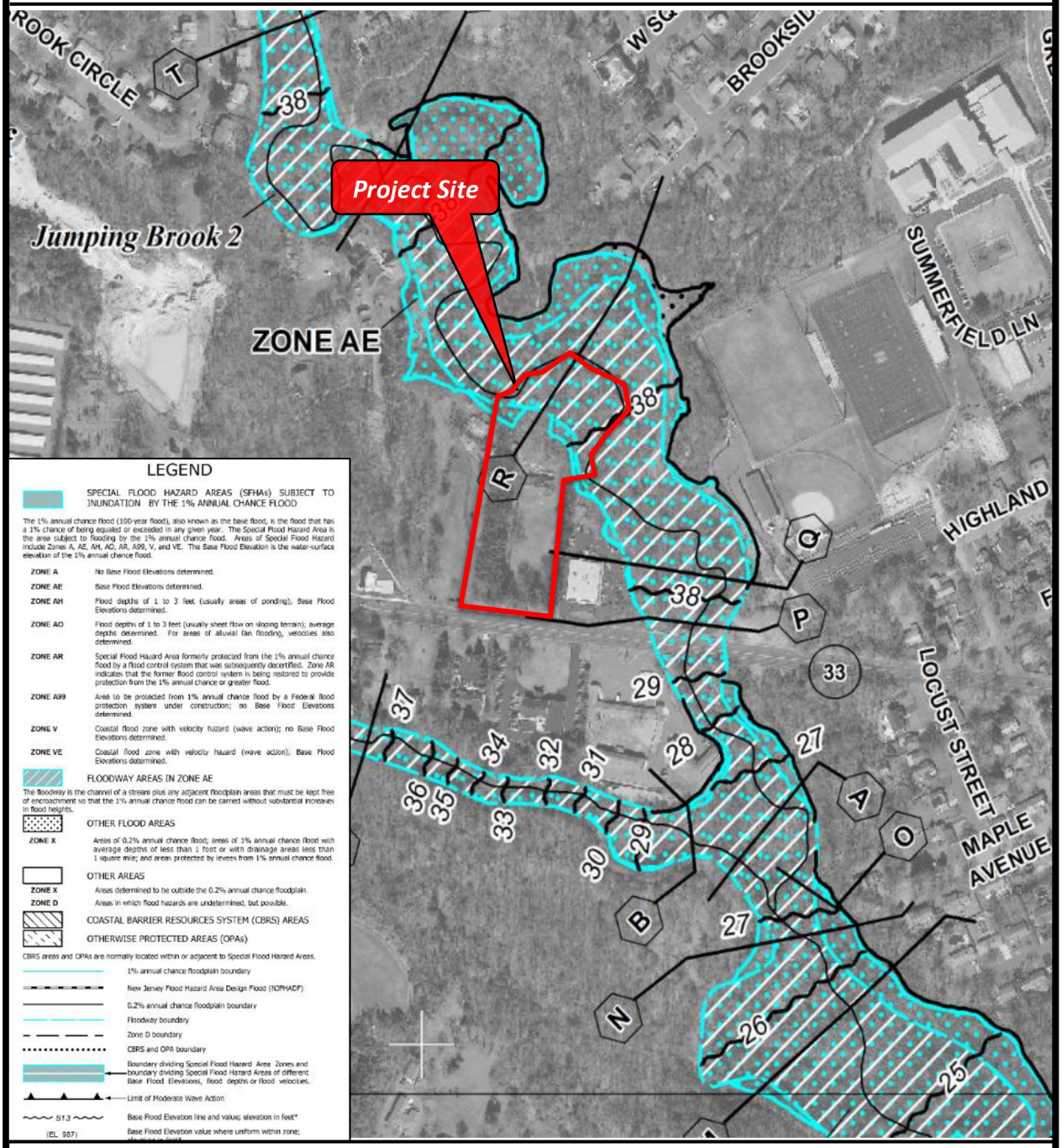
An infiltration basin system has been designed and is proposed to be constructed in the northern portion of the project site to mitigate the effects of the increase in impervious cover on the subject site post-redevelopment. The system has been designed to provide stormwater management control for all site improvements.

In compliance with the municipal ordinance, there will be no increase, as compared to the preconstruction condition, in the peak runoff rates of stormwater leaving the site for the two-, ten-, and 100-year storm events and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site.

A majority of the stormwater runoff from the subject site is directed to the proposed on-site infiltration basin. Some post-development runoff will continue to flow off-site un-detained. However, negative impacts to downstream resources are not anticipated.

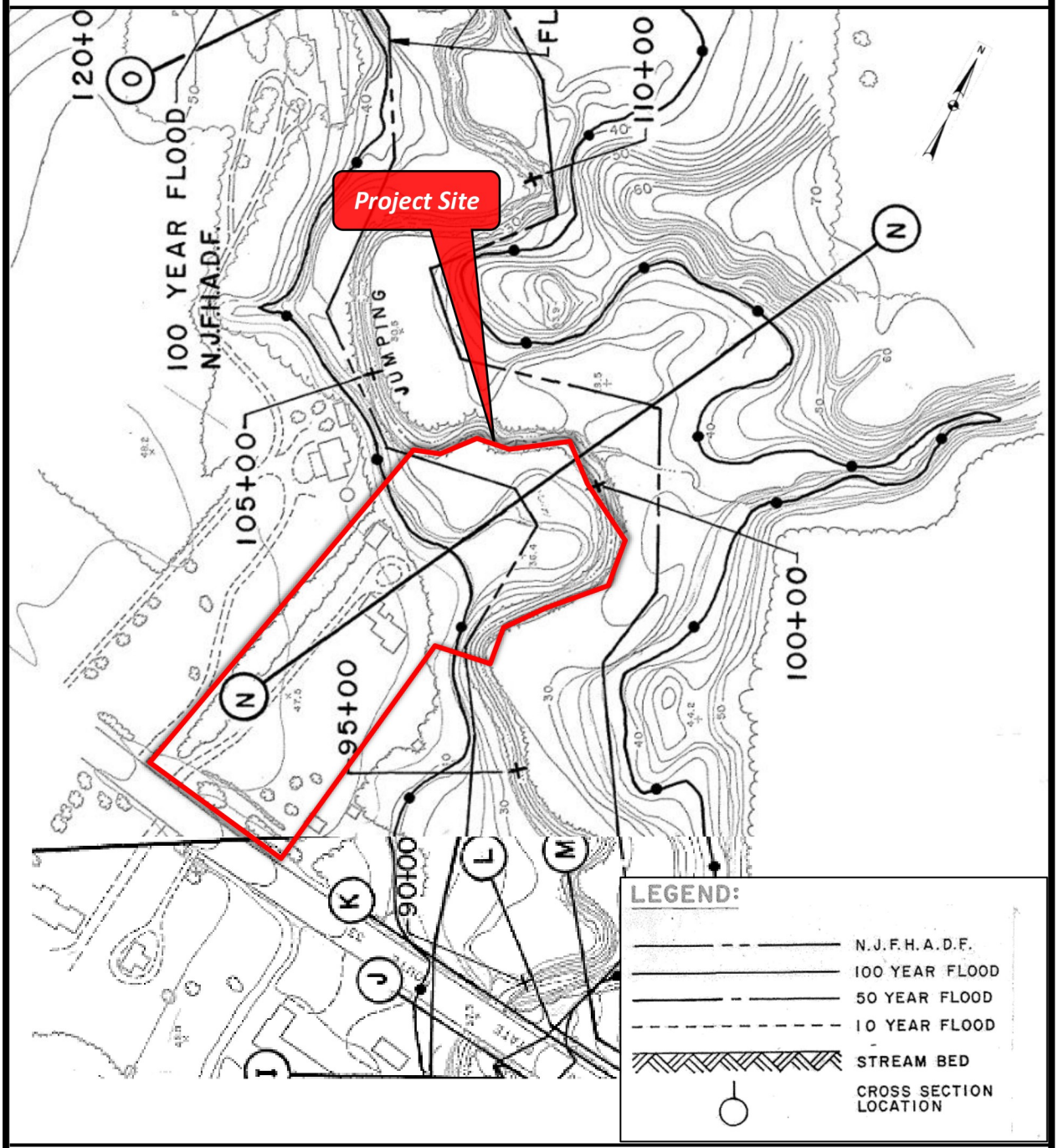
A separate Stormwater Management Report prepared by B&G Engineering, LLC, dated November 29, 2022, has been submitted under separate cover.

Figure 6
Flood Insurance Rate Map



Map Source: Federal Emergency Management Agency (FEMA)

Figure 7
New Jersey Flood Hazard Area Map



Map Source: NJDEP Flood Hazard Area Map

2.6 Vegetation

The project site currently consists of wooded areas, forested wetlands and developed areas. The following community types were identified for the property:

2.6.1 Wetland Communities

Wetlands are defined by the U.S. Army Corps of Engineers (USACE) and Environmental Protection Agency (USEPA), respectively as:

> "Wetlands are those areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." (*33 C.F.R. Section 328.3 and 40 C.F.R. Section 230.3*)

This definition emphasizes three characteristics needed for the creation of wetlands. Hydrophytic vegetation, hydric soils and hydrology are indicative of wetland areas. The NJDEP, Division of Land Resource Protection regulates the disturbance of wetlands and the filling of open waters under the Freshwater Wetlands Protection Act within the State of New Jersey. The NJDEP has adopted the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, effective January 1989, as the technical basis for identifying and delineating freshwater wetlands in the State of New Jersey.

Hydrophytic Vegetation (Hydrophytes) is defined as plants growing in water or on a substrate that is at least periodically deficient in oxygen (anaerobic) due to excessive water content; may represent the entire population of a species or only a subset of specially adapted individuals; plants typically adapted to wetland and aquatic habitats. The U.S. Fish and Wildlife Service has developed a classification system that assigns a wetland indicator status according to a particular plant's affinity to wetlands.

Plant Affinity for Wetland Conditions

Classification	Symbol	Occurrence in Wetlands
Obligate Wetland	OBL	> 99%
Facultative Wetland	FACW	67% - 99%
Facultative	FAC	34% - 66%
Facultative Upland	FACU	1% - 33%
Obligate Upland	UPL	< 1%

The wetland indicator status should not be equated to degrees of wetness. Many obligate wetland species occur in permanently or semi permanently flooded wetlands, but a number of obligates also occur and some are restricted to wetlands which are temporarily or seasonally flooded. The facultative upland species include a diverse collection of plants which range from weedy species adapted to exist in a number of environmentally stressful or disturbed sites (including wetlands) to species in which a portion of the gene pool (an ecotype) always occur in wetlands.

Both the weedy and ecotype representatives of the facultative upland category occur in seasonally and semi permanently flooded wetlands.

An area has hydrophytic vegetation when 1) the dominant species from all strata within the plant community exceed 50% of OBL, FACW and FAC species or 2) a frequency analysis of all species within the community yields a prevalence index value of 3.0 or less (where OBL = 1.0, FACW = 2.0, FAC = 3.0, FACU = 4.0 and UPL = 5.0).

Hydric soils are defined as soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part; soils that favor the growth and reproduction of hydrophytes. Soils are considered hydric when they are saturated and reduced for a period of seven days or more during the growing season, which is defined by soil temperature being greater than 41°F at a depth of 20 inches below the surface.

Hydrology is the presence of water either in the form of flooding, inundation or saturation at some point during an average rainfall year for the period of seven days or more during the growing season. The water may come from ground water discharge, direct precipitation, tidal or overbank flooding, or surface water runoff. Wetland hydrology is the most difficult of the three-wetland criteria to establish due to daily, seasonal and annual changes. Indicators of wetland hydrology come in several forms including recorded data such as aerial photographs, stream/tide gauges, soil surveys, floodplain data and historical data. Field indicators include the visual observation of inundation and soil saturation, morphological plant adaptations, oxidized rhizospheres, water marks, drainage patterns, drift lines, surface scouring, sediment deposits, bare areas and water-stained leaves.

An on-site wetland investigation was performed by The Catalyst Group to determine the presence of, and delineate the extent of, wetland habitats. Freshwater wetlands on the site were determined to fall within the jurisdiction of the NJDEP, Division of Land Resource Protection, in accordance with the Freshwater Wetlands Protection Act Rules, (N.J.A.C. 7:7A).

Wetland Area A

Wetland Area "A" is a forested wetland located in the northern portion of the subject site, generally adjacent to and associated with Jumping Brook. This area has been delineated by wetland flags WA-1 through WA-23. Wetland Area "A" is dominated by hydrophytic vegetation species such as Sweetgum (*Liquidambar styraciflua*, FACW), American Elm (*Ulmus americana*, FAC), Roundleaf Greenbriar (*Smilax rotundifolia*, FAC), and Swamp White Oak (*Quercus bicolor*, FACW). These dominant species are commonly indicative of freshwater wetland habitat. Wetland Area "A" is bounded on the north side by Jumping Brook, a perennial stream within the Whale Pond Brook/Shark River/Wreck Pond Brook watershed.

Delineated freshwater wetlands areas are shown on the project Site Plan in **Appendix A**.

Freshwater wetlands will be confirmed by the NJDEP Division of Land Resource Protection through their Letter of Interpretation (LOI) process. The LOI application was submitted on October 24, 2022.

The project will require the authorization of a Freshwater Wetlands General Permit No. 7 for the disturbance/fill of the swales; and a Transition Area Waiver (Averaging Plan) for the modification (balancing) of the freshwater wetlands buffer to accommodate site grading. The project design meets the criteria for issuance of these permits by the NJDEP. A copy of the Application for NJDEP Freshwater Wetlands General Permit and Transition Area Waiver (Averaging Plan) will be submitted under separate cover when complete.

NJDEP Permits Required

Permit/Authorization	Proposed Disturbance	Disturbance Permitted
FWW General Permit 7	133 sf (0.003 ac.)	Up to 1 acre
FWW Transition Area Averaging Plan		
Transition Area Reduction	1,442 sf	Transition Area Must Balance (at a minimum)
Transition Area Compensation	1,632 sf	
Total Additional On-Site Transition Area	190 sf	

2.6.2 Upland Communities

Upland areas were identified on the remainder of the subject site, with upland forest located in the northern portion. The remainder of the subject site is maintained lawn. Observed upland forest species included American Holly (*Ilex opaca*, FAC), Roundleaf Greenbriar (*Smilax rotundifolia*, FAC), White Oak (*Quercus alba*, FACU), and Northern Red Oak (Quercus rubra, FACU). The plant species observed are common in the region.

2.7 Wildlife

The project site consists of open lawn area, wooded areas and forested wetlands. Some common species of mammals that would be expected to be found on or adjacent to the site include raccoons, skunks, opossums, chipmunks, field mice, and squirrels. The following species were observed on the site by direct observation or by way of signs (droppings, calls or tracks).

Observed Wildlife Species

Common Name	Scientific Name
White-tailed Deer	*Odocoileus virginianus*
Eastern Cottontail Rabbit	*Sylvilagus floridanus*
Gray Squirrel	*Sciurus Carolinensis*
Groundhog	*Marmota monax*
Turkey Vulture	*Cathartes aura*

No threatened or endangered species or suitable habitat for such species was reported on the NJDEP Landscape Mapping Project (version 3.3). The Landscape Project Habitat Rank for the project site was identified with both Rank 1 and Rank 3 habitats (on a scale of 1 to 5). Rank 1 means that the area may potentially meet habitat-specific suitability for endangered, threatened or priority wildlife species, but does not intersect with any confirmed species occurrences. Rank 3 means that the area may contain habitat for State-listed species.

No threatened or endangered species or suitable habitat were observed on the site during field inspection. In addition, a request was made to the New Jersey Natural Heritage Program for information relating to the occurrence of threatened & endangered wildlife and plant species and their critical habitats. The Natural Heritage Program response listed foraging habitat for Black-crowned Night-heron (*Nycticorax nycticorax*), a state-threatened species in the Jumping Brook corridor. The response also included the potential for nesting, breeding and/or foraging habitat for three (3) avian species of special concern, including Cooper's Hawk (*Accipiter cooperii*), Great Blue Heron (*Ardea herodias*) and Wood Thrush (*Hylocichla mustelina*). The Natural Heritage Program response is included in **Appendix B**.

Significant impacts to wildlife species are not expected as a result of the proposed development. It is noted that the forested wetlands in the northern portion of the site will not be disturbed. Wildlife species expected to utilize the property include species tolerant to the disturbances related to nearby development and would be supported by the habitat to the north. Since wildlife is not expected to be diverse, abundant or sensitive to human disturbance, wildlife impacts are not expected to be significant on the site.

2.8 Air Quality

The Federal Clean Air Act Amendments of 1990 requires each state to attain and maintain specified air quality standards. Ambient Air Quality Standards have been promulgated by the federal government and by the State of New Jersey for ozone (O_3) total suspended particulate (TSP), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2) and lead. The New Jersey standards are generally the same as the federal standards for these pollutants. Primary air quality standards are set to protect human health and secondary standards are set to protect human welfare.

The nearest air quality monitoring stations to Neptune Township are located at Monmouth University (Monmouth County) and Rutgers University (Middlesex County). Some pollutants not measured at these monitoring stations are measured in other counties/regions.

Ozone (O_3) is a gas consisting of three oxygen atoms. It occurs naturally in the upper atmosphere (stratospheric ozone) where it protects us from harmful ultraviolet rays. However, at ground-level (tropospheric ozone), it is considered an air pollutant and can have serious adverse health effects. Ground level ozone is created when nitrogen oxides (NOx) and volatile organic compounds (VOCs) react in the presence of sunlight. NOx is primarily emitted by motor vehicles, power plants, and other sources of combustion. VOCs are emitted from sources such as motor vehicles, chemical plants, factories, consumer and commercial products, and even natural sources such as trees. According to the *NJDEP 2021 Air Quality Annual Report*, ozone levels measured at Monmouth University in West Long Branch, NJ measured 0.11 ppm for the 1-hour daily maximum, and 0.087 ppm for the highest daily maximum averaged over 8-hours. The 1-hour maximum did not exceed the New Jersey Standard of 0.12 ppm and the highest daily maximum averaged over 8-hours did slightly exceeded the National 8-Hour Standard of 0.070 ppm. It is noted that the entire State of New Jersey is located in a "non-attainment" area for O_3, as designated by the USEPA.

Sulfur dioxide (SO_2) is a heavy, colorless gas with a suffocating odor, that easily dissolves in water to form sulfuric acid. SO_2 gases are formed when fuels containing sulfur (coal, oil, and gasoline) are burned, or when gasoline is extracted from oil. Most of the sulfur dioxide released into the air comes from fuel combustion in electric utilities, especially those that burn coal with a high sulfur content. According to the *NJDEP 2021 Air Quality Annual Report*, the closest monitoring station where sulfur dioxide levels are measured is at the Elizabeth Lab in Elizabeth, NJ and generally not representative of regional conditions in Monmouth County. Sulfur dioxide levels measured 6.9 parts per billion (ppb) for the 1-hour maximum, 0.047 ppm for the 3-hour maximum and 0.004 ppm for the 12-month maximum. The 1-hour maximum did not exceed the National Standard of 75 ppb. The New Jersey Standards of 0.5 ppm for 3-hours and 0.005 ppm for 12-months were not exceeded. There has also been a demonstrated yearly reduction in average sulfur dioxide levels over the past several years.

Nitrogen dioxide (NO_2) is a reddish-brown highly reactive gas that is formed in the air through the oxidation of nitric oxide (NO). NO_2 is used by regulatory agencies as the indicator for the group of gases known as nitrogen oxides (NOx). These gases are emitted from motor vehicle exhaust, combustion of coal, oil or natural gas, and industrial processes such as welding, electroplating, and dynamite blasting. Although most NOx is emitted as NO, it is readily converted to NO_2 in the atmosphere. In the home, gas stoves and heaters produce substantial amounts of nitrogen dioxide. When NO_2 reacts with other chemicals it can form ozone, particulate matter, and other pollutant compounds. According to the *NJDEP 2021 Air Quality Annual Report*, the closest monitoring station where nitrogen dioxide levels are measured is at the Rutgers University in New Brunswick, NJ. Nitrogen dioxide levels measured 54 ppm for the 1-hour average and 8 ppb for the 12-month average. The National Standards of 100 ppb for 1-hour and 53 ppb for 12-months were not exceeded.

Particulates can occur naturally or can be man-made. Examples of naturally-occurring particles are windblown dust and sea salt. Man-made particulates, which come from sources such as fossil fuel combustion and industrial processes, can be categorized as either primary particulates or secondary particulates. Primary particulates are directly emitted from their sources, while secondary particulates form in the atmosphere through reactions of gaseous emissions. Particulate pollution is categorized by size, measured in microns (one millionth of a meter, also known as a micrometer). Particulates with diameters of 2.5 microns or less are considered "fine particulate matter," referred to as $PM_{2.5}$. According to the *NJDEP 2021 Air Quality Annual Report*, the closest monitoring station where fine particulates are measured is at the Rutgers University in New Brunswick, NJ. The annual mean concentration was reported as 7.90 ug/m^3, which is below the National Standard of 12 ug/m^3 for the annual average.

Carbon monoxide (CO) is a colorless, odorless gas formed when carbon in fuels is not burned completely. The main source of outdoor CO is exhaust from internal combustion engines, primarily on-road vehicles, as well as non-road vehicles, generators, construction equipment, boats and other types of mobile sources. According to the *NJDEP 2021 Air Quality Annual Report*, the closest monitoring station where carbon monoxide levels are measured is at the Elizabeth Lab in Elizabeth, NJ and generally not representative of regional conditions in Monmouth County.

The National and New Jersey Ambient Air Quality Primary and Secondary Standards of 35 ppm for the 1-hour average maximum standard and 9 ppm for the 8-hour average maximum standard were not exceeded in any of the New Jersey monitoring stations. There has also been a demonstrated yearly reduction in average carbon monoxide levels over the past several years.

During construction, air quality near the project will be slightly affected by exhaust emissions from construction vehicles and equipment in the immediate vicinity of the vehicles. After construction, the development will not generate additional emissions. Both during and after construction, pollution control devices installed on vehicles will minimize air pollution from the personal vehicles associated with the proposed development.

2.9 Noise

Ambient sound levels are typically measured in units of A-weighted decibels (dBA). The typical daytime sound level at the project site is estimated to fall between 65 to 75 dBA, due to existing vehicular traffic along Highway 33. Nighttime sound levels are estimated to fall between 45 to 50 dbA. Variations in sound levels will depend on traffic volume, vehicular speed, distance from roadway and degree of sound shielding (e.g., structures and trees).

The General Services Administration has developed construction-related noise specifications requiring that noise levels not be exceeded at a distance of 50 feet for different types of construction equipment. Most construction equipment will maintain a noise level of 75 dBA. Pneumatic tools, scrapers and pavers may be as loud as 80 dBA. Occupational noise levels of 90 dB(A) for periods of eight hours are permitted. All Neptune Township ordinances dictating the times and conditions for such activities will be complied with. The use of construction equipment will be limited to the hours permitted by the Township of Neptune.

Construction activities on the site will cause temporary increases in sound levels of short duration in the vicinity of the site. These levels will be comparable to normal sound levels for construction. As the project area is residential, construction activities will be limited to normal working hours. Post-construction sound levels should not increase noticeably from the existing condition. Traffic volumes must increase by 60 percent before changes in sound levels become "barely perceptible". Traffic is not anticipated to approach such increases; therefore, the changes in ambient sound levels should not be noticeable.

2.10 Land Use

The project site is zoned for residential uses, with places of worship as a permitted use, among other uses. The site is currently used for a residential dwelling. The proposed sanctuary is among the principal land uses the Township has permitted for the R-2 Zone.

2.11 Aesthetics

The project site contains upland and wetland communities with a rural to suburban setting. The functional and aesthetic qualities of the neighborhood will not be significantly altered by the proposed redevelopment. The proposed facilities will be compatible with the existing use. The functional and aesthetic qualities of the project site will not differ significantly from adjacent sites after the project is complete.

2.12 Historic and Archaeological Features

At the present time, no scenic, historical or archaeological features exist on the project site. The *New Jersey & National Registers of Historic Places* was consulted to determine if any historic, archaeological, or architectural resources are present on the site. None of the sites listed for Neptune Township were located on or adjacent to the project site.

2.13 Hazardous Materials and Conditions

The subject site is currently developed with a 1.5-story dwelling. No underground or aboveground petroleum fuel tanks are known to currently or formerly exist at the subject site.

It is noted that there was a former Sunoco gas station just west of the subject site at 3321 Highway 33. The gas station has a record of leaking underground storage tanks and is under investigatory oversight by a New Jersey-License Site Remediation Professional (LSRP). Following remedial investigations, the site has a Classification Exception Area (CEA)/Well Restriction Area (WRA) associated with it. The CEA/WRA is an institutional control/deed restriction that identifies the groundwater contamination plume. The CEA/WRA extends eastward from the gas station property along Highway 33 for approximately 800 feet. The CEA/WRA extends across the southern portion of the subject site. Only the excavation to groundwater and use of groundwater is restricted in this area. The proposed project does not involve deep excavations or use of groundwater in this area. The existing potable well on the subject site is not adversely affected by the contaminated groundwater along Highway 33.

The NJDEP Data Miner documentation identifying the current remedial investigation status is included in **Appendix C**.

3.0 Irreversible/Unavoidable Impacts and Mitigation Measures

3.1 Construction Related Impacts

Certain undesirable environmental effects will be unavoidable during construction of this redevelopment. These effects are temporary in nature and almost entirely associated with preparations for construction and the construction operations themselves. Consequences of construction activities include fugitive dust emissions, soil erosion and resultant siltation, construction equipment noise, minor amounts of additional air pollution and construction vehicle traffic.

In order to mitigate these short-term impacts:

1. A Soil Erosion and Sediment Control Plan has been developed for the project, which will reduce the potential for soil erosion during construction. The plan has been developed according to State of New Jersey and Soil Conservation District Standards.
2. During the construction phase, all mechanical equipment shall be maintained in conformance with the applicable standards for noise and exhaust emission levels, as well as safety standards.
3. Contractors will take all practical steps to eliminate avoidable noise emanating from construction operations. To minimize inconvenience to and irritations of neighboring inhabitants, construction operations will be limited to normal working hours.

3.2 Post-Construction Related Impacts

The proposed project has been designed to minimize environmental impacts to the greatest extent possible. In addition, measures have been incorporated into the project plans to mitigate any adverse environmental impacts. As described in the previous sections of this EIS, various environmental resources and their impacts were evaluated.

The proposed project plans have incorporated measures designed to reduce the potential environmental impacts associated with the proposed development to the maximum extent possible. The most important of these measures are listed herein.

1. A Stormwater Management Plan includes the use of an on-site infiltration basin designed to provide stormwater control for the site. The basin will reduce the nonpoint source pollutants and sediments that will be discharged from the site, as required by NJDEP.
2. The preservation of the freshwater wetlands in the northern portion of the site will provide adequate foraging habitat and cover for several common wildlife species.
3. The proposed comprehensive landscaping plan will enhance the vegetative and aesthetic character of the site after construction where open fields currently exist.

4.0 Summary

The proposed development, as shown on the Preliminary and Final Site Plan prepared by B&G Engineering, LLC, dated December 5, 2022, will not cause significant adverse impacts on the topographic, soil, geological, ecological, hydrologic, water quality, air quality or noise environments at the site or in the surrounding area. Freshwater wetlands boundaries have been delineated and verification by the NJDEP Division of Land Resource Protection is pending. Unavoidable adverse environmental impacts include an increase from 0.21 acre to approximately 1.02 acres of impervious surfaces on the site (32 percent of the overall site). The site plan includes utilization of an on-site stormwater management basin to reduce the peak runoff of stormwater on the site. Impacts to surface water quality will be minimized by the treatment of stormwater within the on-site stormwater management facility. Potential impacts from air pollution, water pollution and noise will be short-term and minimal.

Overall, the proposed project plans are compatible with the environmental conditions at the site, the surrounding residential development and Neptune Township Zoning Ordinance and Master Plan.

5.0 Qualifications of Environmental Professional

Michael L. Francis, Ph.D.
Principal Consultant, The Catalyst Group

EDUCATION:

Bachelor of Arts (Geography: Environmental Analysis and Management)
Rutgers - The State University of New Jersey, New Brunswick, NJ
Master of Arts (Environmental Management)
Montclair State College, Upper Montclair, NJ
Doctor of Philosophy (Environmental Engineering)
Kennedy-Western University, Thousand Oaks, CA
Mini Masters of Business Administration
Rutgers - The State University of New Jersey, New Brunswick, NJ

PROFESSIONAL AFFILIATIONS:

American Society for Testing and Materials (ASTM) Technical Committee E-50
Environmental Assessment Association (EAA) Advisory Council
American Society of Highway Engineers (ASHE)

PROFESSIONAL CERTIFICATIONS:

OSHA 40-hour Hazardous Waste Site Health & Safety Training

EXPERIENCE:

Dr. Francis has over 36 years of experience in the field of environmental consulting, managing a wide variety of environmental matters throughout project lifecycles while working with environmental and engineering consulting firms, construction contractors, public entities and regulatory agencies across the Nation involving ecological investigations, regulatory permitting, soil/groundwater contamination investigations, site remediation strategies, underground storage tank management, hazardous and universal waste, asbestos, lead-based paint, stormwater management and air permits; often on high profile projects.

Environmental Impact Statements

* Involved in the preparation of numerous Environmental Impact Statements and Environmental Assessments pursuant to the National Environmental Policy Act (NEPA), New Jersey Executive Order No. 215 (EO-215), New York State Environmental Quality Review Act (SEQRA) and various municipal ordinances. Prepared Categorical Exclusion Documents, Natural Resource Inventories and Impact Assessments.
* Conducted environmental reviews and prepared Environmental Assessments pursuant to NEPA for the federal government for a variety of public infrastructure projects receiving Coronavirus Aid, Relief and Economic Security (CARES) Act funding in CO, WY, MN, IA, KS, MO, SD, ND and NE, as well as American Rescue Plan Act (ARPA) funding in TX, OK, NM, AR and LA.
* Involved in issues and reviews relating to Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act, Section 7 of the Endangered Species Act, and the Magnuson-Stevens Fishery Conservation and Management Act, among others.
* Prepared and managed Environmental Review Records (ERRs) for multiple urban properties as well as data upload into the Department of Housing and Urban Development's (HUD's), Environmental Review Online System (HEROS).

Michael L. Francis, Ph.D., Principal Consultant
(Page 2)

Wetlands Investigation and Delineation

* Directed and supervised over 1,000 freshwater/coastal wetland delineations and preparation of Wetland Delineation Reports and multiple jurisdictional determination applications for submission to State and Federal agencies for projects throughout the Nation.

Land Use Permitting

* Extensive experience in Land Use Permitting for major residential, commercial, transportation and energy generation/distribution-related developments throughout the Nation.

* Successful in securing environmental permits from the U.S. Army Corps of Engineers (USACE) and numerous State environmental agencies, including the State of New Jersey, involving freshwater wetlands, coastal/tidal wetlands, waterfront development, coastal zones, flood hazard areas and compensatory mitigation.

Expert Witness Testimony

* Provided public hearing testimony and has been qualified as an expert witness in the field of environmental impact assessment and wetlands in many New Jersey municipalities. Qualified as an expert in the field of wetland identification and delineation and has provided expert testimony before the Superior Court of New Jersey and the New York State Freshwater Wetlands Appeals Board.

Environmental Assessment/Due Diligence

* Provided numerous Phase I Environmental Site Assessments pursuant to the ASTM Standard Practice E-1527-13, as well as Preliminary Assessments pursuant to the New Jersey Technical Requirements for Site Remediation (N.J.A.C. 7:26E). Examples of projects include contaminated sites, NJDEP Green Acres Program acquisition sites and New Jersey Industrial Site Recovery Act (ISRA)/Brownfields sites.

* Responsible for numerous projects involving State/Federal agency database coordination, on-site ISRA screening, evaluation and documentation.

* Qualified and approved consultant responsible for over 1,000 commercial property assessments for many financial institutions and real estate brokers throughout New Jersey, New York and Pennsylvania.

Prior to joining The Catalyst Group, Dr. Francis served as President of Environmental Property Assessments, LLC in Lawrenceville, NJ from 2009 to 2020, as well as Senior Project Manager for STV Incorporated in Lawrenceville, NJ and New York, NY from 2009 to 2020. He was previously the New Jersey/New York Regional Manager for A.D. Marble & Company in Princeton, NJ from 2005 to 2009, Senior Project Manager for Maser Consulting in Hamilton, NJ from 2002 to 2005, Unit Supervisor- Environmental Planning for T&M Associates, Inc. in Middletown, NJ from 1994 to 2002, Senior Environmental Specialist for The Hudson Partnership, Inc. in East Brunswick, NJ from 1991 to 1994 and Senior Environmental Scientist for Connolly Environmental, Inc. in Denville, NJ from 1986 to 1991.

6.0 References

Federal Emergency Management Agency. *Flood Insurance Rate Map* of Neptune Township, Community Panel 34041 C0238E.

Herman, Gregory C., et al. 1998. *Aquifers of New Jersey*

Washington Borough., *Land Use Ordinance of the Township of Neptune*, County of Monmouth, State of New Jersey, as last amended.

New Jersey Department of Environmental Protection, Bureau of Air Monitoring, 2022. *2021 Air Quality Report*

New Jersey Department of Environmental Protection & New Jersey Department of Agriculture, 1994. *Stormwater and Nonpoint Source Pollution Control, Best Management Practices Manual*

New Jersey Department of Environmental Protection, April 2020. *Surface Water Quality Standards* N.J.A.C. 7:9B.

New Jersey Department of Environmental Protection, Division of Parks and Forestry. *New Jersey and National Registers of Historic Places, July 15, 2022.*

New Jersey Geological Survey. 2001. *Ground-Water Recharge Map for Monmouth County, New Jersey*

New Jersey State Soil Conservation Committee. 1999. *Standards for Soil Erosion and Sediment Control in New Jersey*

Owens, James P. et al. 1998. *Bedrock Geological Map of Central and Southern New Jersey*.

United States Department of Agriculture, Soil Conservation Service, et al. 2022. *Soil Survey of Monmouth County, New Jersey*

United States Geological Survey, 7.5-Minute Series, *Asbury Park, NJ Topographic Quadrangle*

APPENDIX A

SITE PHOTOGRAPHS

		
Photo 1: Facing north towards current site access from Corlies Avenue.		Photo 2: Facing south towards current site access and Corlies Avenue.
		
Photo 3: Facing south towards Corlies Avenue.		Photo 4: Facing east towards existing residential dwelling and gazebo.
		
Photo 5: Facing west towards existing yard and wood pile.		Photo 6: Facing west towards Jumping Brook.

Photo 7: Facing west towards Jumping Brook.

Photo 8: Facing north towards Wetland Area “A” at Data Collection Point 1.

Photo 9: Facing south towards Wetland Area “A”.

Photo 10: Facing north towards Wetland Area “A” at Data Collection Point 2.

Photo 11: Facing south towards Wetland Area “A” at Data Collection Point 3.

Photo 12: Facing north towards upland forest.

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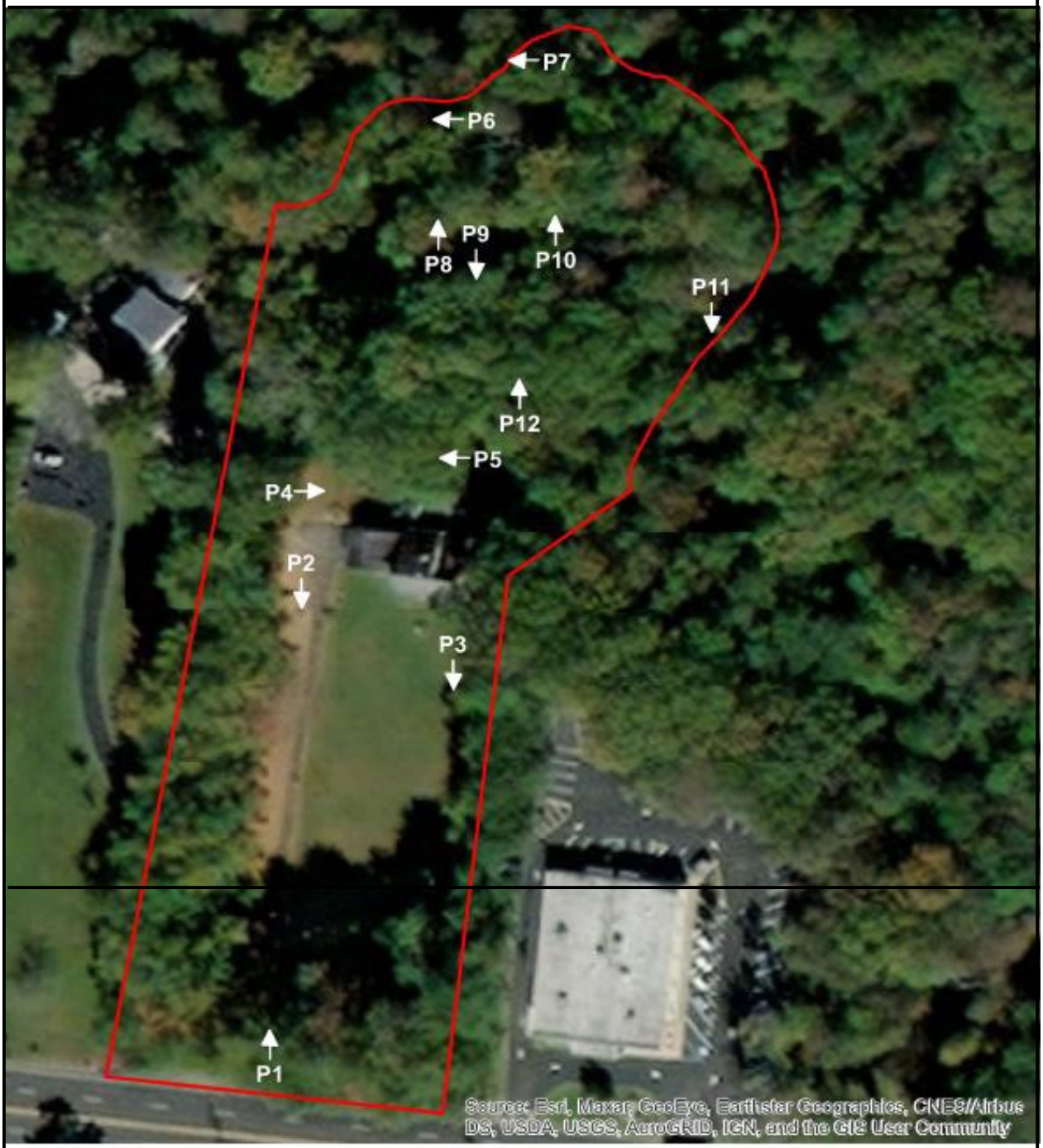
Photo Location Map



APPENDIX B

NEW JERSEY NATURAL HERITAGE PROGRAM RESPONSE

State of New Jersey
MAIL CODE 501-04
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE PARKS, FORESTS AND HISTORIC SITES
OFFICE OF NATURAL LANDS MANAGEMENT
501 East State Street
P.O. Box 420
Trenton, NJ 08625-0420
Tel. (609) 984-1339 • Fax (609) 984-0427

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

SHAWN M. LATOURETTE
Commissioner

March 30, 2022

Amanda Schellhamer
The Catalyst Group
100 Overlook Center, 2nd Floor
Princeton, NJ 08540

Re: B&G Neptune
Block(s) - 3301, Lot(s) - 4
Neptune Township, Monmouth County

Dear Ms. Schellhamer:

Thank you for your data request regarding rare species information for the above referenced project site.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.3) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the map(s) submitted with the Natural Heritage Data Request Form into our GIS. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1 and 2 (attached) to determine if any priority sites are located on or in the immediate vicinity of the site.

A list of rare plant species and ecological communities that have been documented from the county (or counties), referenced above, can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2010.pdf.

Beginning May 9, 2017, the Natural Heritage Program reports for wildlife species will utilize data from Landscape Project Version 3.3. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive web application at the following URL,

https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=0e6a44098c524ed99bf739953cb4d4c7, or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

For additional information regarding any Federally listed plant or animal species, please contact the U.S. Fish & Wildlife Service, New Jersey Field Office at http://www.fws.gov/northeast/njfieldoffice/endangered/consultation.html.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 22-4007421-24390

Table 1: On Site Data Request Search Results (6 Possible Reports)

Report Name	Included	Number of Pages
1. Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites On Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	Yes	1 page(s) included

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Cooper's Hawk	Accipiter cooperii	Nest	2	NA	Special Concern	G5	S3B,S4N
	Great Blue Heron	Ardea herodias	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Wood Thrush	Hylocichla mustelina	Breeding Sighting	2	NA	Special Concern	G4	S3B,S4N

Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Grank	Srank
Invertebrate Animals					
Metarranthis pilosaria	Coastal Bog Metarranthis			G3G4	S3S4

Total number of records: 1

Table 2: Vicinity Data Request Search Results (6 possible reports)

Report Name	Included	Number of Pages
1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites within the Immediate Vicinity	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	Yes	1 page(s) included

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Cooper's Hawk	Accipiter cooperii	Nest	2	NA	Special Concern	G5	S3B,S4N
	Great Blue Heron	Ardea herodias	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Wood Thrush	Hylocichla mustelina	Breeding Sighting	2	NA	Special Concern	G4	S3B,S4N

Other Animal Species
In the Immediate Vicinity of the Project Site Based on
Additional Species Tracked by
Endangered and Nongame Species Program

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Grank	Srank
Invertebrate Animals					
Metarranthis pilosaria	Coastal Bog Metarranthis			G3G4	S3S4

Total number of records: 1

APPENDIX C

NJDEP DATA MINER DOCUMENTATION

DEP DataMiner

SRP Active Sites | SRP Closed Sites | Pending Sites | Non-Remedial Sites | Other Sites

Sites with Conditions | Incidents

Site Detail Report

Run Date: 12/03/22 5:33 pm

4283 - SUNOCO SERVICE STAITON #0007 6851

PI Number	PI Name	County	Municipality	Activity Number	Document Type	Document Status	Document Title	More Info	Cea Fact Sheet
014825	SUNOCO 0007-6851	Monmouth	Neptune Twp	LSR110001	Case Oversight	Active	91-11-14-1313 BUST C2	Case Oversight Info	Fact Sheet
014825	SUNOCO 0007-6851	Monmouth	Neptune Twp	USR000001	Case Oversight	Transferred Pending Payment	91-11-14-1313 BUST C2	Case Oversight Info	Fact Sheet

Click here for Activity Tracking details...

SRP CASE OVERSIGHT REPORT

SUNOCO 0007-6851
3321 RT 33 W
Neptune City Boro, NJ

PI Number	014825
Activity Number	LSR110001
Bureau	LSR
Document Title	91-11-14-1313 BUST C2
Case Status	LSRP Oversight
Case Status Date	3/26/11
Confirm Contamination	Yes
Case Manager	
Phone	() -

Remedial Level	**Start Date**	**End Date**
C2: Formal Design - Known Source or Release with GW Contamination	7/9/92	

Case Types	**Start Date**	**End Date**
LSRP 2-10 CAOC	3/26/11	
LSRP GW FEE	3/26/11	
Regulated UST	11/14/91	

LSRP Name	David A Jones
Business Phone Number	(609) 387 - 5553

Activity Tracking Report

Run At: 12/3/2022 5:39 PM39

SUNOCO 0007-6851

PI Number: 014825

LSR110001

Activity Class Description	Licensed Site Professional Program
Activity Type Description	LSRP Opt-In Case

Assigned To	Description	Completed Date
SRP CLEARING HOUSE, LSRP	Date Remediation was Required to be Initiated	11/14/91
FLESCH, ERWIN	PN: Documentation of Public Notification Received	8/31/09
SRP CLEARING HOUSE, LSRP	LSRP Obligation Event Date	3/26/11
SRP CLEARING HOUSE, LSRP	LSRP Retention Form Received	3/26/11
,	Case Transferred	5/19/11
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	7/11/11
SANGUILIANO, JOSEPH	Referral Returned by ODQ	9/26/11
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	12/29/11
DOWNS, RALPH	Full Laboratory Data Deliverables Form & Analytical Results Received	1/14/12
SANGUILIANO, JOSEPH	Referral Returned by ODQ	3/5/12
SOBOLESKI, ROBERT	CEA Proposal Received	3/28/12
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	5/14/12
FLESCH, ERWIN	Classification Exception Area Approved	6/18/12
SANGUILIANO, JOSEPH	Referral Returned by ODQ	1/8/13
SRP COMPLIANCE ASSISTANCE, LSRP	May 2014 RI Deadline-Compliance Alert Letter Issued	6/17/13
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	8/5/13
SRP CLEARING HOUSE, LSRP	PN: Documentation of sign/letter/fact sheet received	8/27/13
SANGUILIANO, JOSEPH	Referral Returned by ODQ	9/10/13
KLOO, KAREN	PN: PNO submittal inspected/reviewed	9/11/13
OZA, HRUSHIKESH	LSRP Receptor Evaluation (Updated) Received	10/28/13
SRP CLEARING HOUSE, LSRP	Remedial Investigation Completed	10/28/13
SRP CLEARING HOUSE, LSRP	Remedial Investigation Report Received	10/28/13
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	12/4/13
SRP CLEARING HOUSE, LSRP	LSRP Annual Remediation Fee Form Received	12/9/13
WHITTAKER, CLARE	NJPDES Permit-by-Rule (UIC) Received	5/20/14
BAYARD, JUDITH	CEA Proposal Received	5/28/14
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	8/13/14

KUSERK, MARYANNE	Referral Returned by Geologist	8/22/14
SANGUILIANO, JOSEPH	Referral Returned by ODQ	8/26/14
PHILLIPS, BEVERLY	NJPDES Permit-by-Rule (UIC) Approved	9/18/14
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	12/4/14
SANGUILIANO, JOSEPH	Referral Returned by ODQ	2/24/15
LELIEVRE, NICOLE	Phone call - LSRP Compliance Assistance	4/13/15
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	6/17/15
PHILLIPS, BEVERLY	Classification Exception Area Revised	6/25/15
CHUDZIK, MICHAEL	RAO-A (Unrestricted Use) Filed	7/7/15
SRP CLEARING HOUSE, LSRP	Site Investigation Report Received	7/7/15
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	11/30/15
WILLIAMS, JACQUELINE	NJPDES Permit-by-Rule (UIC) Received	3/30/16
PHILLIPS, BEVERLY	NJPDES Permit-by-Rule (UIC) Approved	5/16/16
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverable Form & Analytical Results Received	5/23/16
SANGUILIANO, JOSEPH	Referral Returned by ODQ	6/1/16
SANGUILIANO, JOSEPH	Referral Returned by ODQ	8/3/16
BOWMAN, AMY	Referral Returned by ODQ	11/18/16
SMITH, KAREN	Referral Returned by ODQ	12/14/16
,	LSRP Dismissal Form Received	12/27/16
SRP CLEARING HOUSE, LSRP	Rem.Timeframe Notification Form Rec'd- Extension Request	1/2/19
HOSE, MATTHEW	Site and Contact Information Update Form Received	2/21/19
MCCALLUM, DARLENE	OSB Cost Recovery-Review Complete	5/1/19
HOSE, MATTHEW	Data Cleanup Completed	5/14/19
SRP CLEARING HOUSE, LSRP	Full Laboratory Data Deliverables Form & Analytical Results Received	6/21/19
GROSS, CATHERINE	Data Cleanup Completed	6/25/19
SRP CLEARING HOUSE, LSRP	Remedial Action Report Received	6/25/19
BOWMAN, AMY	Referral Returned by ODQ	5/26/20
SRP CLEARING HOUSE, LSRP	EO 103 Extension Applied	5/19/21
SRP CLEARING HOUSE, LSRP	Remedial Action Report Received	12/30/21
SRP CLEARING HOUSE, BCAIN	Rem.Timeframe Notification Form Rec'd- Extension Request	1/3/22
SRP CLEARING HOUSE, BCAIN	Extension Request Approved (MTF)	2/2/22
LEE, YUN-SHEN	Referral Sent to ODQ	
SRP CLEARING HOUSE, LSRP	Remedial Action to be Completed for All CAOCs	

Classification Exception Area/Well restriction Area

Case Info

Case ID	**014825 LSR110001**
Preferred ID	014825
Case	SUNOCO S/S #0007-6851 (NEPTUNE)
Address :	3321 W RT 33
City:	Neptune Twp
County:	Monmouth

CEA ID:	014825
Activity Number	LSR110001
Subject Item ID:	CEA140790

All PI Block and Lot

3301-6

See Exhibit A [Site Location Map]

Lot and Block of the CEA

7013-10, 7018-12, 7013-12, 7018-13, 7013-9.01, 7013-9, 7018-14, 344-46, 7013-13, 7018-15, 7018-16

Contacts

Site Contact

Organization

Address

Saturday 03 December 2022

Site Contact	Devon Watts
Organization	Sunoco, Inc. (R&M)
Address	203 South Falkenburg Road
	Tampa, FL 33619
Site Contact	Jeremy Fultz
Organization	SUNOCO LLC
Address	2 Righter Pkwy Suite 120
	Wilmington, DE 19803

DEP

() -

CEA Information

Description CEA includes most of site and extends off-site to east, to Shark River Brook. CEA includes fronts of all lots on either side of Route 33 between site and Brook. Boundary based on gw data and F&T.

GW Southeast

Aquifer	Vertical Depth
Kirkwood	CEA 50' total
Quaternary Age Alluvial Deposits	

This CEA /WRA applies to the contaminants listed in the table below. The ground water quality criteria / primary drinking water standards for these contaminants are listed in parts per billion (ppb). All constituents standards (N.J.A.C. 7:9:9-6) apply at the designated boundary.

Contaminant	Concentration	Units	Cleanup Goal	Units
Benzene	7	Micrograms Per Liter	1	Micrograms Per Liter
Methyl tert-butyl ether	660	Micrograms Per Liter	70	Micrograms Per Liter
Tert-butyl alcohol	690	Micrograms Per Liter	100	Micrograms Per Liter
Xylenes (total)	2,900	Micrograms Per Liter	1,000	Micrograms Per Liter

Site

Note:

1 Maximum concentration detected at the time of CEA estblishment

2 Ground Water Quality Standards

CEA Boundaries

horizontal See exhibit B (CEA/ WRA Location Map)

Vertical See exhibit B (CEA/ WRA Location Map)

Included in affected aquifer above

Date Established	Duration	Date Closed/ Lifted	Comments	Note
6/15/12	10.00			Since groundwater quality data indicates excedance of contaminants above the Primary Drinking Water Standards, and the designated uses of Class II-A aquifer included potable use, the CEA established for this site is also a Well restriction Area. The extent of Well Restriction shall coincide with the boundaries of the CEA

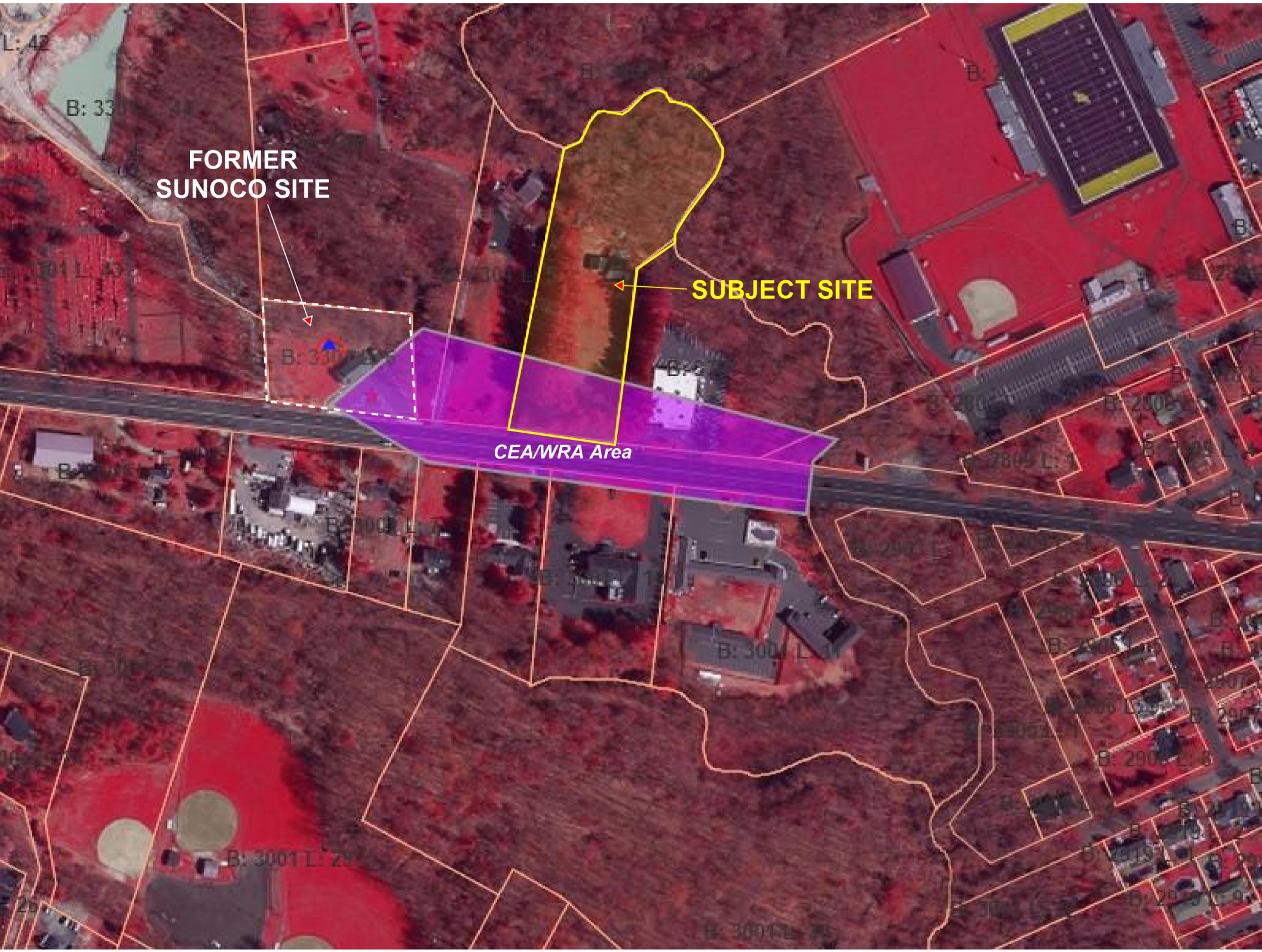
Well Restrictions set within boundaries of the CEA

Restrictions	Well Restriction Boundries
Double Case Wells	Double Case Wells: With the exception of monitoring wells installed into the first water bearing zone, any proposed well to be installed within the CEA/WRA boundary shall be double cased to an appropriate depth in order to prevent any vertical contaminant migration pathways. This depth is either into a confining layer or 50 feet below the vertical extent of the CEA.
Evaluate Production Wells	Evaluate Production Wells: Any proposed high capacity production wells in the immediate vicinity of the CEA/WRA should be pre-evaluated to determine if pumping from these wells would draw a portion of the contaminant plume into the cone of capture of the production wells or alter the configuration of the contaminant plume.
Sample Potable Wells	Sample Potable Wells: Any potable well to be installed within the footprint of the CEA/ WRA shall be sampled annually for the parameters of concern. The first sample shall be collected prior to using the well. If contamination is detected, contact your local Health Department. If the contamination is above the Safe Drinking Water Standards, then the NJDEP Hot Line should be called. Treatment is required for any well that has contamination above the Safe Drinking Water Standards.

Site Specific Well Restrictions

Restriction

* None at this time


FORMER
SUNOCO SITE
SUBJECT SITE
CEA/WRA Area

Click here for Activity Tracking details...

SRP CASE OVERSIGHT REPORT

SUNOCO 0007-6851
3321 RTE 33 W
Neptune City Boro, NJ

PI Number	014825
Activity Number	USR000001
Bureau	BUST
Document Title	91-11-14-1313 BUST C2
Case Status	Transferred
Case Status Date	5/19/11
Confirm Contamination	Yes
Case Manager	FLESCH, ERWIN
Phone	(609) 633 - 1978

Remedial Level	**Start Date**	**End Date**
C2: Formal Design - Known Source or Release with GW Contamination	7/9/92	

Case Types	**Start Date**	**End Date**
Regulated UST	11/14/91	

LSRP Name	
Business Phone Number	

No LSRP

Activity Tracking Report

Run At: 12/3/2022 5:37 PM37

SUNOCO 0007-6851

PI Number: 014825

USR000001

Activity Class Description	UST Remediation
Activity Type Description	Remedial Action and Construction

Assigned To	Description	Completed Date
FLESCH, ERWIN	Remedial Action Started	8/31/95
FLESCH, ERWIN	Remedial Action Progress Report Received	6/23/00
FLESCH, ERWIN	Remedial Action Progress Report Approved	9/7/00
FLESCH, ERWIN	Remedial Action Progress Report Received	9/22/00
FLESCH, ERWIN	Remedial Action Progress Report Approved	11/15/00
FLESCH, ERWIN	Remedial Action Progress Report Received	11/27/00
FLESCH, ERWIN	Remedial Action Progress Report Notice of Deficiency Issued	1/26/01
FLESCH, ERWIN	Remedial Action Progress Report Received	3/15/01
FLESCH, ERWIN	Remedial Action Progress Report Notice of Deficiency Issued	6/7/01
FLESCH, ERWIN	Remedial Action Progress Report Received	6/25/01
FLESCH, ERWIN	Remedial Action Progress Report Received	12/27/01
FLESCH, ERWIN	Remedial Action Progress Report Received	6/18/02
FLESCH, ERWIN	Remedial Action Progress Report Approved	8/14/02
FLESCH, ERWIN	Remedial Action Progress Report Notice of Deficiency Issued	8/14/02
FLESCH, ERWIN	Remedial Action Progress Report Received	1/9/03
FLESCH, ERWIN	Potable Well Data Comments Received from BEMQA	1/24/03
FLESCH, ERWIN	Remedial Action Progress Report Notice of Deficiency Issued	3/20/03
FLESCH, ERWIN	Potable Well Letter Issued	3/31/03
FLESCH, ERWIN	site visit	4/7/03
FLESCH, ERWIN	Potable Well Data Received	5/7/03
FLESCH, ERWIN	Out of Service UST Extension Approved	5/14/03
FLESCH, ERWIN	Potable Well Data Comments Received from BEMQA	6/11/03
FLESCH, ERWIN	Remedial Action Progress Report Received	7/10/03
FLESCH, ERWIN	Potable Well Letter Issued	7/31/03
FLESCH, ERWIN	Potable Well Data Received	8/25/03
FLESCH, ERWIN	Out of Service UST Extension Approved	9/7/03
FLESCH, ERWIN	Potable Well Data Comments Received from BEMQA	10/3/03
FLESCH, ERWIN	Potable Well Letter Issued	12/4/03
FLESCH, ERWIN	Remedial Action Progress Report Received	1/5/04
FLESCH, ERWIN	Remedial Action Progress Report Received	7/2/04
FLESCH, ERWIN	Remedial Action Progress Report Approved	8/24/04

FLESCH, ERWIN	Custom Task Placeholder	1/4/05
FLESCH, ERWIN	Remedial Action Progress Report Notice of Deficiency Issued	3/29/05
FLESCH, ERWIN	Remedial Action Progress Report Received	7/5/05
FLESCH, ERWIN	Remedial Action Progress Report Approved	10/31/05
FLESCH, ERWIN	Remedial Action Progress Report Received	12/29/05
FLESCH, ERWIN	Remedial Action Progress Report Received	7/27/06
FLESCH, ERWIN	Remedial Action Progress Report Received	1/11/07
FLESCH, ERWIN	Remedial Action Progress Report Received	7/12/07
FLESCH, ERWIN	Remedial Action Progress Report Received	1/16/08
FLESCH, ERWIN	Remedial Action Progress Report Received	6/20/08
FLESCH, ERWIN	Remedial Action Progress Report Received	1/2/09
FLESCH, ERWIN	Remedial Action Progress Report Received	6/25/09
FLESCH, ERWIN	Remedial Action Progress Report Received	1/4/10
FLESCH, ERWIN	Remedial Action Progress Report Received	1/3/11
CAULKER, COMFORT	Receptor Evaluation (Initial) Received	3/1/11
MAGNANAO, TITUS	Receptor Evaluation (Initial) Reviewed	3/22/11
CRAMER, DON	LSRP Opt-in Request Approved	3/26/11
CRAMER, DON	LSRP Request to proceed w/o Department Pre-approval Received	3/26/11
CRAMER, DON	Transferred from BUST to Other	3/26/11
,	Case Transferred	5/19/11

UST Tank Construction - Contents

SUNOCO 0007-6851

3321 W RT 33

Neptune Twp NJ 07753

Terminated

Tank No:E1	Tanks Status: Removed

---------- Construction ----------

Tank Install Date	12/15/82
[Tank Size/Units	8,000
Tank Contents	Unleaded Gasoline
Tank Structure	Single Wall
Pipe Structure	Double Wall

Construction & Contents Tank/Pipe	Type
Pipe	Fiberglass-reinforced plastic
Tank	Fiberglass-reinforced plastic

---------- Monitoring ----------

Spill Cont. Fill Pipe	Yes
Tank Overfill Prot.	Yes

Monitoring & Status.Tank/Pipe	Type
Pipe	Automatic line leak detector
Pipe	Tightness Test
Tank	In-tank (automatic) monitoring

Tank No:E2	Tanks Status: Removed

---------- Construction ----------

Tank Install Date	12/15/82
[Tank Size/Units	8,000
Tank Contents	Unleaded Gasoline
Tank Structure	Single Wall
Pipe Structure	Double Wall

Construction & Contents Tank/Pipe	Type
Pipe	Fiberglass-reinforced plastic
Tank	Fiberglass-reinforced plastic

---------- Monitoring ----------

Spill Cont. Fill Pipe	Yes
Tank Overfill Prot.	Yes

Monitoring & Status.Tank/Pipe	Type
Pipe	Automatic line leak detector
Pipe	Tightness Test
Tank	In-tank (automatic) monitoring

Tank No:E3	Tanks Status: Removed

---------- Construction ----------

Tank Install Date	1/1/83
[Tank Size/Units	8,000
Tank Contents	Unleaded Gasoline
Tank Structure	Single Wall
Pipe Structure	Double Wall

Construction & Contents Tank/Pipe	Type
Pipe	Fiberglass-reinforced plastic
Tank	Fiberglass-reinforced plastic

---------- Monitoring ----------

Spill Cont. Fill Pipe	Yes
Tank Overfill Prot.	Yes

Monitoring & Status.Tank/Pipe	Type
Pipe	Automatic line leak detector
Pipe	Tightness Test
Tank	In-tank (automatic) monitoring

Tank No:E4	Tanks Status: Removed

---------- Construction ----------

Tank Install Date	1/1/65
[Tank Size/Units	550
Tank Contents	Waste Oil
Tank Structure	Single Wall
Pipe Structure	Single Wall

Construction & Contents Tank/Pipe	Type
Pipe	Bare steel
Tank	Bare steel

---------- Monitoring ----------

Spill Cont. Fill Pipe	No
Tank Overfill Prot.	No

Monitoring & Status.Tank/Pipe	Type
Pipe	None
Tank	None

Tank No:E5	Tanks Status: Removed

---------- Construction ----------

Tank Install Date	5/19/00
[Tank Size/Units	8,000
Tank Contents	Medium Diesel Fuel (No. 2-D)
Tank Structure	Double Wall
Pipe Structure	Double Wall

Construction & Contents Tank/Pipe	Type
Pipe	Other: Pisces aka OPW Fueling Components
Tank	Fiberglass-reinforced plastic

---------- Monitoring ----------

Spill Cont. Fill Pipe	Yes
Tank Overfill Prot.	Yes

Monitoring & Status.Tank/Pipe	Type
Pipe	Automatic line leak detector
Pipe	Tightness Test
Tank	In-tank (automatic) monitoring

APPENDIX D

SITE PLAN

PRELIMINARY & FINAL SITE PLAN
FOR
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301
TOWNSHIP OF NEPTUNE
MONMOUTH COUNTY, NEW JERSEY

CERTIFIED LIST OF PROPERTY OWNERS WITHIN 200' OF LOT 4, BLOCK 3301 TOWNSHIP OF NEPTUNE

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION
2801	1		15A	BD OF ED-TOWNSHIP OF NEPTUNE 60 NEPTUNE BLVD NEPTUNE, NJ 07753	1 SUMMERFIELD LANE
3001	7		2	DELLETT, CYNTHIA E 25 BOULDER DRIVE KEY WEST, FL 33040	3322 HIGHWAY 33
3001	8		2	DELLETT, MACK DAVISON 3320 HIGHWAY 33 NEPTUNE, NJ 07753	3320 HIGHWAY 33
3001	9		4A	C & D LAW OFFICES, LLC 3318 HIGHWAY 33 NEPTUNE, NJ 07753	3318 HIGHWAY 33
3001	10		4A	MICHAEL J ELY ENTERPRISES LLC 3316 CORLIES AVENUE NEPTUNE TWP, NJ 07753	3316 HIGHWAY 33
3001	11		4A	MAMTA HOSPITALITY, INC. 108 FELLSWOOD DRIVE MOORESTOWN, NJ 08057	3310 HIGHWAY 33
3301	2.01		2	HELEOTIS, DIANE & THEODORE 3317 HIGHWAY 33 NEPTUNE, NJ 07753	3317 HIGHWAY 33
3301	3		15D	UNITED METHODIST HOMES 3311 HIGHWAY 33 NEPTUNE, NJ 07753	3311 HIGHWAY 33
3301	4		2	GALILEE EGLISE ADVANTISTE CHURCH 3313 HIGHWAY 33 NEPTUNE, NJ 07753	3313 HIGHWAY 33
3301	5		2	ALLOCCA, PAUL & PATRICIA 3315 HIGHWAY 33 NEPTUNE, NJ 07753	3315 HIGHWAY 33
3301	6		4A	3321 HIGHWAY 33 NEPTUNE, LLC 2066 RICHMOND AVENUE STATEN ISLAND, NY 10314	3321 HIGHWAY 33
3401	22		15C	TOWNSHIP OF NEPTUNE PO BOX 1125 NEPTUNE, NJ 07754	30 HILL DR

Please be advised that pursuant to Chapter 245, P.L. 1991, As of August 7th 1991, any Applicant seeking a Major Sub-division or Site Plan Approval, is required to provide a Notice of Public Hearing to all Public Utilities and CATV companies that own land or Possess any easement that is within two hundred feet (200') of the proposed development.

Below is the list of Public Utilities which provide this service to the Neptune area:

New Jersey- American Water Company, Inc.
Attn: Donna Short GIS Supervisor
1025 Laurel Oak Road
Voorhees, N.J. 08043

Verizon
Legal Department 17th Floor
C/o Land Use Matters
540 Broad Street
Newark, N.J. 07102

New Jersey Natural Gas Company
Attn: Right of Way Department
1415 Wyckoff Road
Wall Twp, N.J. 07719

Jersey Central Power & Light Company
Attn: Land Use Matters
300 Madison Avenue
Morristown, N.J. 07960

Monmouth Cablevision
Attn: Land Use Matters
1501 18th Avenue
Wall Twp, N.J. 07719

SHT. No.	DESCRIPTION	LATEST REVISION
1	COVER SHEET	
2	EXISTING CONDITIONS PLAN	
3	EXISTING TREE SURVEY PLAN	
4	DEMOLITION PLAN	
5	DIMENSION & CIRCULATION PLAN AND CONSTRUCTION DETAILS	
6	SIGHT TRIANGLE PLAN	
7	GRADING PLAN	
8	UTILITY PLAN AND PROFILES	
9	SOIL EROSION & SEDIMENT CONTROL PLAN	
10	SOIL EROSION AND SEDIMENT CONTROL DETAILS	
11	LANDSCAPE AND LIGHTING PLAN AND DETAILS	
12	CONSTRUCTION DETAILS	
13	NJ DEP PERMIT PLAN	

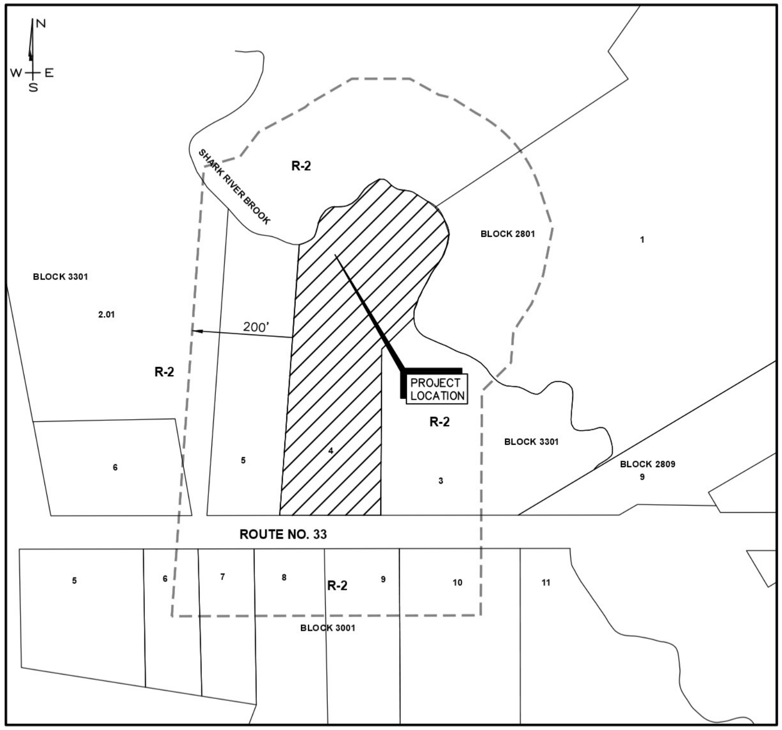
APPROVED BY THE PLANNING BOARD OF THE TOWNSHIP OF NEPTUNE AT THE MEETING HELD ON THE ________ DAY OF ________ 2022
DATE MONTH

PLANNING BOARD CHAIRPERSON ________ DATE ________

BOARD SECRETARY ________ DATE ________

PLANNING BOARD ENGINEER ________ DATE ________

RESOLUTION NUMBER ________ DATE ________

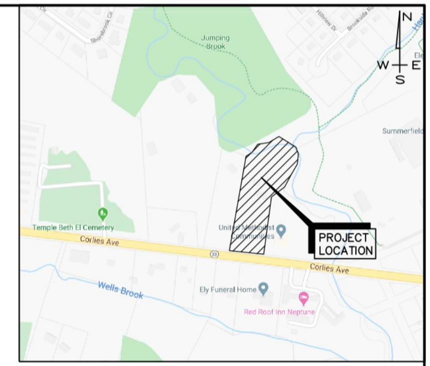


LEGEND
R-2: SINGLE FAMILY RESIDENTIAL
4 – LOT NUMBER
BLOCK 3001 – BLOCK NUMBER

200' RADIUS AND ZONNING MAP
SCALE: 1"= 100'
100 0 100 200
SCALE IN FEET (1"=100')

OWNER AND APPLICANT:
GALILEE EGLISE ADVENTISTE, INC.
3 RYJAC COURT
BRICK, NEW JERSEY 08724

ARCHITECT:
BUCKMAN ARCHITECTURAL GROUP
1127 WATCHUNG AVENUE
PLAINFIELD, NEW JERSEY 07060
TEL.: (908) 241-3457



SITE LOCATION MAP
SCALE: 1"= 200'

GENERAL NOTES

1. THE PROPERTY IS KNOWN AS LOT 4, BLOCK 3301 AS SHOWN ON SHEET 33 OF THE OFFICIAL TAX MAP OF THE TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY. LAST REVISED APRIL 8, 2014.
2. OWNER/APPLICANT: GALILEE EGLISE ADVENTISTE, INC..
3. THE APPLICANT PROPOSES TO CONSTRUCT A 4,000 SF CHURCH FACILITY WITH A BASEMENT LEVEL.
4. THE PROPERTY IS LOCATED IN THE TOWNSHIP'S LOW DENSITY SINGLE FAMILY RESIDENTIAL (R-2) ZONE AND CONTAINS A TOTAL TRACT AREA OF 3.24 ACRES
5. R-2 ZONE (HOUSE OF WORSHIP) REQUIREMENTS

MINIMUM REQUIREMENTS	REQUIRED	EXISTING	PROVIDED
LOT AREA	12,500 SF	141,136.89 SF	141,136.89 SF
FRONT YARD SETBACK	15 FT	N/A	293.24 FT
SIDE YARD SETBACK	20 FT	N/A	21.82 FT
REAR YARD SETBACK	20 FT	N/A	>20 FT
SET BACK FROM RESIDENTIAL PROPERTY LINE	1.5 X HGT. OF MAIN ROOF LINE = 1.5X20=30 FT	N/A	11.4 FT *
SIDE YARD PARKING LOT SET BACK	20 FT	N/A	19.2 FT *
REAR YARD PARKING LOT SETBACK	10 FT	N/A	>10 FT
MAXIMUM REQUIREMENTS			
NUMBER OF STORIES	2.5	N/A	1
BUILDING HEIGHT	35 FT	N/A	< 35 FT
PARKING REQUIREMENTS 1 SPACE/4 SEATS =	250/4=63	N/A	64

* VARIANCE REQUESTED

6. R-2 ZONE (ACCESSORY RESIDENCE) REQUIREMENTS

MINIMUM REQUIREMENTS	REQUIRED	EXISTING	PROVIDED
LOT AREA	10,000 SF	141,135.89 SF	141,136.89 SF
LOT WIDTH	100 FT	205.11 FT	205.11FT
LOT FRONTAGE	100 FT	205.11 FT	205.11 FT
LOT DEPTH	100 FT	600 FT	600 FT
FRONT YARD SETBACK	25 FT	320.24 FT	320.24 FT
SIDE YARD SETBACK	10 FT	11.57 FT	50.79 FT
COMBINED SIDE YARD SETBACK	25 FT	62.36 FT	N/A
REAR YARD SETBACK	30 FT	> 30 FT.	> 30 FT
IMPROVABLE AREA	2.400 SF		
MAXIMUM REQUIREMENTS			
DENSITY (DU/ACRE)	4.30	0.31	0.31
BUILDING COVER	30%	2.53%	
TOTAL LOT COVER	40%	6.60%	
BUILDING HEIGHT	35 FT	25 FT	25 FT
NUMBER OF STORIES	2.5	1.5	1.5

7. THE APPLICANT IS REQUESTING THE FOLLOWING VARIANCES FROM THE TOWNSHIP'S ORDINANCE.
8. BOUNDARY & TOPOGRAPHIC INFORMATION SHOWN ON SHEET 2 IS FROM A PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, 3313 STATE HIGHWAY ROUTE NO. 33, LOT 4, BLOCK 3301, SITUATED IN TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY" DATED DECEMBER 9, 2019. PREPARED BY HERBERT G. MCDONALD, FOR HERBERT G. MCDONALD ASSOCIATES, INC. PROFESSIONAL LAND SURVEYOR LIC NO. 34030.

   ADDITIONAL TOPOGRAPHIC INFORMATION (REAR OF SITE AND OFFSITE) IS BASED ON MONMOUTH COUNTY GIS MAPPING.
9. VERTICAL DATUM IS BASED ON NAVD 88.
10. SANITARY SEWER SERVICE WILL BE PROVIDED BY CONNECTION TO THE EXISTING ON SITE 4-INCH LATERAL THAT CURRENTLY SERVES THE EXISTING RESIDENTIAL BUILDING. THE EXISTING LATERAL CONNECTS TO AN EXISTING SANITARY MAIN LOCATED ON ROUTE 33.
11. WATER SERVICE WILL BE PROVIDED FROM AN EXISTING ON SITE WELL THAT CURRENTLY PROVIDES DOMESTIC WATER SERVICE TO THE EXISTING RESIDENTIAL BUILDING.
12. UTILITY RELOCATIONS SHOWN HEREON, IF ANY, ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT REPRESENT ALL REQUIRED UTILITY RELOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING AND/OR COORDINATING ALL REQUIRED UTILITY RELOCATIONS IN COOPERATION WITH THE RESPECTIVE UTILITY COMPANIES/AUTHORITIES.
13. DO NOT SCALE DRAWINGS AS THEY PERTAIN TO ADJACENT AND SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC. THEY ARE SCHEMATIC ONLY, EXCEPT WHERE DIMENSIONS ARE SHOWN THERETO.
14. THIS IS A SITE DEVELOPMENT PLAN AND UNLESS SPECIFICALLY NOTED ELSEWHERE HEREON IS NOT A SURVEY.
15. ALL TRAFFIC SIGNAGE AND STRIPING SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
16. THIS SET OF PLANS HAS BEEN PREPARED FOR PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL STAMPED "ISSUED FOR CONSTRUCTION", ALL APPROVALS REQUIRED HAVE BEEN OBTAINED AND ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED. THIS SHALL INCLUDE APPROVAL OF ALL CATALOG CUTS, SHOP DRAWINGS AND/OR DESIGN CALCULATIONS AS REQUIRED BY THE MUNICIPAL ENGINEER.
17. EXISTING UTILITY INFORMATION SHOWN HERON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO EXCAVATION. WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTION, TEST PITS SHALL BE DUG BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO ASCERTAIN EXISTING INVERTS, MATERIALS AND SIZES. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENTS AS REQUIRED TO AVOID CONFLICTS.
18. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR SITE IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH:
    A. N.J. DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", 2001; AS SUPPLEMENTED.
    B. CURRENT, PREVAILING MUNICIPAL, COUNTY AND/OR STATE AGENCY SPECIFICATIONS, STANDARDS, CONDITIONS AND REQUIREMENTS.
    C. CURRENT, PREVAILING UTILITY COMPANY/AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
    D. CURRENT MANUFACTURER'S SPECIFICATIONS, STANDARDS AND REQUIREMENTS.
    E. FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
    F. RESIDENTIAL SITE IMPROVEMENT STANDARDS.
19. THE CONTRACTOR SHALL NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON. SUCH CONDITIONS COULD RENDER THE DESIGNS SHOWN HEREON INAPPROPRIATE OR INEFFECTIVE.
20. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY INCLUDING PROVISION OF ALL APPROPRIATE SAFETY DEVICES AND TRAINING REQUIRED.
21. ALL UTILITIES AND OTHER SITE IMPROVEMENTS TO BE MAINTAINED BY THE APPLICANT AT THEIR SOLE EXPENSE.
22. ALL TEMPORARY ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY SHALL REQUIRE TOWNSHIP COUNCIL AND N.J.D.O.T. APPROVAL.
23. ALL CONSTRUCTION STAGING SHALL BE DONE ON SITE UNLESS AN ENCROACHMENT FOR SAME SHALL BE APPROVED BY CITY COUNCIL.
24. TRACKING PADS SHALL BE INSTALLED AT ALL CONSTRUCTION EXITS AND ALL STREET CLEANING SHALL BE PERFORMED AS PER THE DIRECTION OF THE DIRECTOR OF PUBLIC WORKS.
25. LIST OF PERMITS OR APPROVALS TO BE OBTAINED:
    PRELIMINARY AND FINAL MINOR SITE PLAN APPROVAL
    MONMOUTH COUNTY PLANNING BOARD
    NEPTUNE TOWNSHIP ROAD OPENING PERMIT
    NEPTUNE TOWNSHIP PERFORMANCE BOND
    NEPTUNE TOWNSHIP PUBLIC WORKS DEPARTMENT
    NJDOT MINOR ACCESS PERMIT
26. THE SITE IS LOCATED IN FLOOD ZONE X, AN AREA OF MINIMUM FLOOD ZONE, PER FLOOD INSURANCE RATE MAP OF MONMOUTH COUNTY (MAP NUMBER 34025C0329F) DATED SEPTEMBER 25, 2009.
27. THESE GENERAL NOTES APPLY TO ALL SHEETS IN THE SET.

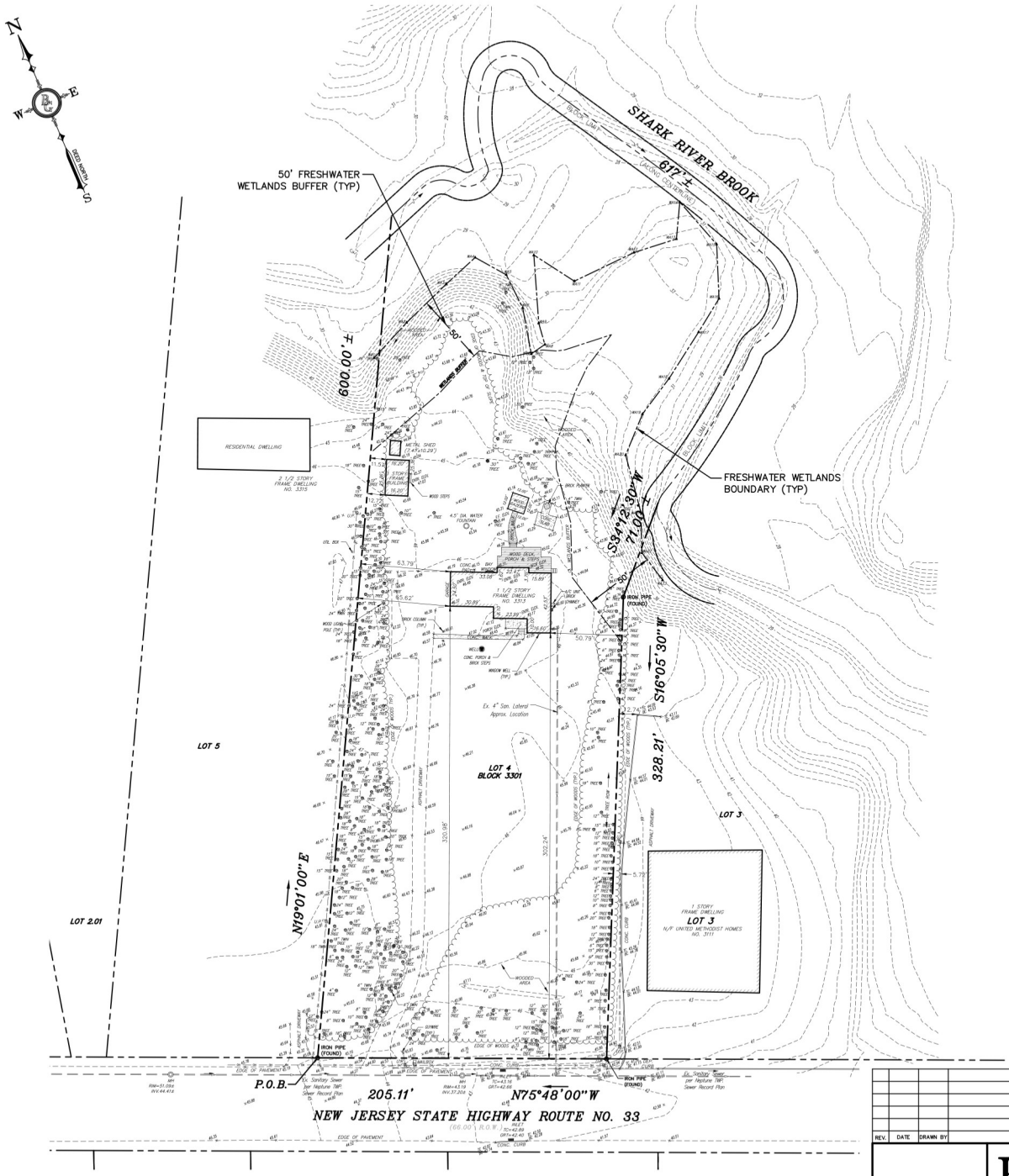
REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 598-6616
Fax (609) 671-0715
State of N.J. Certificate of Authorization: 24GA28168000

PRELIMINARY & FINAL SITE PLAN
COVER SHEET
FOR
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301
NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER: 1943A	DATE: DEC. 5, 2022
SCALE: AS SHOWN	LATEST REVISION:
DESIGN BY: BP	CHECKED BY: BP
SHEET NUMBER: 1 of 13	



GENERAL NOTES

1. THIS SITE IS KNOWN AND DESIGNATED AS LOT 4, BLOCK 3301, AS SHOWN ON THE OFFICIAL TAX MAP OF THE TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY, CONTAINING AN AREA OF 141,136.89± SQUARE FEET OR 3.240057 ± ACRES.
2. THIS PLAN IS BASED ON A PROPERTY SURVEY BY HERBERT G. MCDONALD ASSOCIATES, INC. AND IS SUBJECT TO SUCH FACTS THAT MAY BE DISCLOSED BY A COMPLETE UP TO DATE AND THOROUGH TITLE REPORT OF THE SUBJECT PROPERTY.
3. ADDITIONAL TOPOGRAPHIC INFORMATION (REAR AND OFFSITE) WAS OBTAINED FROM MONMOUTH COUNTY GIS MAPPING.
4. VERTICAL DATUM IS NAVD 1988.

REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
State of N.J. Certificate of Authorization: 24GA28168000
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 588-8616
Fax (609) 671-0715

PRELIMINARY & FINAL SITE PLAN

EXISTING CONDITIONS PLAN

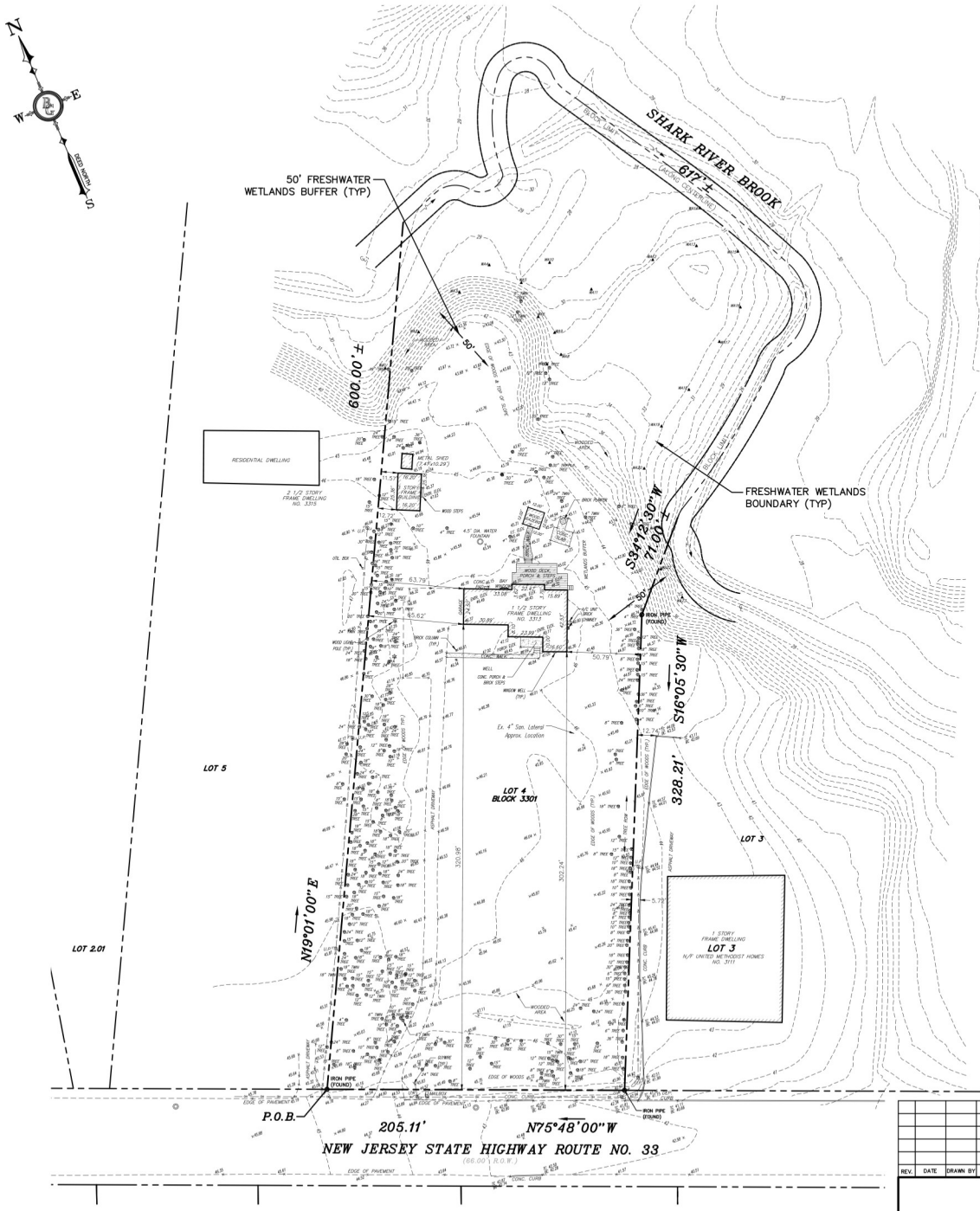
FOR

GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301

NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER	DATE
1943A	DEC. 5, 2022
SCALE	LATEST REVISION
1" = 30'	
DESIGN BY	CHECKED BY
BP	BP

SHEET NUMBER: 2 of 13



SURVEY NOTES

1] KNOWN AND DESIGNATED AS LOT 4 IN BLOCK 3301 AS SHOWN ON THE OFFICIAL TAX MAP OF THE TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY, CONTAINING AN AREA OF 141,136.89± SQUARE FEET OR 3.240057± ACRE.

2] THIS SURVEY IS BASED UPON THE FOLLOWING DATA AND/OR EXCEPTIONS:

	YES	NO
DEEDS OF RECORD	X	
FILED MAP		X
TITLE SEARCH		X
TAX MAP/RECORD	X	
PRIOR SURVEY	X	

3] THIS SURVEY REPRESENTS CONDITIONS VISIBLE ON OR ABOVE THE SURFACE OF THE GROUND AT THE TIME OF THE SURVEY. THE UNDERSIGNED PROFESSIONAL IS NOT RESPONSIBLE FOR THE PRESENCE OF UNDERGROUND UTILITIES OR STRUCTURES IF SAME ARE NOT VISIBLE OR OTHERWISE DISCLOSED BY ANY OF THE SHOWN DATA.

4] A WRITTEN WAIVER AND DIRECTION NOT TO SET CORNER MARKERS HAS BEEN OBTAINED FROM THE ULTIMATE USER PURSUANT TO N.J.A.C.13: 40–5.2(C).

5] IF THIS DOCUMENT DOES NOT CONTAIN A RAISED IMPRESSION SEAL OF THE UNDERSIGNED PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT AND MAY HAVE BEEN ALTERED.

6] THE COPYING OR REUSE OF THIS DOCUMENT OR PORTIONS THEREOF FOR OTHER THAN THE ORIGINAL PROJECT OR THE PURPOSE ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF HERBERT G. MCDONALD ASSOCIATES, INC., IS PROHIBITED.

7] THIS SURVEY MAP IS AN ACCURATE REPRESENTATION OF CONDITIONS EXISTING AS OF NOVEMBER 30, 2019 AND UPDATED MARCH 30, 2021.

8] THIS SURVEY IS BASED ON A PROPERTY SURVEY BY HERBERT G. MCDONALD ASSOCIATES, INC., AND IS SUBJECT TO SUCH FACTS THAT MAY BE DISCLOSED BY A COMPLETE UP TO DATE AND THOROUGH TITLE REPORT OF THE SUBJECT PROPERTY.

9] INVERT ELEVATIONS NOT SHOWN HEREON ARE DUE TO THEIR INACCESSIBILITY AT THE TIME OF SURVEY, STRUCTURES ARE FILLED WITH DEBRIS AND DIRT.

10] VERTICAL DATUM IS NAVD 1988.

EXISTING TREES TABULATION TABLE

TREE DIAMETER	NO. OF TREES
4"	9
6"	18
8"	31
10"	18
12"	30
15"	30
18"	51
20"	10
24"	27
28"	7
30"	15
36"	4

30 0 30 60
SCALE IN FEET (1"=30')

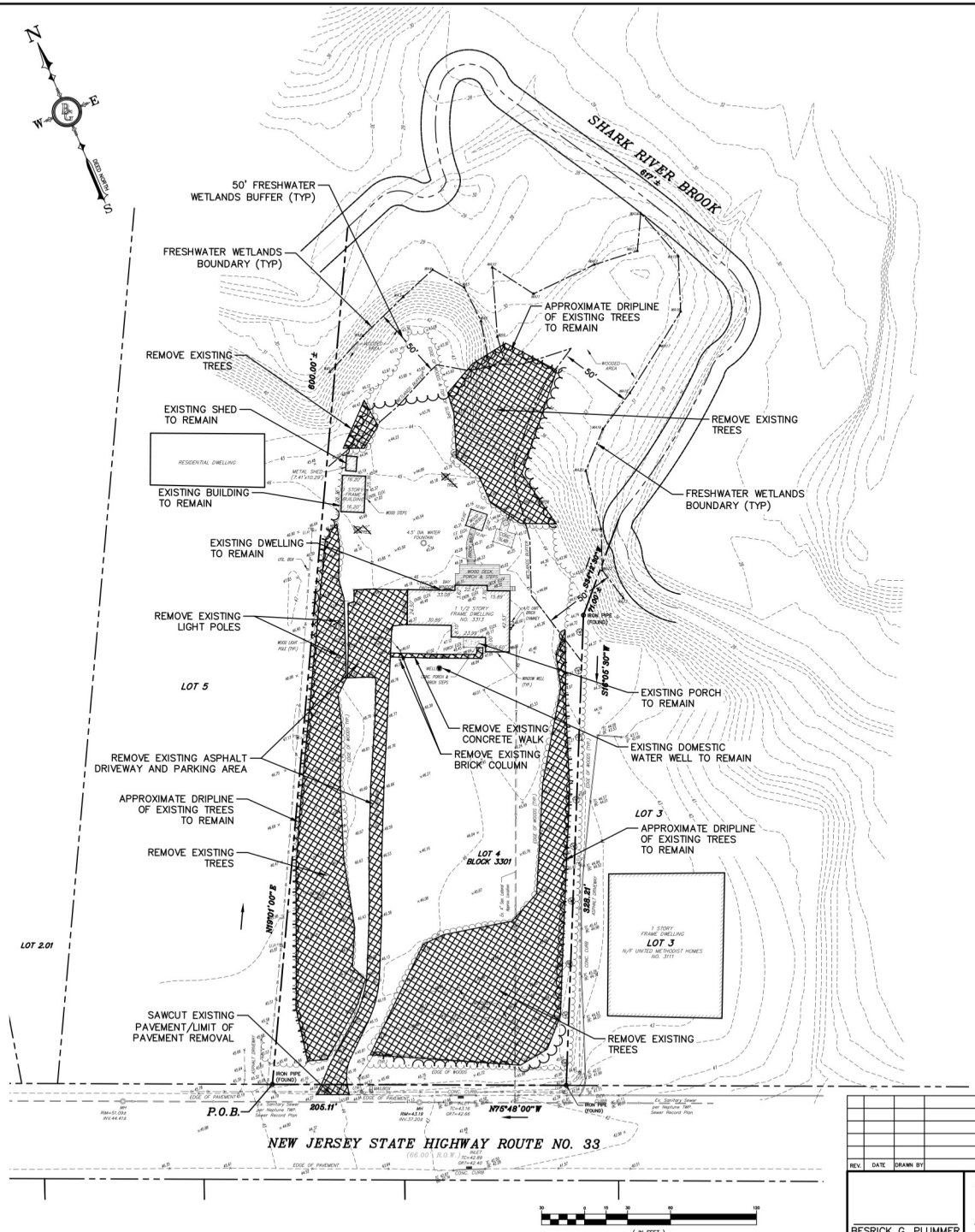
REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
State of N.J. Certificate of Authorization: 24GA28168000
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 588-8616
Fax (609) 671-0715

PRELIMINARY & FINAL SITE PLAN
EXISTING TREE SURVEY PLAN
FOR
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301
NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER: 1943A
DATE: DEC. 5, 2022
SCALE: 1" = 30"
LATEST REVISION:
DESIGN BY: BP
CHECKED BY: BP
SHEET NUMBER: 3 of 13



REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 386-8616
Fax (609) 671-0715
State of N.J. Certificate of Authorization: 24GA28168000

PRELIMINARY & FINAL SITE PLAN

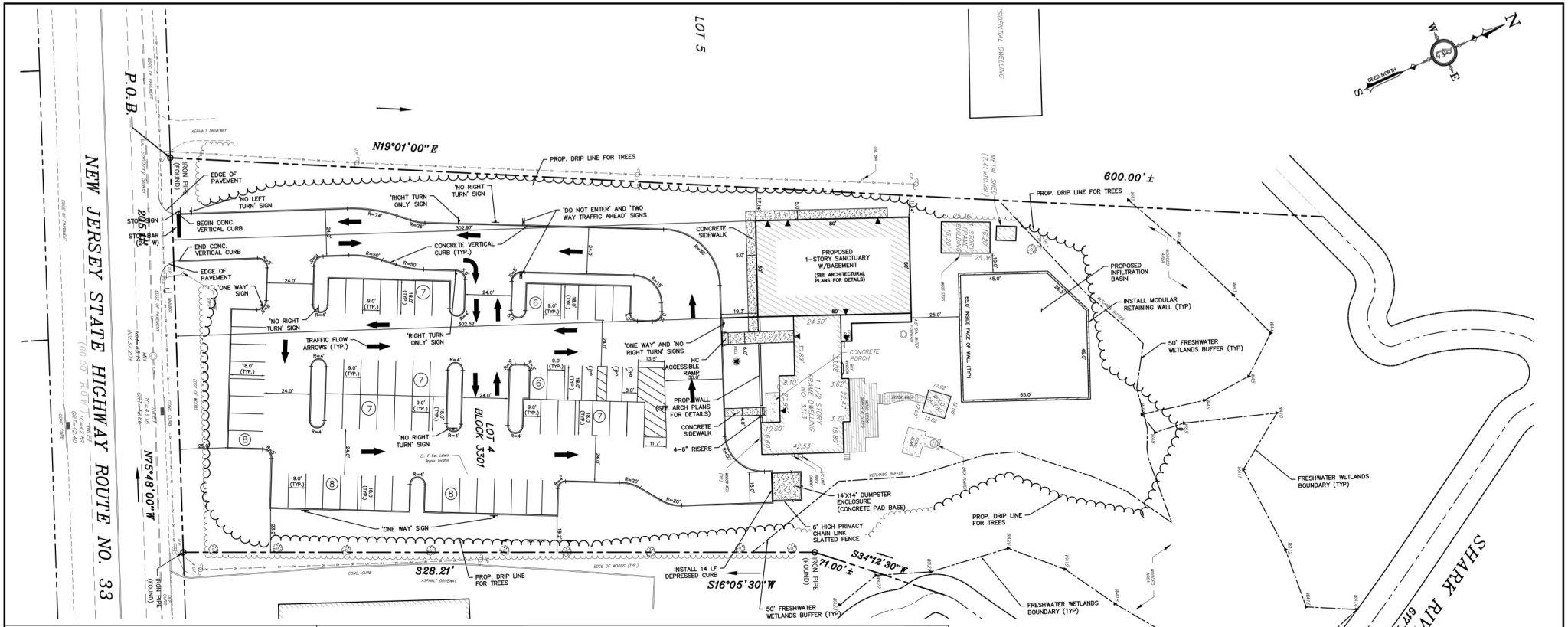
DEMOLITION PLAN

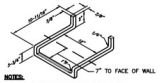
FOR

GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301

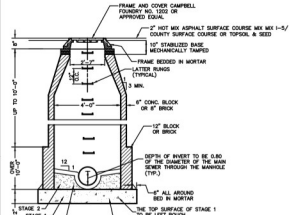
NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

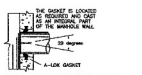
JOB NUMBER	DATE
1943A	DEC. 5, 2022
SCALE: 1" = 30'	LATEST REVISION:
DESIGN BY: BP	CHECKED BY: BP
SHEET NUMBER: 4 of 13	



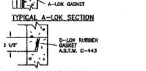


ALUMINUM M.H. STEPS DETAIL
N.T.S.





TYPICAL A-LOK SECTION



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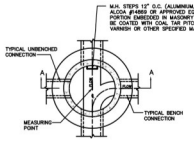
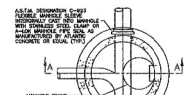
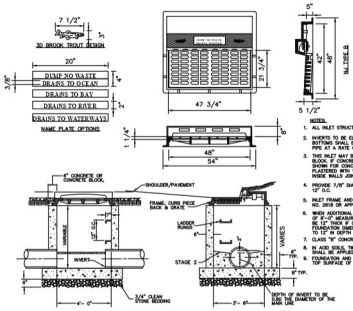




PLANVIEW



TYPE 'B' INLET DETAIL
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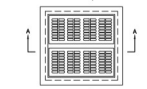

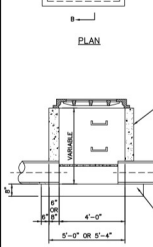

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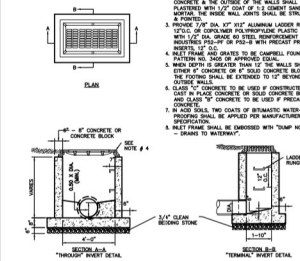

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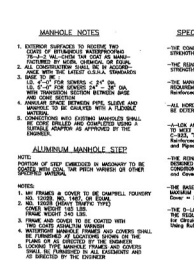
N.T.S.



STORM MANHOLE DETAIL
N.T.S.

ALUMINUM LADDER RUNG

(IN FEET)
1 inch = 20 ft.

REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
State of N.J. Certificate of Authorization: 24GA28168000
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 588-6616
Fax (609) 671-0715

PRELIMINARY & FINAL SITE PLAN

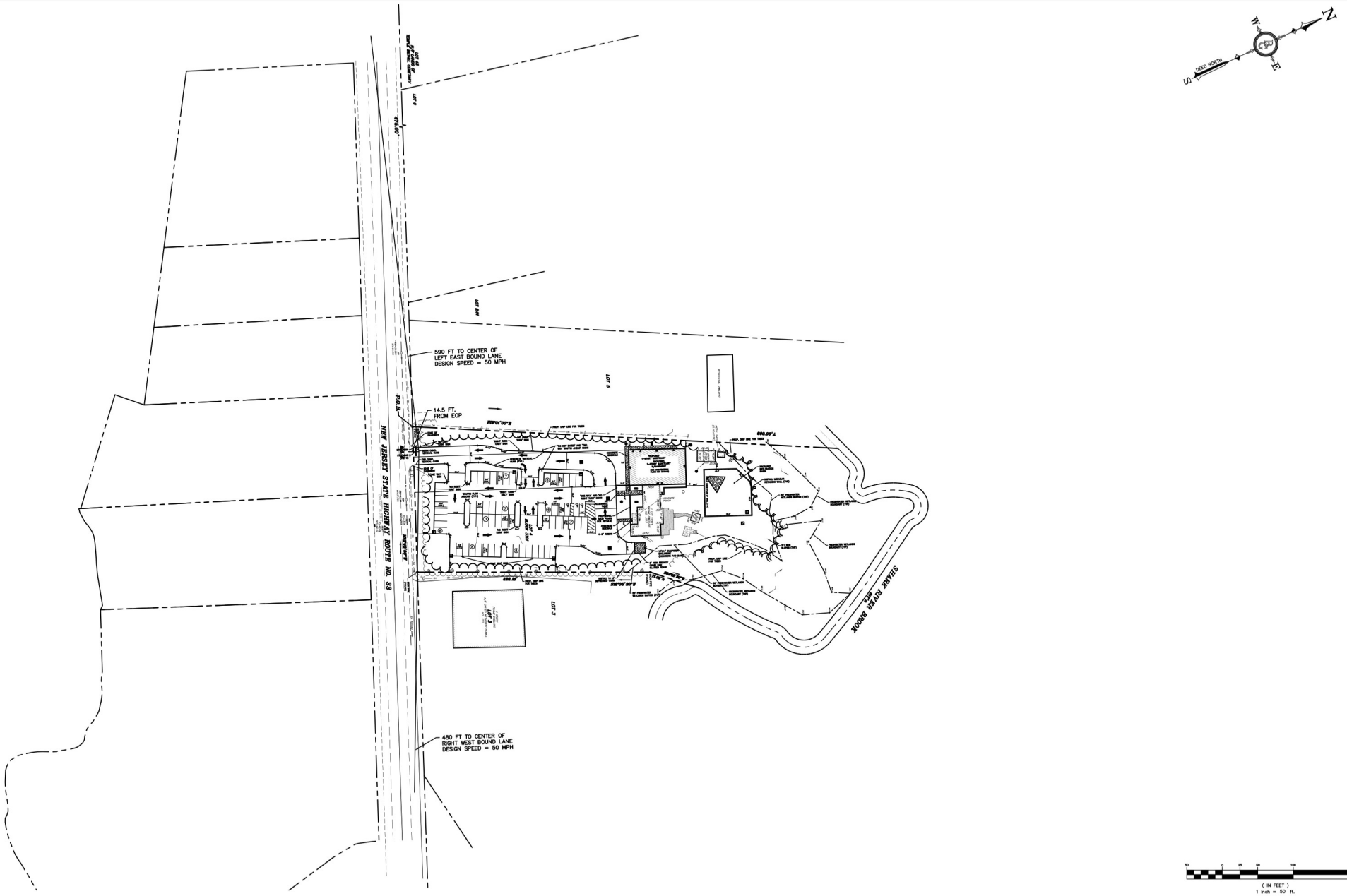
DIMENSION AND CIRCULATION PLAN AND CONSTRUCTION DETAILS

FOR

GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301

NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER:	1943A
DATE:	DEC. 5, 2022
SCALE:	1" = 20"
LATEST REVISION:	
DESIGN BY:	BP
CHECKED BY:	BP
SHEET NUMBER:	5 of 13



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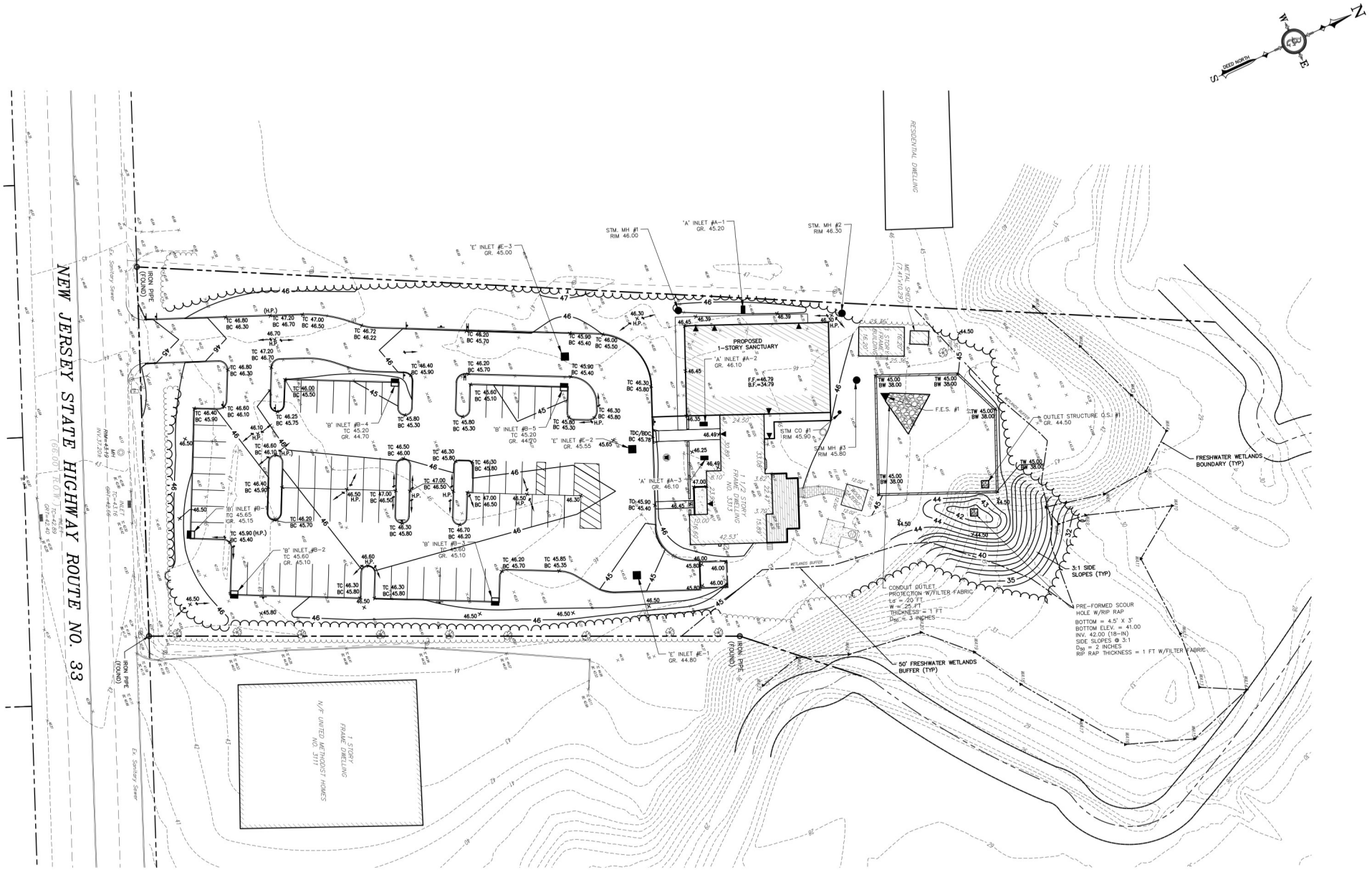
BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 386-8616
Fax (609) 671-0715
State of N.J. Certificate of Authorization: 24GA28168000

PRELIMINARY & FINAL SITE PLAN
SIGHT TRIANGLE PLAN
FOR
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301
NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER: 1943A	DATE: DEC. 5, 2022
SCALE: 1" = 50'	LATEST REVISION:
DESIGN BY: BP	CHECKED BY: BP
SHEET NUMBER: 6 of 13	



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BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 586-8616
Fax (609) 671-0715
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PRELIMINARY & FINAL SITE PLAN

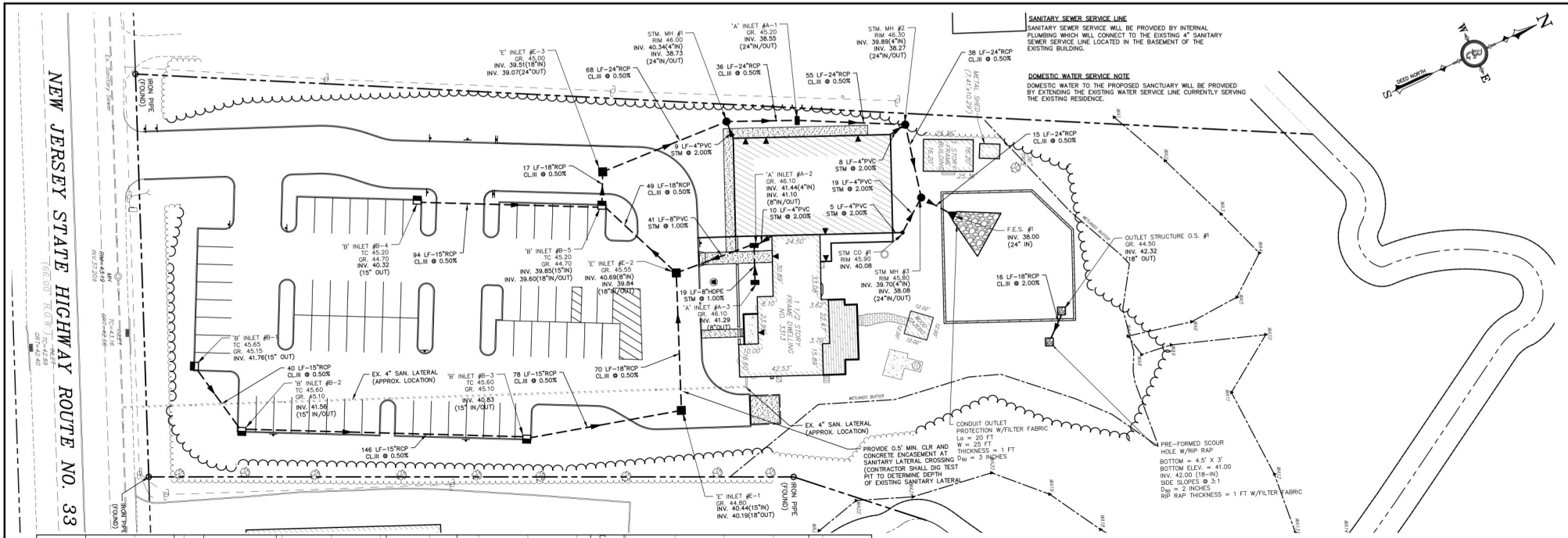
GRADING PLAN

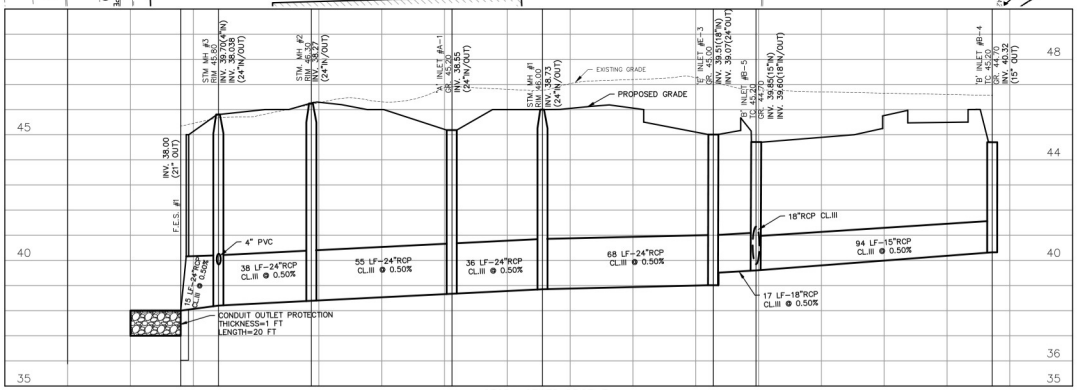
FOR

GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301

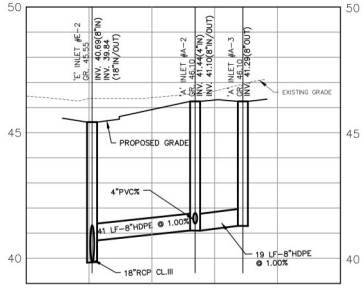
NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER	DATE
1943A	DEC. 5, 2022
SCALE	LATEST REVISION
1" = 20'	
DESIGN BY	CHECKED BY
BP	BP
SHEET NUMBER	
7 of 13	

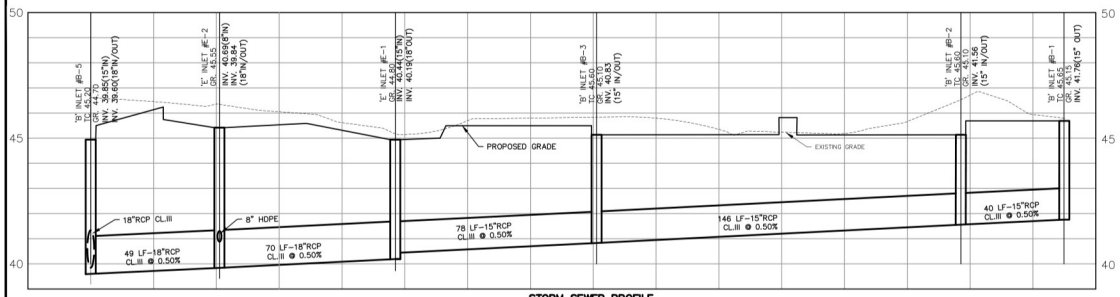




STORM SEWER PROFILE
FES #1 TO 'B' INLET #B-4
VERTICAL: 1" = 2'
HORIZONTAL: 1" = 20'



STORM SEWER PROFILE
INLET #E-2 TO 'A' INLET #A-3
VERTICAL: 1" = 2'
HORIZONTAL: 1" = 20'



STORM SEWER PROFILE
'B' INLET B-5 TO 'B' INLET #B-1
VERTICAL: 1" = 2'
HORIZONTAL: 1" = 20'

0 0 1 2 4
(IN FEET)
1 inch = 2 ft.

20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

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PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 588-8616
Fax (609) 671-0715
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PRELIMINARY & FINAL SITE PLAN
UTILITY PLAN AND PROFILE
FOR
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301
NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER	DATE
1943A	DEC. 5, 2022
SCALE	LATEST REVISION
AS SHOWN	
DESIGN BY	CHECKED BY
BP	BP

SHEET NUMBER: 8 of 13

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
4. N.J.S.A 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
7. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ACCESS CONSISTING OF ONE INCH TO TWO INCH (1" - 2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
10. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
11. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
12. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/1,000 SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24 WHERE TREES OR SHRUBS ARE TO BE PLANTED.
13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
14. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
15. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
16. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
18. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

MITIGATION NOTES FOR ACIDIC SOIL

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH AID PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOIL MATERIAL TO BE EXPOSED MORE THAN 30 DAYS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING SOIL.
5. HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT A RATE OF 6 TONS PER ACRE (OR 275 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS:
   A. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE.
   B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SILT FENCE, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID PRODUCING SOILS FROM, AROUND OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE, MONITORING SHOULD CONTINUE FOR APPROXIMATELY 6 TO 12 MONTHS TO ASSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

SEQUENCE OF CONSTRUCTION

1. INSTALL ALL PRECONSTRUCTION SOIL EROSION & SEDIMENT CONTROL MEASURES INCLUDING CONSTRUCTION ENTRANCES, SILT FENCE AND INLET PROTECTIONS. (2 DAYS)
2. CLEAR SITE AS SHOWN ON PLANS WITH APPROPRIATE EROSION CONTROL FACILITIES IN PLACE. (2 WEEKS).
3. PROVIDE AND INSTALL TEMPORARY STABILIZATION MEASURES AS REQUIRED. (DURATION)
4. INSTALL INFILTRATION BASIN. (1 WEEK)
5. INSTALL PROPOSED UTILITIES. (2 WEEKS)
6. INSTALL ADDITIONAL INLET PROTECTIONS AT NEW INLET. (1 DAY)
7. BUILDING CONTRUCTION. (2 MONTHS)
8. SITE GRADING FOR PARKING LOT. (1 WEEK)
9. INSTALL CONCRETE CURB. (2 DAYS)
10. INSTALL CONCRETE SIDEWALK. (2 DAYS)
11. INSTALL PAVEMENT BASE COURSES. (1 WEEK)
12. INSTALL PAVEMENT SURFACE COURSE. (2 DAYS)
13. REGRADING & STABILIZATION OF LAWN AREAS. (2 DAYS)
14. REMOVAL OF SOIL EROSION & SEDIMENT CONTROL FACILITIES WHEN PERMANENT EROSION CONTROL MEASURES ARE ACCEPTED BY THE CONSERVATION DISTRICT AND TOWNSHIP ENGINEER. (2 DAYS)

SOIL REMOVAL NOTE
ALL SOIL WASHED, DROPPED, TRACKED OR SPILLED ONTO PAVED SURFACES SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR.

DUST CONTROL NOTE
THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL AT DISTURBED AREAS BY SPRINKLING DISTURBED SOIL WITH WATER OR BY USING OTHER APPROVED METHODS OF DUST CONTROL.

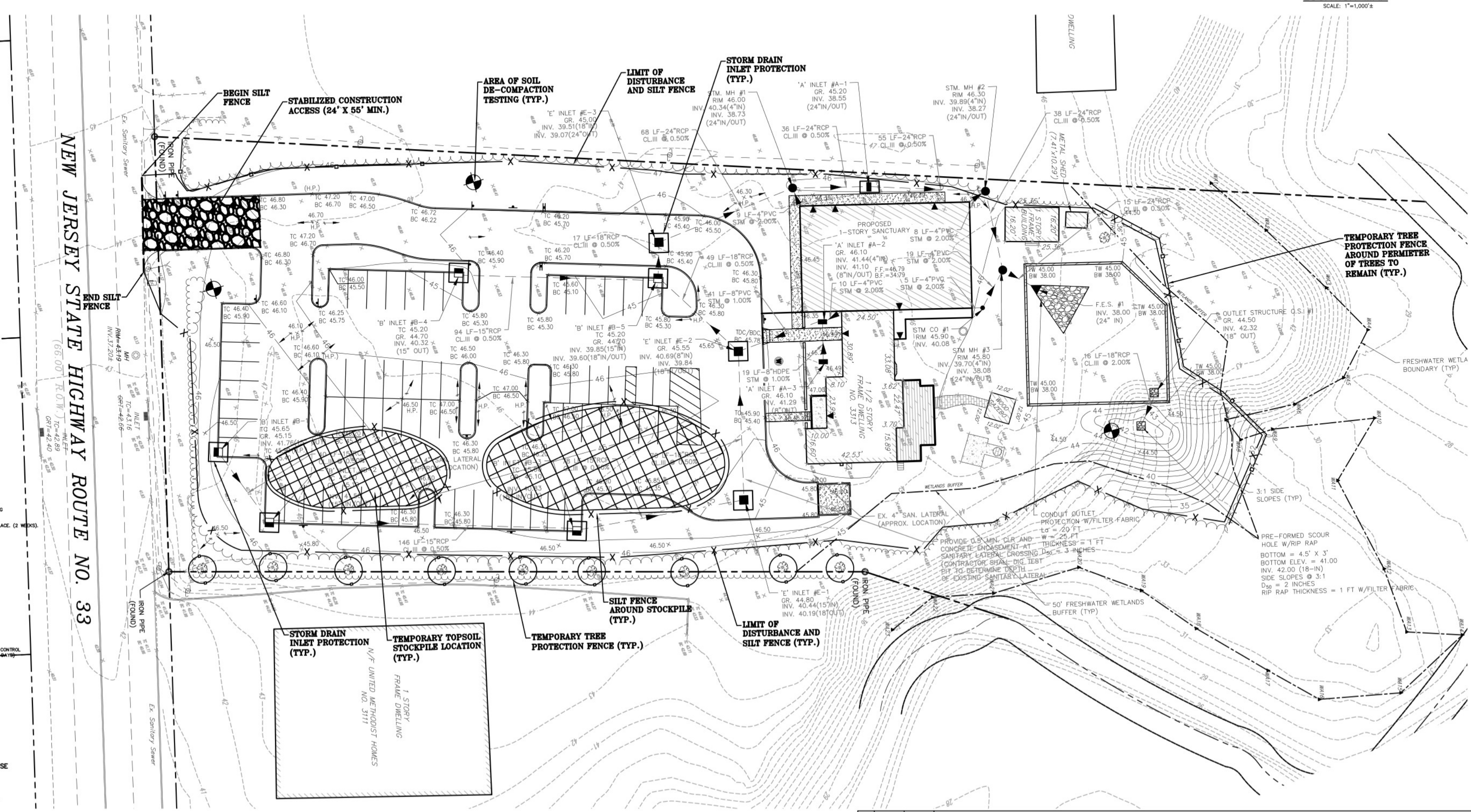
STORM DRAIN INLET PROTECTION NOTE
ALL INLETS (EXISTING AND PROPOSED) WITHIN THE LIMITS OF DISTURBANCE MUST BE RETROFITTED WITH STORM DRAIN INLET PROTECTION (ACCEPTABLE BY THE SOIL CONSERVATION DISTRICT) PRIOR TO ANY LAND DISTURBANCE. OTHER INLETS LOCATED IN CLOSE PROXIMITY TO THE PROPOSED DISTURBED AREA MUST ALSO BE PROTECTED FROM SEDIMENTS AS SHOWN ON THIS PLAN.

LEGEND

- STORM DRAIN INLET PROTECTION
- AREA OF SOIL COMPACTION TESTING
- STABILIZED CONSTRUCTION ACCESS
- SILT FENCE AND LIMIT OF DISTURBANCE
- LIMIT OF DISTURBANCE

THIS SHEET TO BE USED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY!!
TOTAL AREA OF DISTURBANCE = 81,009 S.F., 1.860 ACRES

LOCATION MAP
SCALE: 1"=1,000'±



(IN FEET)
1 inch = 20 ft.

REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 598-6616
Fax (609) 671-0715
State of N.J. Certificate of Authorization: 24GA28168000

PRELIMINARY & FINAL SITE PLAN
SOIL EROSION AND SEDIMENT CONTROL PLAN
FOR
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301
NEPTUNE TOWNSHIP — MONMOUTH COUNTY — NEW JERSEY

JOB NUMBER: 1943A	DATE: DEC. 5, 2022
SCALE: 1" = 20"	LATEST REVISION:
DESIGN BY: BP	CHECKED BY: BP
SHEET NUMBER: 9 of 13	

STANDARDS FOR TOPSOILING

METHODS AND MATERIALS

1. MATERIALS

A. TOPSOIL SHOULD BE FRIABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER. MORE THAN 0.5 MILLIMHOS MAY DESICCATE SEEDLINGS AND ADVERSELY IMPACT GROWTH). IMPORTED TOPSOIL SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.

B. TOPSOIL SUBSTITUTE IS A SOIL MATERIAL WHICH MAY HAVE BEEN AMENDED WITH SAND, SILT, CLAY, ORGANIC MATTER, FERTILIZER OR LIME AND HAS THE APPEARANCE OF TOPSOIL. TOPSOIL SUBSTITUTES MAY BE UTILIZED ON SITES WITH INSUFFICIENT TOPSOIL FOR ESTABLISHING PERMANENT VEGETATION. ALL TOPSOIL SUBSTITUTE MATERIALS SHALL MEET THE REQUIREMENTS OF TOPSOIL NOTED ABOVE. SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE COMPONENTS OF SAND, SILT, CLAY, ORGANIC MATTER, SOLUBLE SALTS AND PH LEVEL.

2. STRIPPING AND STOCKPILING

A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.

B. STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.

C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS TO BRING THE SOIL PH TO APPROXIMATELY 6.5.

D. A 4–6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.

E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF–SITE ENVIRONMENTAL DAMAGE.

F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED HEREIN; SEE STANDARDS FOR PERMANENT (PG. 4–1) OR TEMPORARY (PG.7–1) VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.

3. SITE PREPARATION

A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION. IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE COVER IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE. TIME IS OF THE ESSENCE

B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. SEE THE STANDARD FOR LAND GRADING, PG. 19–1.

C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT. LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A PH OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.

D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND GRADING, PG. 19–1.

E. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

4. APPLYING TOPSOIL

A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE; I.E., LESS THAN FIELD CAPACITY (SEE GLOSSARY).

B. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5.0 INCHES, MINIMUM OF 4 INCHES, FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE APPROPRIATE SUCH AS ON GOLF COURSES, SPORTS FIELDS, LANDFILL CAPPING, ETC. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE, IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOIL (PG. 1–1).

C. PURSUANT TO THE REQUIREMENTS IN SECTION 7 OF THE STANDARD FOR PERMANENT VEGETATIVE STABILIZATION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF THE SOILS TO BE STABILIZED WITH VEGETATION. FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTOR TO INCLUDE SOME OR ALL OF THE FOLLOWING: SUPPLEMENTAL SEEDING, RE–APPLICATION OF LIME AND FERTILIZERS, AND/OR THE ADDITION OF ORGANIC MATTER (I.E. COMPOST) AS A TOP DRESSING. SUCH ADDITIONAL MEASURES SHALL BE BASED ON SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED LABORATORY FACILITIES QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.

STANDARDS FOR STABILIZATION WITH MULCH ONLY

METHODS AND MATERIALS

1. SITE PREPARATION

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, I.E. THE SOIL CANNOT BE SEEN BELOW THE MULCH.

2. PROTECTIVE MATERIALS

A. UNROTTED SMALL–GRAIN STRAW, OR SALT HAY AT 2.0 TO 2.5 TONS PER ACRE IS SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.

B. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER.

C. WOOD–FIBER OR PAPER–FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER 'S REQUIREMENTS) MAY BE APPLIED BY A HYDROSEEDER.

D. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.

E. WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF2 INCHES MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.

F. GRAVEL, CRUSHED STONE, OR SLAG AT THE RATE OF9 CUBIC YARDS PER 1,000 SQ. FT. APPLIED UNIFORMLY TO A MINIMUM DEPTH OF3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM C–33) IS RECOMMENDED.

3. MULCH ANCHORING– SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.

A. PEG AND TWINE– DRIVE 8 TO I 0 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIFSURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS–CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

B. MULCH NETTINGS– STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY VAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.

C. CRIMPER MULCH ANCHORING COULTER TOOL –A TRACTOR–DRAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT ITS USE IS LIMITED TO THOSE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.

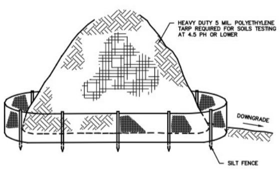
D. LIQUID MULCH–BINDERS

1. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

2. USE ONE OF THE FOLLOWING:

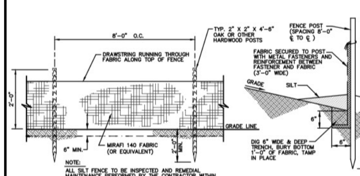
a. ORGANIC AND VEGETABLE BASED BINDERS – NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

b. SYNTHETIC BINDERS – HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.



TEMPORARY TOPSOIL STOCKPILE DETAIL

N.T.S.



NOTE:
ALL SILT FENCE TO BE INSPECTED AND REMEDIAL MAINTENANCE PERFORMED BY THE CONTRACTOR WITHIN 24 HOURS AFTER EACH RAIN.

SILT FENCE DETAIL

N.T.S.

PERMANENT SEEDING SPECIFICATIONS

1. SITE PREPARATION

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.

B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.

C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.

D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE–STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.

2. SEEDBED PREPARATION

A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO–OPERATIVE EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/). FERTILIZ.ER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10–10–10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE–HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE–HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.

B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING–TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.

C. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF S OR MORE BEFORE INITIATING SEEDBED REPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID–PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.

3. SEEDING

A. SELECT A MIXTURE FROM TABLE 4–2 OR USE A MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.

LOCATION		ACCEPTABLE SEED MIXES			OPTIMAL SEEDING DATES	ACCEPTABLE SEEDING DATES
LAWN	MIX # 15 –	HARD FESCUE	130 LBS/ACRE	3.0 LBS/1,000SF	8/15 TO 10/15	3/1 TO 4/30 5/1 TO 8/14
		CHEWING FESCUE	45 LBS/ACRE	1.0 LBS/1,000SF		
		STRONG CREEPING RED FESCUE	45 LBS/ACRE	1.0 LBS/1,000SF		
		PERENNIAL RYEGRASS	10 LBS/ACRE	0.25 LBS/1,000SF		
	MIX # 16 –	ROUGH BLUEGRASS	90 LBS/ACRE	2.0 LBS/1,000SF	8/15 TO 10/15	3/1 TO 4/30 5/1 TO 8/14
		STRONG CREEPING RED FESCUE	130 LBS/ACRE	3.0 LBS/1,000SF		

1. SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDED AREA AND MOWED ONCE.

2. WARM–SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85 F AND ABOVE. SEE TABLE 4–2 MIXTURES 1TO 7. PLANTING RATES FOR WARM–SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.

3. COOL–SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85°F. MANY GRASSES BECOME ACTIVE AT 65°F. SEE TABLE 4–2, MIXTURES 8–20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL SEASON GRASSES.

B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE–TEXTURED SOIL.

C. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED–TO–SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER–MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4–MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

4. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT

A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1–1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH–BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER–BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

APPLICATION – SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% OF THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND–SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.

ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

I. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STABS MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS–CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

2. MULCH NETTINGS – STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.

3. CRIMPER (MULCH ANCHORING COULTER TOOL) – A TRACTOR–DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.

4. LIQUID MULCH–BINDERS – MAY BE USED TO ANCHOR SALT HAY, HAY OR STRAW MULCH.

a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.

b. USE ONE OF THE FOLLOWING:

(I)ORGANIC AND VEGETABLE BASED BINDERS – NATURALLY OCCURRING, POWDER–BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.

(2) SYNTHETIC BINDERS – HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND, FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

B. WOOD–FIBER OR PAPER–FIBER MULCH – SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

C. PELLETIZED MULCH – COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO–POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60–75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEED–SEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE. APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

5. IRRIGATION (WHERE FEASIBLE)

IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

6. TOPDRESSING

SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2A – SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW–UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10–10–10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR 7POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.

7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION

THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4–3 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER (OF THE SEEDED SPECIES) AND MOWED ONCE. NOTE, THIS DESIGNATION OF MOWED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

TEMPORARY SEEDING SPECIFICATIONS

1. SITE PREPARATION

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, PG. 19–1.

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.)

2. SEEDBED PREPARATION *

A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO–OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10–20–10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE.

* SOIL TESTING SHOULD BE DONE TO DETERMINE AMOUNT OF LIMESTONE REQUIRED AND APPLICATION RATE.

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.

C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE.

D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1–1.

3. SEEDING

A. SELECT SEED FROM RECOMMENDATIONS IN TABLE 7–2.

LOCATION	ACCEPTABLE SEED MIXES			OPTIMAL SEEDING DATES
LAWN	SPRING OATS	86 LBS/ACRE	2.0 LBS/1,000SF	3/01 TO 5/15 AND 8/15 TO 10/01
	ANNUAL RYEGRASS	100 LBS/ACRE	1.0 LBS/1,000SF	3/15 TO 6/01 AND 8/01 TO 9/15
	PERENNIAL RYEGRASS	100 LBS/ACRE	1.0 LBS/1,000SF	3/01 TO 5/15 AND 8/15 TO 10/01

B. CONVENTIONAL SEEDING. APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH. BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION IV MULCHING) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.

D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED–TO–SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1–1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH–BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER–BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

APPLICATION. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 95% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND–SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.

ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

1. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS–CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

2. MULCH NETTINGS. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.

3. CRIMPER (MULCH ANCHORING TOOL). A TRACTOR–DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.

4. LIQUID MULCH–BINDERS. –MAY BE USED TO ANCHOR HAY OR STRAW MULCH.

a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.

b. USE ONE OFTHE FOLLOWING:

(1) ORGANIC AND VEGETABLE BASED BINDERS– NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.

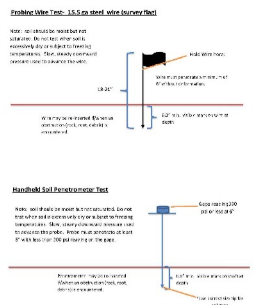
(2) SYNTHETIC BINDERS – HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

NOTE: ALL NAMES GIVE ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A COMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

B. WOOD–FIBER OR PAPER–FIBER MULCH. SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500POUNDS PER ACRE (OR AS RECOMMENDED BY THE PROJECT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

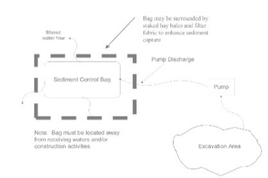
C. PELLETIZED MULCH. COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO–POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60–75 LBS./1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEED–SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.



SIMPLIFIED TESTING METHODS DETAIL

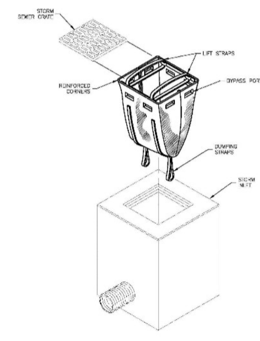
N.T.S.



Bags must be disposed of according to manufacturer's instructions. Bags may not be reused.

DEWATERING DETAIL

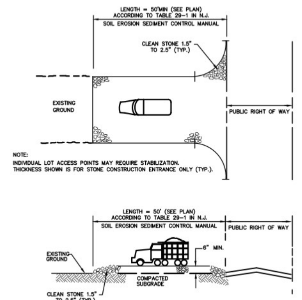
N.T.S.



NOTES
1. CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM
2. CONTRACTOR TO REMOVE FABRIC AND MESH JUST PRIOR TO PAVING
3. REMOVE INLET PROTECTION WHEN THE CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.

INLET FILTER DETAIL

N.T.S.



NOTE:
INDIVIDUAL LOT ACCESS POINTS MAY REQUIRE STABILIZATION. THICKNESS SHOWN IS FOR STONE CONSTRUCTION ENTRANCE ONLY (TYP.).

STABILIZED CONSTRUCTION ACCESS DETAIL

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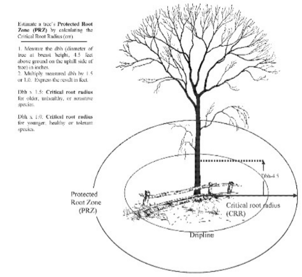

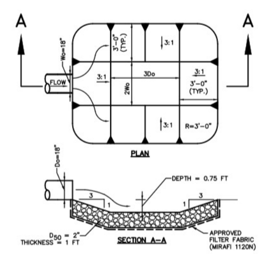

PREFORMED SCOUR HOLE DETAIL

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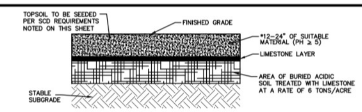

* 24" OF TOPSOIL TO BE INSTALLED IN AREAS DESIGNATED FOR TREE OR SHRUB PLANTING.

1. ACID PRODUCING SOILS ARE DEFINED AS SOILS CONTAINING IRON SULFIDE MINERALS OR SOILS WITH A pH OF 4.0 OR LESS.
2. IRON SULFIDE MINERALS WILL PRODUCE SULFURIC ACID WHEN EXPOSED TO THE AIR AND SURFACE WATERS.
3. SOIL USED TO COVER ACID PRODUCING SOILS SHALL HAVE A pH OF 5.0 OR MORE.
4. SLOPED AREAS AND AREAS WITH TREE AND SHRUB PLANTINGS WILL BE COVERED WITH 2 FEET OF SUITABLE MATERIAL, THE TOP 5 INCHES SHALL BE TOPSOIL.
5. ACID SOIL BURIAL WILL AVOID AREAS OF RESIDENTIAL LOTS.

ACID SOIL MITIGATION DETAIL

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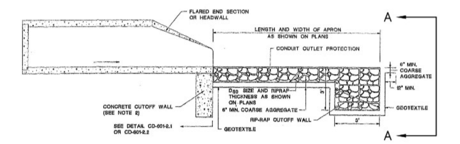

CONDUIT OUTLET PROTECTION DETAIL

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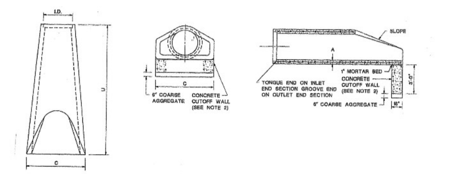

DIMENSIONS (INCHES)												
I.D.	12	15	18	21	24	27	30	36	42	48	54	60
A	2	2¼	2½	2¾	3	3¼	3½	4	4½	5	5½	6
U	72	72	72	72	72	72	72	96	96	96	96	96
C	28	34.5	41	47.5	54	60.5	67	80	87	94	101	108

NOTES:

1. MINOR VARIATIONS TO THE ABOVE DIMENSIONS ARE ACCEPTABLE WITH THE EXCEPTION OF THE INSIDE DIAMETER DIMENSION.
2. A 1INCH THICK MORTAR BED AND A 6 INCH DEEP LAYER OF COARSE AGGREGATE ARE REQUIRED WHEN A PRECAST CONCRETE CUTOFF WALL IS USED.
3. NO SEPARATE PAYMENT WILL BE MADE FOR THE CONCRETE CUTOFF WALL. THE COST OF THE CONCRETE CUTOFF WALL SHALL BE INCLUDED IN THE COST OF THE END SECTION.
4. THE WIDTH OF THE CONCRETE CUTOFF WALL SHALL BE EQUAL TO THE MAXIMUM WIDTH OF THE END SECTION AS INDICATED ON THE DETAIL BY DIMENSION "C". HOWEVER, IF THE ACTUAL MAXIMUM WIDTH EXCEEDS THE CHART VALUE OF "C", THE WIDTH OF THE CONCRETE CUTOFF WALL SHALL EQUAL THE ACTUAL MAXIMUM WIDTH OF THE END SECTION.

CONCRETE FLARED END SECTION DETAIL

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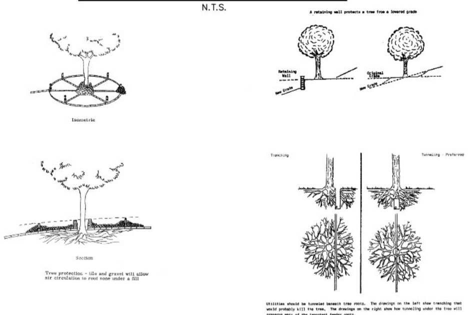


NOTES:
1. PROTECTIVE FENCING IS TO BE ERECTED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION AS DIRECTED BY THE LANDSCAPE ARCHITECT, SOIL CONSERVATION DISTRICT AND/OR MUNICIPAL ENGINEER.
2. NO CONSTRUCTION ACTIVITY IS PERMITTED WITHIN THE PROTECTIVE FENCING.
3. AS CONSTRUCTION NEARS COMPLETION THE FENCING WILL BE REMOVED AS DIRECTED.
4. AT THE COMPLETION OF CONSTRUCTION ALL TREES WILL BE PRUNED AS NECESSARY TO CORRECT ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITY.
5. GENERAL MECHANICAL DAMAGE – SEE DETAIL ABOVE FOR CORRECT PLACEMENT OF TREE PROTECTION.
6. BOX TREES WITHIN 25 FEET OF A BUILDING SITE TO PREVENT MECHANICAL INJURY. FENCING OR OTHER BARRIER SHOULD BE INSTALLED AT THE DRIP LINE OF THE TREE BRANCHES.
7. BOARDS WILL NOT BE NAILED TO TREES DURING BUILDING OPERATIONS.
8. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA INSIDE THE DRIP LINE OF THE TREE BRANCHES.
9. DAMAGED TRUNKS OR EXPOSED ROOTS SHOULD HAVE DAMAGED BARK REMOVED IMMEDIATELY AND NO PAINT SHALL BE APPLIED. EXPOSED ROOTS SHOULD BE COVERED WITH TOPSOIL IMMEDIATELY AFTER EXCAVATION IS COMPLETE. ROOTS SHALL BE PRUNED TO GIVE A CLEAN, SHARP SURFACE AMENABLE TO HEALING. ROOTS EXPOSED DURING HOT WEATHER SHOULD BE IRRIGATED TO PREVENT PERMANENT TREE INJURY. CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY A PROFESSIONAL FORESTER OR CERTIFIED TREE EXPERT.
10. TREE LIMB REMOVAL, WHERE NECESSARY, WILL BE DONE AS NATURAL TARGET PRUNING TO REMOVE THE DESIRED BRANCH COLLAR. THERE SHOULD BE NO FLUSH CUTS. FLUSH CUTS DESTROY A MAJOR DEFENSE SYSTEM OF THE TREE. NO TREE PAINT SHALL BE APPLIED. ALL CUTS SHALL BE MADE AT THE OUTSIDE EDGE OF THE BRANCH COLLAR. CUTS MADE TOO FAR BEYOND THE BRANCH COLLAR MAY LEAD TO EXCESS SPROUTING, CRACKS AND ROT. REMOVAL OF A "V" CROTCH SHOULD BE CONSIDERED FOR FREE STANDING SPECIMEN TREES TO AVOID FUTURE SPLITTING DAMAGE.

TEMPORARY TREE PROTECTION DETAILS

N.T.S.

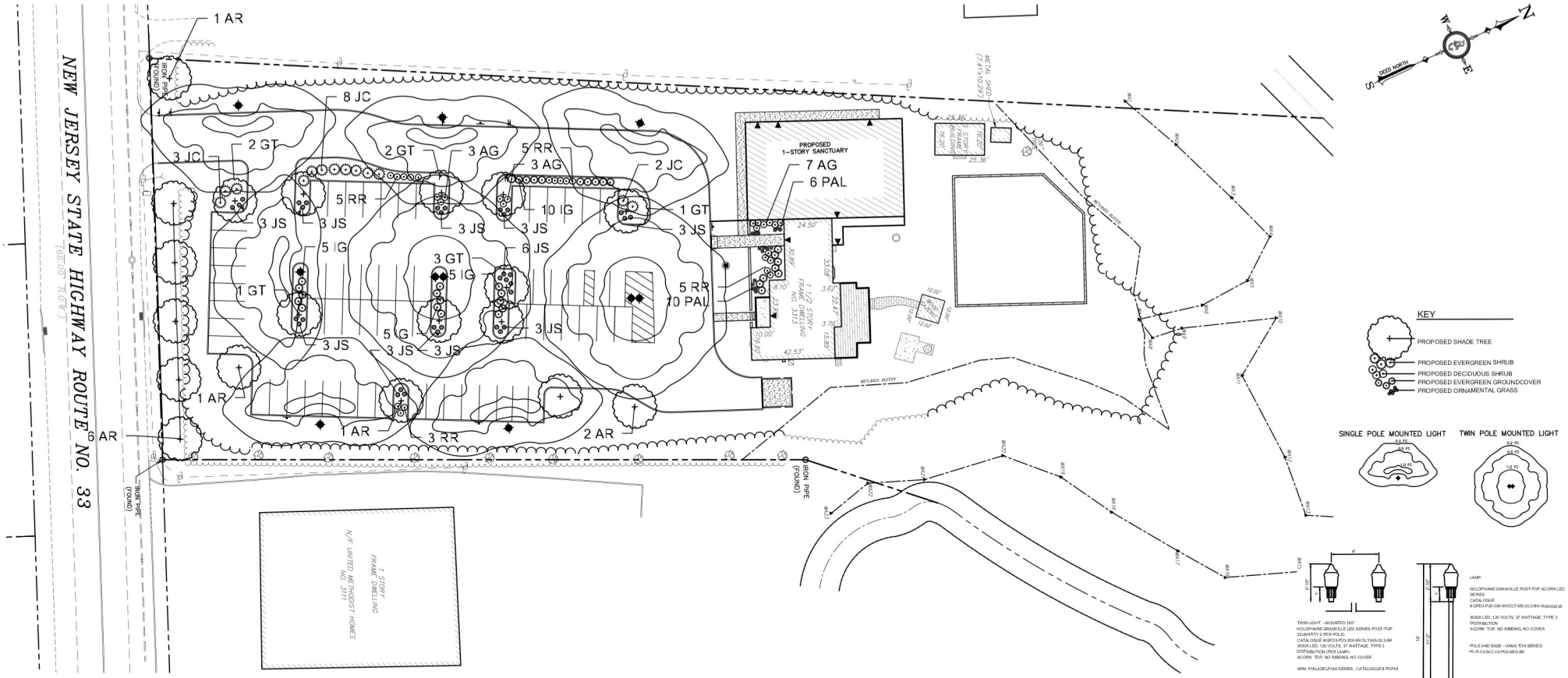
REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
State of N.J. Certificate of Authorization: 24GA28168000
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 598–6616
Fax (609) 671–0715

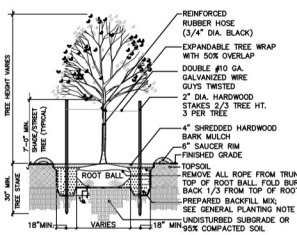
PRELIMINARY & FINAL SITE PLAN
SOIL EROSION AND SEDIMENT CONTROL DETAILS
FOR
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301
NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER: 1943A	DATE: DEC. 5, 2022
SCALE: 1" = 20'	LATEST REVISION:
DESIGN BY: BP	CHECKED BY: BP
SHEET NUMBER: 10	of 13



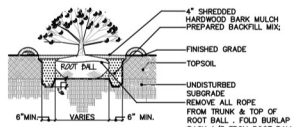
GENERAL PLANTING NOTES

1. THIS PLAN SHALL BE USED FOR LANDSCAPE PLANTING PURPOSES ONLY. EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES, AND STRUCTURES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR LOCATION CONFLICTS PRIOR TO TO PLANTING INSTALLATION.
2. THE CONTRACTOR IS RESPONSIBLE TO LOCATE AND VERIFY LOCATION OF ALL UTILITIES ON SITE PRIOR TO CONSTRUCTION.
3. ALL PLANT MATERIAL SHALL CONFORM TO THE STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN OR THE PLANT MATERIAL WILL BE UNACCEPTABLE. ALL PLANT MATERIAL SHALL BE TRUE TO SPECIES, VARIETY, SIZE AND BE CERTIFIED DISEASE AND INSECT FREE. THE OWNER AND/OR THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO APPROVE ALL PLANT MATERIAL ON SITE PRIOR TO INSTALLATION.
4. NO PLANT SUBSTITUTIONS SHALL BE PERMITTED WITH REGARD TO SIZE, SPECIES, OR VARIETY WITHOUT WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT OR TOWNSHIP OFFICIALS. WRITTEN PROOF OF PLANT MATERIAL UNAVAILABILITY MUST BE DOCUMENTED.
5. THE LOCATION OF ALL PLANT MATERIAL INDICATED ON THE LANDSCAPE PLANS ARE APPROXIMATE. THE FINAL LOCATION OF ALL PLANT MATERIAL AND PLANTING BED LINES SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE ENGINEER. NO SHADE TREE, STREET TREE, ORNAMENTAL FLOWERING TREE OR EVERGREEN TREE SHALL BE PLANTED CLOSER THAN 10' FROM ANY SIDEWALK, DRIVEWAY, CURB OR UTILITY LOCATION UNLESS SPECIFICALLY DIMENSIONED ON THE LANDSCAPE PLAN.
6. ALL STREET TREES AND SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESS SHOULD NOT BE BRANCHED LOWER THAN 7'-0" ABOVE GRADE. ALL PLANT MATERIAL LOCATED WITHIN SIGHT TRIANGLE EASEMENTS SHALL NOT EXCEED A MATURE HEIGHT OF 30" ABOVE THE ELEVATION OF THE ADJACENT CURB. ALL STREET TREES PLANTED IN SIGHT TRIANGLE EASEMENTS SHALL BE PRUNED TO NOT HAVE BRANCHES BELOW 8'-0".
7. THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT SCHEDULE SHOULD ANY PLANT QUANTITY DISCREPANCIES OCCUR.
8. ALL PLANT MATERIAL SHALL BE PROPERLY GUYED, STAKED, WRAPPED AND PLANTED IN CONFORMANCE WITH THE TYPICAL PLANTING DETAILS. GUY WIRES SHALL BE ATTACHED TO THE TREE AT A HEIGHT OF TWO-THIRDS THE HEIGHT OF THE TREE AND SHOULD BE LOCATED AT POINTS SO AS NOT TO SPLIT THE TRUNKS OF MULTI-STEMMED TREES. PROVIDE THREE TREE STAKES PER TREE UNLESS NOTED OTHERWISE. INSTALL ALL PLANT MATERIAL ON UNDISTURBED GRADE. PROVIDE BURLAP WRAPPING WITH A 50% OVERLAP. CUT AND REMOVE BURLAP FROM TOP ONE-THIRD OF THE ROOT BALL.
9. BRANCHES OF EXISTING DECIDUOUS TREES SHALL BE PRUNED BACK BY NO MORE THAN ONE QUARTER (1/4) TO BALANCE THE TOP GROWTH WITH ROOTS AND TO PRESERVE THEIR CHARACTER AND SHAPE. THE CENTRAL LEADER OF TREE SHALL NOT BE PRUNED.
10. PROVIDE PLANTING PITS AS INDICATED ON PLANTING DETAILS. BACKFILL PLANTING PITS WITH ONE PART EACH OF TOPSOIL, PEAT MOSS AND PARENT MATERIAL. IF WET SOIL CONDITIONS EXIST THEN PLANTING PITS SHALL BE BE EXCAVATED AN ADDITIONAL 12" AND FILLED WITH CRUSHED STONE.
11. ALL PLANT MATERIAL SHALL SHALL BEAR THE SAME RELATION TO FINISHED GRADE AS IT BORE TO EXISTING GRADE AT NURSERY.
12. NEWLY INSTALLED PLANT MATERIAL SHALL BE WATERED AT THE TIME OF INSTALLATION. REGULAR WATERING SHALL BE PROVIDED TO ENSURE THE ESTABLISHMENT, GROWTH AND SURVIVAL OF ALL PLANTS.
13. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR AFTER THE DATE OF FINAL ACCEPTANCE, ANY PLANT MATERIAL THAT DIES WITHIN THAT TIME PERIOD SHALL BE REMOVED, INCLUDING THE STUMP, AND REPLACED BY A TREE OF SIMILAR SIZE AND SPECIES AT THE EXPENSE OF THE DEVELOPER.
14. ALL PLANTING BEDS SHALL RECEIVE 4" MIN OF SHREDDED HARDWOOD BARK.
15. ALL SHRUB MASSES SHALL BE PLANTED IN CONTINUOUS MULCHED BEDS.
16. ALL EXISTING TREES AND SHRUBS TO BE PRESERVED ON SITE SHALL BE PROTECTED AGAINST CONSTRUCTION DAMAGE BY SNOW FENCING. ALL FENCING SHALL BE PLACED OUTSIDE THE INDIVIDUAL TREE CANOPY. ALL TREES TO REMAIN SHALL BE IDENTIFIED IN THE FIELD PRIOR TO COMMENCEMENT OF CONSTRUCTION, TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION, GRADING OR CLEARING. ALL EXISTING VEGETATION BEING PRESERVED AND LOCATED AT THE EDGE OF THE NEW TREELINE, SHALL BE PRUNED AND TRIMMED TO REMOVE ALL DEAD, DISEASED, OR DAMAGED BRANCHES.
17. ALL PLANTING DEBRIS (WIRE, TWINE, RUBBER HOSE, BACKFILL ETC.) SHALL BE REMOVED FROM THE SITE AFTER PLANTING IS COMPLETE. PROPERTY IS TO BE LEFT IN A NEAT ORDERLY CONDITION IN ACCORDANCE WITH ACCEPTED PLANTING PRACTICES.
18. EXISTING TOSOIL SHALL BE STOCKPILED AND REUSED IN THE FINISHED LANDSCAPE. ALL ROCKS 1/2 INCH OR LARGER IN ANY DIMENSION SHALL BE REMOVED. THE ROCK CONTENT OF THE TOPSOIL SHALL BE MAINTAINED AT NO GREATER THAN 20 PERCENT BY VOLUME.



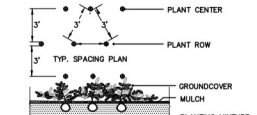
1 / 10 SHADE TREE PLANTING DETAIL
NOT TO SCALE

NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.

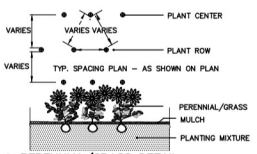


2 / 10 SHRUB TREE PLANTING DETAIL
NOT TO SCALE

NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.



3 / 10 GROUNDCOVER PLANTING DETAIL
NOT TO SCALE



4 / 10 PERENNIAL/GRASS DETAIL
NOT TO SCALE

PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	HGT.	CAL.	SIZE	NOTES
TREES							
AR	11	ACER RUBRUM	RED MAPLE	12-14'	3-3.5"	B&B	STRAIGHT LEADER/FULL HEAD
GT	9	GLEDITSIA TRIACANTHOS INERMIS	THORNLESS HONEY LOCUST	12-14'	3-3.5"	B&B	STRAIGHT LEADER/FULL HEAD
SHRUBS							
IG	25	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	30-36"		3 GAL.	WELL BRANCHED
JC	13	JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	30-36"		5 GAL.	WELL BRANCHED
RR	18	ROSA RADRAZZ 'DOUBLE KNOCKOUT'	DOUBLE KNOCKOUT ROSE	30-36"		3 GAL.	WELL BRANCHED
AG	13	ABELIA GRANDIFLORA 'ROSE CREEK'	ROSE CREEK GLOSSY ABELIA	30-36"		3 GAL.	WELL BRANCHED
GRASSES / GROUNDCOVER							
JS	33	JUNIPERUS SQUAMATA 'BLUE STAR'	BLUE STAR JUNIPER	18-24"		2 GAL.	3 FT. O.C. SPACING
PAL	16	PENNISETUM ALOPECUROIDES 'LITTLE BUNNY'	LITTLE BUNNY FOUNTAIN GRASS	18-24"		1 GAL.	2 FT. O.C. SPACING

REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 588-8616
Fax (609) 671-0715
State of N.J. Certificate of Authorization: 24GA28168000

PRELIMINARY & FINAL SITE PLAN

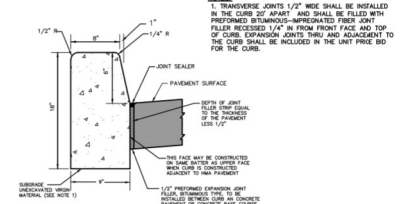
LANDSCAPE AND LIGHTING PLAN AND DETAILS

FOR

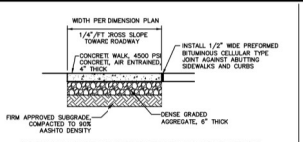
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301

NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER: 1943A
DATE: DEC. 5, 2022
SCALE: 1" = 20'
LATEST REVISION:
DESIGN BY: BP
CHECKED BY: BP
SHEET NUMBER: 11 of 13

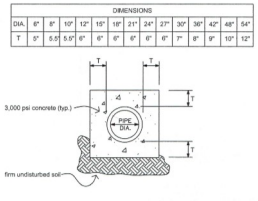


CONCRETE VERTICAL CURB DETAIL
N.T.S.

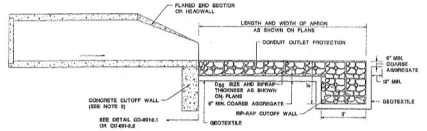


THE FORMS AND DIVIDERS SHALL BE OF STEEL OR WOOD AND OF SUFFICIENT STRENGTH TO RESIST SPRINGING OUT OF SHAPE, AS PER SPECIFICATION. WALK SHALL BE OF MONOLITHIC CONSTRUCTION FOUR (4) INCHES THICK. TRANSVERSE SURFACE GROOVES MUST BE PROVIDED AT RIGHT ANGLES TO THE SIDEWALK AND AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK. AFTER THE CONCRETE IS PLACED IT SHALL BE TAMPED SCREENED AND FINISHED TO TRUE GRADE AND SURFACE. THE FINISH SHALL BE MADE WITH A WOOD FLOAT, FOLLOWED BY A BRUSHING WITH A WET SOFT HAIR BRUSH TO A NEAT WORKMANLIKE SURFACE. TRANSVERSE EXPANSION JOINTS 1/2 INCH WIDE SHALL BE PROVIDED AT INTERVALS NO GREATER THAN 20 FEET AND FILLED WITH PREFORMED BITUMINOUS CELLULAR TYPE JOINT FILLER, LONGITUDINAL JOINTS 1/2 INCH WIDE SHAL BE PROVIDED BETWEEN CURBS AND ADJUTING SIDEWALKS AND SHALL BE FILLED WITH PREFORMED BITUMINOUS CELLULAR JOINT FILLER.

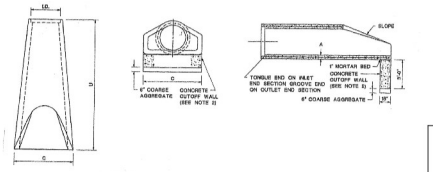
CONCRETE SIDEWALK DETAIL (NO CURB)
N.T.S.



CONCRETE ENCASEMENT DETAIL
N.T.S.



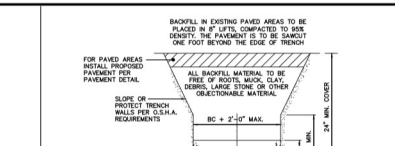
CONDUIT OUTLET PROTECTION DETAIL
N.T.S.



DIMENSIONS (INCHES)											
I.D.	12	15	18	21	24	27	30	36	42	48	54	60
A	2	2½	2½	2½	3	3½	3½	4	4½	5	5½	6
U	72	72	72	72	72	72	72	72	96	96	96	96
C	39	34.8	41	47.5	54	60.5	67	80	87	94	101	108

NOTES:
1. MINOR VARIATIONS TO THE ABOVE DIMENSIONS ARE ACCEPTABLE WITH THE EXCEPTION OF THE INSIDE DIAMETER DIMENSION.
2. A 1INCH THICK MORTAR BED AND A 6 INCH DEEP LAYER OF COARSE AGGREGATE ARE REQUIRED WHEN A PRECAST CONCRETE CUTOFF WALL IS USED.
3. NO SEPARATE PAYMENT WILL BE MADE FOR THE CONCRETE CUTOFF WALL. THE COST OF THE CONCRETE CUTOFF WALL SHALL BE INCLUDED IN THE COST OF THE END SECTION.
4. THE WIDTH OF THE CONCRETE CUTOFF WALL SHALL BE EQUAL TO THE MAXIMUM WIDTH OF THE END SECTION AS INDICATED ON THE DETAIL BY DIMENSION "C". HOWEVER, IF THE ACTUAL MAXIMUM WIDTH EXCEEDS THE CHART VALUE OF "C", THE WIDTH OF THE CONCRETE CUTOFF WALL SHALL EQUAL THE ACTUAL MAXIMUM WIDTH OF THE END SECTION.

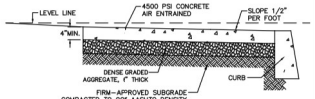
CONCRETE FLARED END SECTION DETAIL



CONCRETE PIPE BEDDING DETAIL
N.T.S.

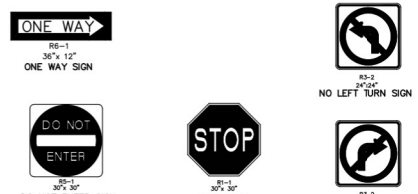
TURN AND THROUGH LANE–USE ARROW
THROUGH LANE–USE ARROW
TURN LANE–USE ARROW

PAVEMENT MARKING DETAILS
N.T.S.

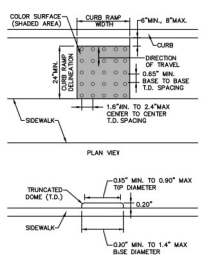


THE FORMS AND DIVIDERS SHALL BE OF STEEL OR WOOD AND OF SUFFICIENT STRENGTH TO RESIST SPRINGING OUT OF SHAPE, AS PER PECIFICATIONS. WALK SHALL BE OF MONOLITHIC CONSTRUCTION FOUR (4) INCHES THICK. TRANSVERSE SURFACE GROOVES MUST BE PROVIDED FOR AT RIGHT ANGLES TO THE SIDEWALK AND AT INTERVALI EQUAL TO WIDTH OF SIDEWALK. AFTER THE CONCRETE IS PLACED IT SHALL BE TAMPED SCREENED AND FINISHED TO TRUE GRADE AND SURFACE. THE FINISH SHALL BE MADE WITH A WOOD FLOAT, FOLLOWED BY A BRUSHING WITH A WET SOFT HAIR BRUSH TO A NEAT WORKMANLIKE SURFACE. TRANSVERSE EXPANSION JOINTS 1/2 INCH WIDE SHALL BE PROVIDED AT INTERVALS OF NOT LESS THAN 20 FEET AND FILLED WITH PREFORMED BITUMINOUS CELLULAR TYPE JOINT FILLER, LONGITUDINAL JOINTS 1/2 INCH WIDE SHALL BE PROVIDED BETWEEN CURBS AND ADJUTING SIDEWALKS AND SHALL BE FILLED WITH PREFORMED BITUMINOUS CELLULAR JOINT FILLER. 20 FOOT DRIVEWAY APRON AND SIDEWALK AT DRIVEWAY SHALL BE 6 INCH THICK ENTRANCE CURB SHALL BE SIX (6) INCHES THICK. APRON AT OUTER LINE SHAL BE ONE AND ONE HALF (1 1/2) INCHES HIGHER THAN EXISTING PAVEMENT.

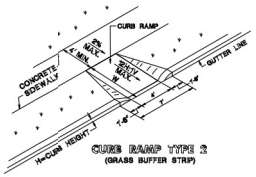
CONCRETE SIDEWALK DETAIL
N.T.S.



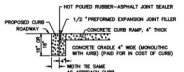
TRAFFIC SIGN DETAILS
N.T.S.



DETECTABLE WARNING SURFACE



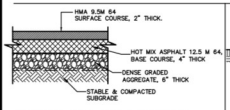
CURB RAMP TYPES 2, 3 OR 6	
H (INCHES)	W (FEET)
3	3
4	4
5	5
6	6
7	7
8	8
9	9



DROPPED CURB AND CRADLE

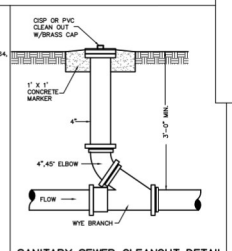
GENERAL NOTES:
1. LANDING AREA, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP SHALL BE KEPT CLEAR OF OBSTRUCTIONS.
2. DIMENSIONS SHOWN IN TABLES ARE FOR RELATIVELY FLAT SIDEWALK AREAS. CARE SHOULD BE TAKEN WHEN DETERMINING CURB RAMP SIZE BASED ON CURB HEIGHT (H) WHERE ELEVATION OF CURB AND SIDEWALK VARY DRASTICALLY IN AREA OF PROPOSED CURB RAMP.
3. CURB (DROPPED CURB) GUTTERLINE TO BE FLUSH WITH ROADWAY PAVEMENT A MINIMUM OF 4 FEET AT ALL CURB RAMPS.
4. FOR CURB RAMP TYPES 5 AND 6, IF A GRASS BUFFER DOES NOT EXIST, SLOPE CURB TO EQUAL SLOPE OF ADJACENT CURB RAMP.
5. SIDEWALK AND CURB RAMP WITHIN AREA ENCLOSED BY HEAVY LINES TO BE PAID FOR AS CONCRETE SIDEWALK OF THE APPROPRIATE ADJACENT THICKNESS.
6. CURB AND HEADER WITHIN AREA ENCLOSED BY HEAVY LINES TO BE PAID FOR AS VERTICAL CURB OR SLOPING CURB OF THE APPROPRIATE ADJACENT SIZE AND KIND.
7. WHERE THE DISTANCE FROM THE GUTTER LINE TO THE OUTSIDE EDGE OF SIDEWALK IS 6 FEET OR LESS, CURB RAMP TYPE 7 SHOULD BE USED, INSTEAD OF CURB RAMP TYPE 1 THROUGH 4.
8. CROSSWALKS AND STOP LINES MAY BE MARKED OR UNMARKED, SEE PLANS.
9. PREFERRED AND ALTERNATE TREATMENTS SHOULD NOT BE INTERMIXED WITHIN THE SAME INTERSECTION.
10. DIMENSIONS SHOWN IN TABLES ARE FOR 9 INCH TO 9 INCH CURB HEIGHTS. WHERE THE CURB HEIGHTS ARE OTHER THAN WHAT IS PROVIDED IN THE TABLES, THE DIMENSIONS OF THE RAMPS WILL HAVE TO BE CALCULATID BASED ON CROSS SLOPES SHOWN.

HANDICAP ACCESSIBLE RAMP DETAILS
N.T.S.

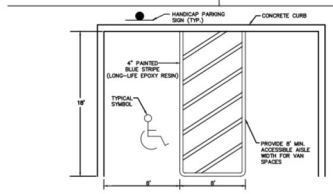


PARKING LOT AND DRIVEWAY PAVEMENT DETAIL
N.T.S.

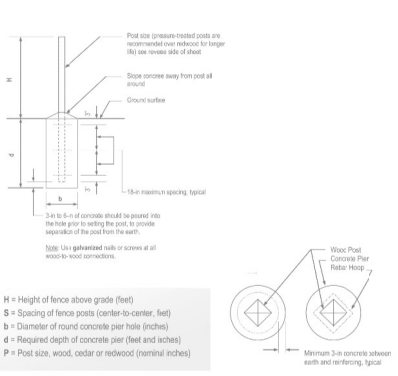
CONCRETE SLAB DETAIL AT DUMPSTER ENCLOSURE
N.T.S.



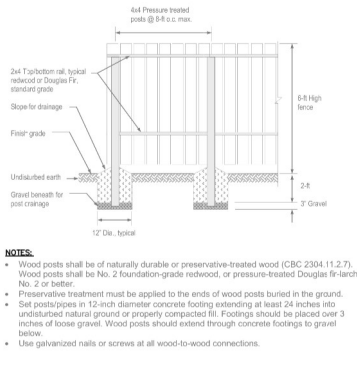
SANITARY SEWER CLEANOUT DETAIL
N.T.S.



HANDICAPPED PARKING STALL DETAIL
N.T.S.

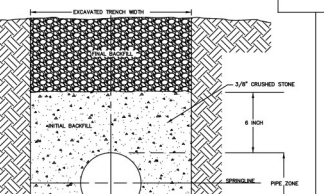


FENCE POST AND FOUNDATION DETAILS
N.T.S.



NOTES:
- Wood posts shall be of naturally durable or preservative-treated wood (CBC 2304.11.2.7). Wood posts shall be No. 2 foundation-grade redwood, or pressure-treated Douglas fir-larch No. 2 or better.
- Preservative treatment must be applied to the ends of wood posts buried in the ground.
- Set posts/pipes in 12-inch diameter concrete footing extending at least 24 inches into undisturbed natural ground or properly compacted fill. Footings should be placed over 3 inches of loose gravel. Wood posts should extend through concrete footings to gravel below.
- Use galvanized nails or screws at all wood-to-wood connections.

6' HIGH WOOD FENCE DETAIL AT DUMPSTER LOCATION
N.T.S.



UNDERGROUND INSTALLATION OF PLASTIC PIPE

PLASTIC PIPE SHOULD ALWAYS BE BURIED IN STRICT ACCORDANCE WITH THE ASTM STANDARD RELEVANT TO THE TYPE OF PLASTIC PIPING SYSTEM BEING INSTALLED. THOSE STANDARDS ARE:

ASTM D2321 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY–FLOW APPLICATIONS.

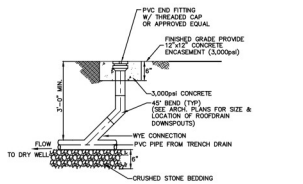
ASTM D2774 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING.

NOTE: IN ADDITION TO THESE STANDARDS, PIPE SHOULD ALWAYS BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS.

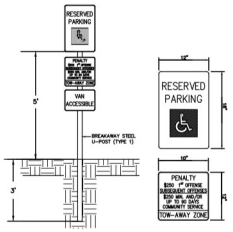
RECOMMENDATIONS FOR UNDERGROUND INSTALLATION OF PLASTIC DRAINAGE PIPE:

1. THE MINIMUM WIDTH OF THE TRENCH SHOULD BE THE PIPE OD (OUTSIDE DIAMETER) PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25 PLUS 12 INCHES. THIS WILL ALLOW ADEQUATE ROOM FOR JOINING THE PIPE, SHAKING THE PIPE IN THE TRENCH TO ALLOW FOR EXPANSION AND CONTRACTION WHERE APPROPRIATE AND SPACE FOR BACKFILLING AND COMPACTION OF BACKFILL. THE SPACE BETWEEN THE PIPE AND TRENCH WALL MUST BE WIDER THAN THE COMPACTION EQUIPMENT USED TO COMPACT THE BACKFILL.
2. PROVIDE A MINIMUM OF 4 INCHES OF FIRM, STABLE AND UNIFORM BEDDING MATERIAL IN THE TRENCH BOTTOM. IF ROCK OR UNYIELDING MATERIAL IS ENCOUNTERED, A MINIMUM OF 6 INCHES OF BEDDING SHALL BE USED. BLOCKING SHOULD NOT BE USED TO CHANGE PIPE GRADE OR TO INTERMITTENTLY SUPPORT PIPE OVER LOW SECTIONS IN THE TRENCH.
3. THE PIPE SHOULD BE SURROUNDED WITH AN AGGREGATE MATERIAL WHICH CAN BE EASILY WORKED AROUND THE SIDES OF THE PIPE. BACKFILLING SHOULD BE PERFORMED IN LAYERS OF 6 INCHES WITH EACH LAYER BEING SUFFICIENTLY COMPACTED TO 85% TO 95% COMPACTION.
4. A MECHANICAL TAMPER IS RECOMMENDED FOR COMPACTING SAND AND GRAVEL. THESE MATERIALS CONTAIN LITTLE FINES, SUCH AS SILT AND CLAY. IF A TAMPER IS NOT AVAILABLE, COMPACTING SHOULD BE DONE BY HAND.
5. THE TRENCH SHOULD BE COMPLETELY FILLED. THE BACKFILL SHOULD BE PLACED AND SPREAD IN UNIFORM LAYERS TO PREVENT ANY UNFILLED SPACES OF VOIDS. LARGE ROCKS, STONES, FROZEN CLODS, OR OTHER LARGE DEBRIS SHOULD BE REMOVED. STONE BACKFILL SHALL PASS THROUGH AN 1–1/2" SIEVE. ROCK SIZE SHOULD BE ABOUT ONE–TENTH OF THE PIPE OUTSIDE DIAMETER. HEAVY TAMPERS OR ROLLING EQUIPMENT SHOULD ONLY BE USED TO CONSOLIDATE THE FINAL BACKFILL.
6. TO PREVENT DAMAGE TO THE PIPE AND DISTURBANCE TO PIPE EMBEDMENT, A MINIMUM DEPTH OF BACKFILL ABOVE THE PIPE SHOULD BE MAINTAINED. PIPE SHOULD ALWAYS BE INSTALLED BELOW THE FROST LEVEL. TYPICALLY, IT IS NOT ADVISABLE TO ALLOW VEHICULAR TRAFFIC OR HEAVY CONSTRUCTION EQUIPMENT TO TRAVERSE THE PIPE TRENCH.

PVC PIPE BEDDING DETAIL
N.T.S.



STORM WATER CLEANOUT DETAIL
N.T.S.



HANDICAPPED PARKING SPACE SIGN DETAILS
N.T.S.

NOTE:
1. THIS DETAIL REPRESENTS THE STANDARD DETAIL FOR HANDICAP SIGN INSTALLATION, IF NEW SIGNS NEED TO BE INSTALLED, DUE TO DAMAGE TO EXISTING SIGNS.

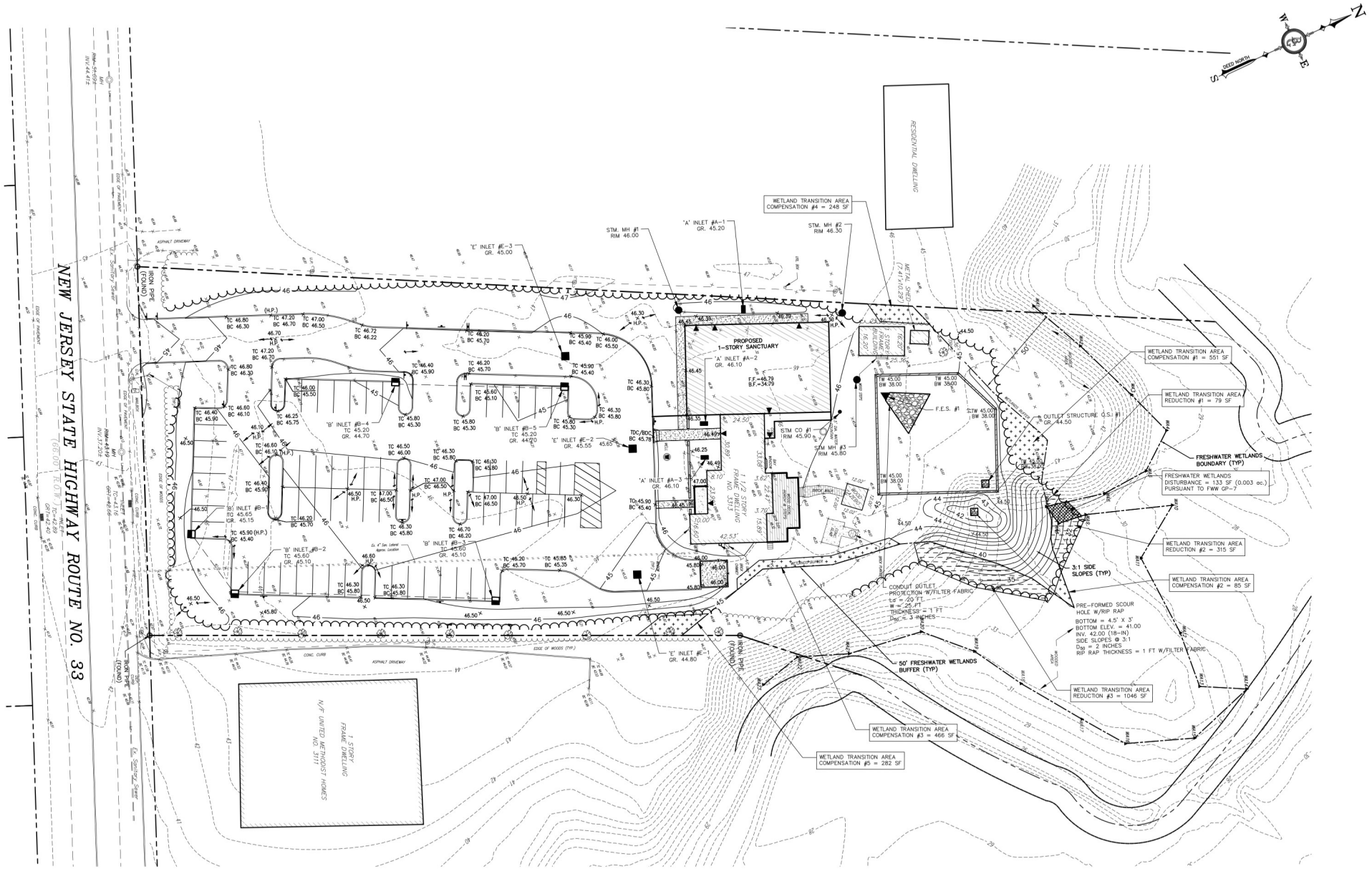
REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 588–8616
Fax (609) 671–0715
State of N.J. Certificate of Authorization: 24GA28160000

PRELIMINARY & FINAL SITE PLAN
CONSTRUCTION DETAILS
FOR
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301
NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER: 1943A	DATE: DEC. 5, 2022
SCALE: AS SHOWN	LATEST REVISION:
DESIGN BY: BP	CHECKED BY: BP
SHEET NUMBER: 12 of 13	



FRESHWATER WETLANDS DISTURBANCE

WETLANDS SWALE DISTURBANCE (PURSUANT TO FWW GP-7) = 133 SF (0.003 ac.)

FRESHWATER WETLANDS TRANSITION AREA AVERAGING PLAN

EXISTING FRESHWATER WETLANDS TRANSITION AREA	=	24,830 SF
PROPOSED TRANSITION AREA REDUCTION	=	1,442 SF
PROPOSED TRANSITION AREA COMPENSATION	=	1,632 SF
PROPOSED TRANSITION AREA TOTAL	=	25,020 SF

(IN FEET)
1 inch = 20 ft.

REV.	DATE	DRAWN BY	DESCRIPTION

BESRICK G. PLUMMER
PROFESSIONAL ENGINEER
NEW JERSEY LIC. NO. 39534

B&G Engineering LLC
State of N.J. Certificate of Authorization: 24GA28168000
30 BERNARD DRIVE
EWING, N.J. 08628
Phone (732) 588-8616
Fax (609) 671-0715

PRELIMINARY & FINAL SITE PLAN
NJDEP PERMIT PLAN
FOR
GALILEE EGLISE ADVENTISTE, INC.
PROPOSED CHURCH
LOT 4, BLOCK 3301
NEPTUNE TOWNSHIP MONMOUTH COUNTY NEW JERSEY

JOB NUMBER: 1943A	DATE: DEC. 5, 2022
SCALE: 1" = 20'	LATEST REVISION:
DESIGN BY: BP	CHECKED BY: BP
SHEET NUMBER: 13 of 13	