



ENVIRONMENTAL ASSESSMENT

**T-Mobile Northeast, LLC
T-Mobile Site Number NJ-05-562-B
1100 St. Georges Avenue
City of Rahway, Union County, New Jersey 07065
ATC Project Number 68.41225.0001, Task 00001**

Prepared for:

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Prepared by:

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Burlington, New Jersey 08016

April 1, 2011
Revision 1: April 27, 2011

Environmental Assessment

**T-Mobile Northeast, LLC
Site Number NJ-05-562-B
1100 St. Georges Avenue
City of Rahway, Union County, New Jersey 07065
Latitude 40° 36' 27.08"N; Longitude 74° 17' 19.91" W (NAD 83)
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ENVIRONMENTAL ASSESSMENT

**T-Mobile Northeast, LLC
T-Mobile Site Number NJ-05-562-B
1100 St. Georges Avenue
City of Rahway, Union County, New Jersey 07065
ATC Project Number 6841225.0001, Task 00001**

1.0 EXECUTIVE SUMMARY

Pursuant to Federal Communications Commission (FCC) regulations in Title 47, Code of Federal Regulations, Section 1.1308(a), ATC Associates Inc. (ATC) has prepared an Environmental Assessment (EA) of the proposed wireless telecommunications facility ("Site") located at 1100 St. Georges Avenue, in the City of Rahway, Union County, New Jersey. The project Site has been designated by T-Mobile Northeast, LLC (T-Mobile) as Site number **NJ-05-562-B** (Latitude 40° 36' 27.08"N, Longitude 74° 17' 19.91"W). The Parent Parcel is identified by the New Jersey Tax Records website as Block 140, Lot 2 and is located within the City of Rahway, Union County, New Jersey. ATC has prepared this EA on behalf of T-Mobile.

The National Environmental Policy Act (NEPA) of 1969 requires federal agencies to assess the effects of their actions on the quality of the human environment. To meet the requirements of the NEPA, eight criteria, as outlined in 47 CFR 1.1307(a)(1) through (8), were examined to identify the potential for significant environmental impact from the construction of the proposed personal communications services facility.

According to criteria set forth in 47 CFR 1.1308(a), an EA is required if the proposed construction has the potential to significantly impact the environment. This EA was prepared because one (1) FCC criterion (100-year flood zone) was triggered by conditions at the project Site. The methods used in this assessment consisted of document research, interviews with personnel from regulatory agencies and T-Mobile representatives, and a review of pertinent Site characteristics and activities by experienced ATC personnel.

According to the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) for Union County, New Jersey, Community Panel Number 34039C0043F, dated September 20, 2006, the Parent Parcel is located in Flood Zone AE. Areas of Flood Zone AE are defined by FEMA as "Areas of 100-year flood; Base Flood Elevations determined." This is considered to be the 100-year flood plain by FEMA. According to ATC's review of the FEMA FIRM, the Base Flood Elevation at the Site is between 20 and 21 feet above mean sea level (amsl). T-Mobile provided ATC with a FEMA National Flood Insurance Plan Elevation

Certificate for the Site, dated November 11, 2010. The certificate confirms that the Base Flood Elevation at the proposed Site is 20.4 feet amsl.

According to the Construction Drawings provided by T-Mobile, Sheet # ST-1, Equipment Platform Framing Plan, the existing grade within the compound is 20.06 feet amsl. The proposed telecommunication equipment will be located atop a steel beam, 3 feet above the existing grade. As such, the equipment will be located 1.36-feet above the Base Flood Elevation.

T-Mobile also provided ATC with a copy of the New Jersey Department of Environmental Protection (NJ DEP) Flood Permit that was issued for the project on February 28, 2011. A copy of the NJ DEP Flood Permit is included in Appendix B.

Based on the findings of ATC's Environmental Assessment, the proposed Construction Drawings depicting the ground equipment to be elevated above the New Jersey Flood Hazard Elevation and FEMA Base Flood Elevation, and the FEMA elevation certificate, the construction and operation of the T-Mobile telecommunications Site will not cause any significant environmental impacts.

2.0 DESCRIPTION, PURPOSE AND NEED FOR ACTION

ATC was authorized to conduct an Environmental Assessment for the location of the wireless telecommunications facility known as T-Mobile Site **NJ-05-562-B**, (Latitude 40° 36' 27.08"N, Longitude 74° 17' 19.91"W). The Parent Parcel is identified by the New Jersey Tax Records website as Block 140, Lot 2 and is located within Union County, New Jersey. ATC has prepared this EA on behalf of T-Mobile. The development of the facility will be completed in accordance with accepted industry practices of telecommunication tower construction.

According to criteria set forth in 47 CFR 1.1308 (a), an Environmental Assessment is required if the proposed construction has the potential to significantly impact the environment. This Environmental Assessment was prepared because one (1) FCC criterion (100-year flood zone) was triggered by conditions at the project Site. The methods used in this assessment consisted of document research, interviews with personnel from regulatory agencies, T-Mobile, and a review of pertinent Site characteristics and activities by experienced ATC personnel.

3.0 AFFECTED ENVIRONMENT

The Parent Parcel is located at 1100 St. Georges Avenue, in the City of Rahway, Union County, New Jersey. The Parent Parcel is owned by St. Georges Center Associates LLC and is occupied by a shopping center containing multiple buildings and an associated parking lot. The Site as proposed will be located northwest of the existing one-story masonry retail building on the western portion of the Parent Parcel. The surrounding properties consist of undeveloped woodland, commercial development, and residencies. The Parent Parcel is zoned as B-2 – General Business.

According to the information obtained from the New Jersey Tax Records website, the Parent Parcel is identified as Block 140, Lot 2. The Parent Parcel is located in the northeastern quadrant of the of the United States Geological Survey (USGS) *Perth Amboy Quadrangle, NJ, 7.5 Minute Series (Topographic)* map, dated 1995 (USGS Perth Amboy, NJ, Quadrangle Map). Based on the USGS Perth Amboy, NJ, Quadrangle Map, the Site is located approximately 20 feet AMSL with a topography that slopes towards Robinson's Branch, located approximately 45 feet northwest of the Site. Storm water runoff from the Site would likely be sheet flow to the stormwater sewers located in the parking lot or be absorbed directly into the ground. Please refer to Appendix A, Figure 1, for a topographic map showing the Site location.

According to the Construction Drawings provided by T-Mobile (*NJ-05-562B, 1100 ST. GEORGES AVENUE, RAHWAY, NJ 07065, BLOCK: 140, LOT: 2, TAX MAP #37*, prepared by Atwell of Toms River, New Jersey dated May 19, 2010, last revised July 20, 2010), the proposed project includes the construction of a 120-foot telecommunications flagpole painted white with six (6) internally mounted telecommunications antennas. At the base of the monopole, T-Mobile has proposed the installation of a 14-foot by 18-foot elevated equipment platform containing three (3) equipment cabinets, a Mesa Span XL Telco cabinet, a PPC cabinet, and a meter center and disconnect, within a proposed fenced 16-foot by 33-foot compound. The equipment has been designed to be elevated to a height of 21.56 feet amsl. A proposed cable bridge with a GPS unit will connect the equipment cabinets to the monopole. Utilities will be routed underground from the equipment compound to an existing utility pole located approximately 115 feet southwest of the compound. Access to the Site will be from an existing parking lot at the Parent Parcel. A copy of the Site Plans is included in Appendix A.

ATC's review of the USGS Perth Amboy, NJ, Quadrangle Map indicates that the topography of the area surrounding the Parent Parcel slopes in a northwesterly direction. Therefore, in assessing potential off-Site environmental impacts, properties located to the southeast of the Parent Parcel are of primary concern. However, actual groundwater flow direction is often locally influenced by factors such as underground structures, seasonal fluctuations, soil and bedrock geology, production wells, and other factors beyond the scope of this study. The actual groundwater flow direction under the Parent Parcel can be accurately determined only by installing groundwater-monitoring wells, which was beyond the scope of this project.

4.0 ALTERNATIVES CONSIDERED

This project site was selected by T-Mobile to provide continuous wireless service coverage in the City of Rahway, Union County, New Jersey. Site selection criteria were based on the need for coverage in the area, the desire to avoid or minimize possible environmental impact (as defined in 47 CFR), Site accessibility, construction, logistical considerations and financial requirements. The Site selection process produces three outcomes to consider: (1) selected Site; (2) Site alternatives to the selected Site; and (3) no action.

The Site location was selected as suitable for the proposed project upon a review of the Applicant's coverage area and the gap in coverage existing at and around the Site. Radio-frequency exposure analyses indicate that a tower situated at the proposed facility would fill this coverage gap.

ATC is not aware of any alternative sites considered for the proposed telecommunications facility.

5.0 IMPACTS OF THE PREFERRED ALTERNATIVE

The telecommunications facility referenced as T-Mobile Site number NJ-05-562-B (Latitude 40° 36' 27.08"N, Longitude 74° 17' 19.91"W), identified as Block 140, Lot 2, is located within the City of Rahway, Union County, New Jersey. The proposed project will consist of the construction of a 120-foot flagpole and six (6) associated antennas, in addition to the installation of associated elevated equipment within a proposed fenced lease area at the base of the monopole. Eight criteria, outlined in 47 CFR 1.1307(a)(1) through (8), were examined to determine if the proposed location has the potential to significantly impact the environment. The results from the evaluation of the specific criteria are listed below.

5.1 Wilderness Areas

In addressing the issue of officially designated wilderness areas, ATC reviewed information from the National Wilderness Preservation System (NWPS). The NWPS is comprised of lands designated as wilderness areas by the United States Forest Service (USFS), United States Fish and Wildlife Service (USFWS), United States Bureau of Land Management (BLM), and the National Park Service (NPS). There are currently 757 wilderness areas in the United States, two of which are located within the State of New Jersey (Great Swamp National Wildlife Refuge and Brigantine Wilderness Areas). The Great Swamp National Wildlife Refuge Wilderness Area is located in northeastern New Jersey and Brigantine Wilderness Area is located in southeastern New Jersey. According to a review of the information available from the NWPS, the Site is not located in a designated wilderness area. ATC has also been in contact with the NPS in order to determine if sites are located in officially designated wilderness areas. A formal request was submitted to the NPS. ATC received and reviewed a response from the NPS indicating the following:

The National Park Service Northeast Regional Office has received your request for information. Due to the large number of requests received in this office, we regret that we are unable to provide an individual response to each requestor. Following is a list of the resources of interest to the National Park Service. It is your responsibility to determine if your proposed project is located in the vicinity of, and may potentially affect any of the listed resources and contact the manager of the specific resources for more information.

The list of resources of interest to the NPS include; National Parks, National Historic Landmarks, National Heritage Areas, National Trail System, Land and Water Conservation Fund, Urban Park and Recreation Recovery Program, Wild and Scenic Rivers, and Wilderness Areas.

ATC reviewed the resources of interest and determined that the Site is not located within any of these areas. Wilderness areas are also noted on USGS 7.5-minute series topographic quadrangle maps. Therefore, ATC also reviewed the USGS Perth Amboy, NJ, Quadrangle Map and determined that the Site is not located within an officially designated wilderness area.

ATC reviewed information from the New Jersey Highlands Region website and the New Jersey Department of Environmental Protection (NJDEP) i-MapNJ website. According to the Highlands website:

The New Jersey Highlands Region is an over 800,000-acre region covering over 1,250 square miles and 88 municipalities in seven counties (Bergen, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren). The Highlands Region is an essential source of drinking water for half of the residents of New Jersey. The Highlands Water Protection and Planning Act is a law signed in August 2004 that will preserve open space and protect the state's greatest diversity of natural resources including the precious water resources that supply drinking water to more than half of New Jersey's families. The Highlands Act documents the geographical boundary of the Highlands Region and establishes the Highlands Preservation Area and the Highlands Planning Area.

A review of the above-referenced websites indicated that the Highlands are located approximately 13 miles west of the Site. Therefore, the Site is not located within or adjacent to the Highlands Preservation Area or the Highlands Planning Area.

ATC reviewed information from the New Jersey Pinelands Commission (Pinelands). The Pinelands National Reserve comprises 1.1 million acres and occupies 22% of New Jersey's land area. A Pinelands Comprehensive Management Plan has been prepared in order to protect this land in a manner that maintains its unique ecology while permitting compatible development. The Site is located approximately 34 miles north of the Pinelands. Therefore, the Site is not located within or adjacent to the Pinelands.

Based on this review, further evaluation of wilderness areas is not warranted at this time.

5.2 Wildlife Preserves

There are six (6) designated National Wildlife Refuges (NWR) in the State of New Jersey: Great Kill River National Wildlife Refuge, Great Swamp National Wildlife Refuge, Edwin B. Forsyth National Wildlife Refuge Barnegat Division, Edwin B. Forsyth National Wildlife Refuge Brigantine Division, Cape May National Wildlife Refuge, and the Supawna National Wildlife Refuge. The nearest National Wildlife Refuge to the site is the Great Swamp National Wildlife Refuge, which is located approximately 10 miles northwest of the Site. Therefore, the Site is not located within or adjacent to an officially designated wildlife preserve.

ATC reviewed information from the New Jersey Division of Fish and Wildlife, Wildlife Management Areas (WMAs). The WMAs are maintained and managed for a diversity of wildlife species through forest/field manipulation and habitat improvement, as well as for public access. A total of 121 WMAs were identified in New Jersey. The nearest WMA to the Site is the Sawmill Creek WMA, which is located approximately 15 miles north-northwest of the Site. Therefore, the Site is not located within or adjacent to a wildlife management area.

Based on this review, further evaluation of wildlife preserves is not warranted at this time.

5.3 Threatened and Endangered Species and Designated Critical Habitats

Endangered and Threatened Species and Migratory Birds

In order to determine if the Site is located in an area documented to have occurrences of listed, and/or proposed threatened, or endangered species, ATC reviewed information available from the United States Fish and Wildlife Service (USFWS), which maintains listings of federally listed,

threatened, and endangered species, and critical habitat information in the State of New Jersey via their website. Additionally, the NJDEP Office of Natural Lands Management (NLM), Natural Heritage Program, maintains listings of State listed, threatened, and endangered species, and critical habitat information in the State of New Jersey, that is available for review via the NJDEP i-Map NJ website.

ATC submitted a formal request to the USFWS requesting consultation regarding Endangered and Threatened Species. ATC received a response from the USFWS dated April 2009, stating that individual project review by the Service is not required under certain conditions. In accordance with provisions of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C 1531 *et seq.*), the Migratory Bird Treaty Act of 1918 (MBTA) (40 State. 755; 16 U.S.C. 703-712, the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-688d), and the National Environmental Policy Act of 1969 (83 State. 852; 42U.S.C. 4321 *et seq.*), the USFWS determined that the following proposed actions are not likely to adversely affect federally listed species in New Jersey, nor have any significant impacts on migratory birds or other federal trust wildlife resources under service jurisdiction:

- Routine maintenance (e.g., painting, antenna replacement) at existing tower site or other existing tower support structures;
- Repair or replacement of existing towers and/or equipment
- Collocation of new equipment or antennas on an existing structure (e.g. tower, water tank, flagpole, building), where proposed activities will not require the addition of lights or guy wires to an existing structure, or increase the height of an existing structure above 200 feet; and
- Construction of new towers without lights or guy wires, under 200 feet in height

PROVIDED that:

- (1) all ground disturbance is at least 150 feet from any beach or dune;
- (2) in municipalities* with extant, historic, or potential occurrence of bog turtle, Indiana bat, dwarf wedgemussel, swamp pink, Knieskern's beaked-rush, sensitive joint-vetch, bog asphodel, or Hirsts' panic grass: (a) any net gain in impervious surface is under 0.25 acre; AND (b) all ground disturbance is at least 150 feet from any wetland or open water (e.g. river, stream, pond, lake) or is limited to existing developed areas (e.g. rooftops, pavement, gravel, maintained lawn);
- (3) in municipalities* with extant (i.e. hibernation, maternity) or potential occurrence Indiana bat, any tree clearing is under 0.25 acre (including for access roads) and tress over 5 inches diameter at breast height will be cut between October 1 and March 31; in municipalities with hibernation occurrence, cutting will occur between November 16 and March 31;
- (4) the project is consistent with the Service's National Bald Eagle Management Guidelines (<http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>); and
- (5) the project is not located in a National Wildlife Refuge (Refuge boundary mapping is available at <http://picard.fws.gov/metadata.html#New%20Jersey>).

The Site is located in the paved parking lot of a retail shopping center. Therefore, according to the Site Plans provided by T-Mobile, the proposed project meets the criteria as set forth by the USFWS. As such, it may be deemed that the proposed telecommunications facility is not likely to adversely affect federally listed species in New Jersey, nor have any significant impacts on migratory birds or other federal trust wildlife resources. A copy of the USFWS "Communication Tower and Antenna Consultation in New Jersey" is included within Appendix C.

Additionally, Maxton Technology submitted a formal request to the NJDEP Division of Parks and Forestry, Office of Natural Lands Management (NLM) as part of the Flood Hazard Area Permit application for the Site. The response from NLM dated March 9, 2010 did not have a record of any rare wildlife species at the reference site. On March 15, 2011, ATC submitted an update request to NLM. ATC reviewed a copy of the response from the NLM dated March 21, 2011, indicating that the Natural Heritage Database and the Landscape Project habitat mapping did not have records for the occurrences of rare wildlife species, wildlife habitat, plants or ecological communities at the Site. A copy of the NLM response is included in Appendix C.

Please note that the Office of Natural Lands management provides the following Cautions and Restrictions on Natural Heritage Data:

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the database. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

The Landscape Project was developed by the Division of Fish & Wildlife, Endangered and Nongame Species Program to map critical habitat for rare animal species. Some of the rare species data in the Landscape Project is in the Natural Heritage Database, while other records were obtained from other sources. Natural Heritage Database response letters list all species (if any) found during a search of the Landscape Project. However, any reports that are included with the response letter will only reference specific records if they are in the Natural Heritage Database. This office cannot answer any inquiries about the Landscape Project. All questions should be directed to the DEP Division of Fish and Wildlife, Endangered and Nongame Species Program, P.O. Box 400, Trenton, NJ 08625-0400.

ATC also reviewed the Natural Heritage Database via the NJDEP i-Map NJ website, which indicated that the Site is not located within a mapped area.

Based on the NJDEP i-Map website, and the USFWS and the NLM responses, the proposed Site is not expected to affect threatened or endangered species.

Migratory Birds

The USFWS has made the following recommendations that may help reduce potential bird/tower strikes:

- Collocation on other structures, self supporting structures (instead of towers requiring guy wires for support) and total tower heights under 200 feet;
- Use white flashing strobe lights as dim and brief as legally possible, and flash time intervals as long as legally possible, instead of red lights when night lighting is necessary;
- Locate new towers in urban and suburban areas whenever possible and in rural areas only if absolutely necessary, preferably on disturbed sites and not in, on, or near wetlands, hill tops, forests, prairie grasslands, and other known major migratory bird stopover sites, or feeding, nesting, or roosting routes; and
- If tower height requires guy wires, use no more than absolutely necessary to insure tower stability, and attach bird deflector devices to warn birds of the existing hazard.

Based on the information provided by T-Mobile, consideration has been given to the noted guidelines, and various measures have been incorporated into the project. The voluntary USFWS guidelines are included within Attachment D.

Designated Critical Habitats

According to the USFWS, critical habitat “identifies specific areas that have the physical and biological features that are essential to the conservation of a listed species, and that may require special management considerations or protection.” ATC reviewed 50 CFR, Wildlife and Fisheries, Parts 17.94 through 17.96 and Parts 226.101 through 226.213 (dated October 1, 2009), for designated critical habitats that may exist in the vicinity of the Site. The review of 50 CFR did not reveal the presence of designated critical habitats within a one-mile radius of the Site.

Based on the findings of this review, further evaluation of biological resources is not warranted at this time.

5.4 Historic Places

Section 106 of the National Historic Preservation Act of 1966 (NHPA, 16 U.S.C. §§ 470 *et seq.*) and its implementing regulations, “Protection of Historic Properties” (36 CFR Part 800), require Federal agencies to take into account the effects of their undertakings on historic properties. T-Mobile provided ATC with copies of documentation from MartinEnviro concerning Section 106 consultation for the Site. According to the information provided by T-Mobile, MartinEnviro submitted a FCC Form 620 to NJ HPO and received a response from the NJ HPO dated April 16, 2010, indicating that the proposed wireless telecommunications tower would have an adverse visual effect on the Rahway River Parkway, located adjacent to the proposed Site. NJ HPO stated that “the proposed project would have an adverse effect on the character defining visual qualities of that landscape”.

According to documentation from MartinEnviro, NJ HPO later revised their findings on May 20, 2010 to “no adverse effect on visual resources” upon the following conditions:

1. No collocations above the proposed height of 36.6 meters (120 feet).
2. All collocations (below 36.6 meters) must be in flagpole format.

Copies of the NJ HPO responses and NJ HPO submittal are included in Appendix E.

5.5 Indian Religious Sites

Section 106 of the NHPA and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800), require consultation with Native American tribal groups regarding proposed projects and potential impacts to Native American religious sites.

According to Section IV.B of the Nationwide Programmatic Agreement for Review Under the National Historic Preservation Act; Final Rule (47 CFR Part 1), "As an initial step to enable the Commission to fulfill its duty of consultation, Applicants shall use reasonable and good faith efforts to identify any Indian tribe or NHO that may attach religious and cultural significance to Historic Properties that may be affected by an Undertaking." According to information provided by T-Mobile, MartinEnviro used the FCC's Tower Construction Notification System (TCNS) to notify such tribes that may have interest in the Site through TCNS as well as from the NJ HPO. Tribes that requested to be contacted for this particular project were sent requests for consultations as per their individual preferences. The following table details the contact dates and tribal interest in the Site

| Indian Religious Sites Summary | | | |
|--------------------------------|--|---------------------------|----------------|
| Tribe/Nation | Initial Contact Date | Response Date | Response |
| Delaware Nation | February 9, 2010 via TCNS; March 12, 2010 via letter | April 14, 2010 via letter | See Appendix E |
| Shawnee Tribe | February 9, 2010 via TCNS; March 10, 2010 via letter | April 28, 2010 via letter | See Appendix E |
| Delaware Tribe of Indians | February 9, 2010 via TCNS; April 6, 2010 via letter | April 12, 2010 via letter | See Appendix E |

Copies of the TCNS response and Tribal responses are included in Appendix F.

5.6 100-Year Flood Plain

According to the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) for Union County, New Jersey, Community Panel Number 34039C0043F, dated September 20, 2006, the Parent Parcel is located in Flood Zone AE. Areas of Flood Zone AE are defined by FEMA as "Areas of 100-year flood; Base Flood Elevations determined." Based on a review of the FIRM, the Base Flood Elevation determined at the Site is between 20 and 21 feet AMSL.

According to the Construction Drawings provided by T-Mobile, Sheet # ST-1, Equipment Platform Framing Plan, the existing grade within the compound is 20.06 feet amsl. The proposed telecommunication equipment will be located atop a steel beam, 3 feet above the existing grade. As such, the equipment will be located 1.36-feet above the Base Flood

Elevation. As such, the proposed equipment will be located above the New Jersey Flood Hazard Elevation and the base flood elevation as determined by FEMA.

T-Mobile also provided ATC with a copy of the FEMA elevation certificate that was issued for the project on November 11, 2010, by the US Department of Homeland Security FEMA. The elevation certificate does not note any specific requirements for construction within the 100-year flood zone. Based on this information, the project will not be impacted by areas of 100-year flooding. A copy of the elevation certificate is included in Appendix B.

Based on ATC's review of the proposed Construction Drawings depicting the ground equipment to be elevated above the New Jersey Flood Hazard Elevation and FEMA Base Flood Elevation and the review of the Construction Permit, the construction and operation of the T-Mobile telecommunications Site will not cause any significant environmental impacts. A copy of a Site Location Map (Figure 1), the FEMA FIRM showing the location of the Site within the flood zone, and Construction Drawings depicting the proposed construction are included in Appendix A.

5.7 Surface Features

Under the Clean Water Act (40 CFR § 230.3), wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." Potential wetlands under the jurisdiction of the United States Army Corps of Engineers (ACOE) include waterways, lakes, streams, and natural springs.

As shown on the USGS Perth Amboy, NJ Quadrangle map, the Site is located adjacent to Robinson's Branch, located approximately 45 feet northwest of the proposed equipment compound.

ATC reviewed the United States Fish and Wildlife Service (USFWS) website for the USFWS *National Wetlands Inventory* (NWI) map of the USGS Perth Amboy, NJ, Quadrangle. The review of the NWI map indicated that the Federal mapped wetlands are depicted near the Site. A copy of the USFWS NWI map depicting the Site location is included in Appendix G. ATC also reviewed the NJDEP i-Map NJ website, which maps state wetlands. The review of the NJDEP map indicated that State mapped wetlands are depicted near the Site. A copy of the NJDEP wetlands map is also included in Appendix G.

T-Mobile provided ATC with a copy of the Wetlands and Waterfront Development Review Letter prepared by CMX of Parsippany, New Jersey. According to the Letter, CMX engineers conducted a wetlands determination at the Parent Parcel on March 4, 2010. Based on the wetlands determination, CMX was of the opinion that "the specific limit of disturbance for the new cellular communication facility is absent of jurisdictional wetlands, waters, and transition areas". CMX further concluded that since wetlands are mapped greater than 50 feet from the proposed Site boundary, the Site is not located within a transition area.

Based on the referenced information, wetlands are not considered to represent an environmental concern to the proposed Site.

According to the Site Plans provided by T-Mobile, no tree removal is required for the project. A silt fence is propose to be installed along the western outside perimeter of the Site prior to construction to prevent water diversion and impacts to surface water features.

Based on the referenced information, wetlands, surface features, deforestation and water diversion are not anticipated to represent an environmental concern for the development of the Site.

5.8 High Intensity White Lights/Radio Frequency Radiation

According to T-Mobile, high intensity white lights used for tower illumination will not be necessary. The facility does not fall outside of the categorical exclusions contained in Table 1 of 47 CFR Section 1.1307(b)(1). The proposed facility will not cause exposure of workers or the general public to level of radio frequency radiation in excess of the emissions limits set forth in Section 1.1310 and 2.1093. A copy of the *Antenna Site FCC RF Compliance Assessment and Report* prepared by Pinnacle Telecom Group, dated June 2, 2009, is included in Appendix H.

5.9 Additional Environmental Evaluation

National Scenic and Historic Trails

In October 1999, the Cellular Telecommunications Industry Association, Personal Communications Industry Association, Appalachian Trail Conference, American Hiking Society, and representative Managing and Supporting Trails Organizations (MSTOs) for the National Scenic Trails signed a resolution for the *Siting of Wireless Telecommunications Facilities Near National Scenic Trails*. This resolution states that if a wireless telecommunications or Site management company plans a new or significantly expanded facility within one mile of a National Scenic Trail, it will notify the non-profit group that supports the trail. Therefore, in order to determine if the Site is located within one mile of a National Scenic or Historic Trail, ATC reviewed available information from the NPS.

In order to determine if the Site is located within one mile of a National Scenic or Historic Trail, ATC reviewed available information from the NPS website. The Appalachian National Scenic Trail passes through the State of New Jersey. Approximately 72 miles of the Appalachian National Scenic Trail transverses the northern portion of New Jersey, along the border of New York and Pennsylvania. Based on this information, the Site is not located within one mile of a National or Historic Trail.

National Wild and Scenic Rivers

The National Wild and Scenic Rivers Act of 1968 designated "that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations." According to the National Wild and Scenic Rivers System website, "the idea behind the National System is not to halt use of a river; instead, the goal is to preserve the character of a river." ATC reviewed the National Wild and Scenic Rivers System data on National Wild and Scenic Rivers in the State of New Jersey website. There are no designated rivers within one mile of the Site.

6.0 COORDINATION AND COMMENTS

The Parent Parcel is located at 1100 St. Georges Avenue, in the City of Rahway, Union County, New Jersey. The Parent Parcel is owned by St. Georges Center Associates LLC and is occupied by a shopping center containing multiple buildings and an associated parking lot. The proposed Site consists of the construction of a 120-foot telecommunications flagpole and six (6) internally-mounted antennas, in addition to the installation of associated elevated equipment within a proposed lease area at the base of the flagpole.

According to the information obtained from the New Jersey Tax Records website, the Parent Parcel is identified as Block 140, Lot 2. The Parent Parcel is located in the northeastern quadrant of the of the United States Geological Survey USGS Perth Amboy, NJ, Quadrangle Map. Based on the USGS Perth Amboy, NJ, Quadrangle Map, the Site is located approximately 20 feet AMSL with a topography that slopes northwest towards Robinson's Branch, located approximately 45 feet northwest of the Site.

According to the Construction Drawings provided by T-Mobile (*NJ-05-562B, 1100 ST. GEORGES AVENUE, RAHWAY, NJ 07065, BLOCK: 140, LOT: 2, TAX MAP #37*, prepared by Atwell of Toms River, New Jersey dated May 19, 2010, last revised July 20, 2010), the proposed project includes the construction of a 120-foot telecommunications flagpole painted white with six (6) internally mounted telecommunications antennas. At the base of the monopole, T-Mobile has proposed the installation of a 14-foot by 18-foot elevated equipment platform containing three (3) equipment cabinets, a Mesa cabinet, a PPC cabinet, and a meter center, within a proposed fenced 16-foot by 33-foot compound. The equipment has been designed to be elevated to a height of 21.56 feet AMSL. A proposed cable bridge with a GPS unit will connect the equipment cabinets to the monopole. Utilities will be routed underground from the equipment compound to an existing utility pole located approximately 115 feet southwest of the compound. Access to the Site will be from an existing parking lot at the Parent Parcel.

According to the Construction Drawings provided by T-Mobile, Sheet # ST-1, Equipment Platform Framing Plan, the existing grade within the compound is 20.06 feet amsl. The proposed telecommunication equipment will be located atop a steel beam, 3 feet above the existing grade. As such, the equipment will be located 1.36-feet above the Base Flood Elevation. As such, the proposed equipment will be located above the New Jersey Flood Hazard Elevation and the base flood elevation as determined by FEMA.

T-Mobile also provided ATC with a copy of the FEMA elevation certificate that was issued for the project on November 11, 2010, by FEMA. The certificate does not note any specific requirements for construction within the 100-year flood zone. Based on this information, the project will not be impacted by areas of 100-year flooding. A copy of the elevation certificate is included in Appendix B. T-Mobile is unaware of any controversy regarding the construction of the Site.

7.0 CONCLUSIONS

Pursuant to Federal Communications Commission (FCC) regulations in Title 47, Code of Federal Regulations, Section 1.1308(a), ATC Associates Inc. (ATC) has prepared an Environmental Assessment of the proposed Site located at 1100 St. Georges Avenue, in the City of Rahway, Union County, New Jersey. The project Site has been designated by T-Mobile as Site number **NJ-05-562-B**, (Latitude 40° 36' 27.08"N, Longitude 74° 17' 19.91"W). The Parent Parcel is identified by the New Jersey Tax Records website as Block 140, Lot 2 and is located within Union County, New Jersey.

The NEPA requires federal agencies to assess the effects of their actions on the quality of the human environment. To meet the requirements of the NEPA, eight criteria, as outlined in 47 CFR 1.1307(a)(1) through (8), were examined to evaluate the potential for significant environmental impact from the construction of the proposed personal communications services facility.

According to criteria set forth in 47 CFR 1.1308(a), an Environmental Assessment is required if the proposed construction has the potential to significantly impact the environment. This Environmental Assessment was prepared because one FCC criterion (100-year flood zone) was triggered by conditions at the project Site. The methods used in this assessment consisted of document research, interviews with personnel from regulatory agencies, T-Mobile, and a review of pertinent Site characteristics and activities by experienced ATC personnel.

Based on the findings of ATC's Environmental Assessment, the proposed Construction Drawings depicting the ground equipment to be elevated above the New Jersey Flood Hazard Elevation and FEMA Base Flood Elevation, and the FEMA elevation certificate, the construction and operation of the T-Mobile telecommunications Site will not cause any significant environmental impacts.

8.0 QUALIFICATIONS

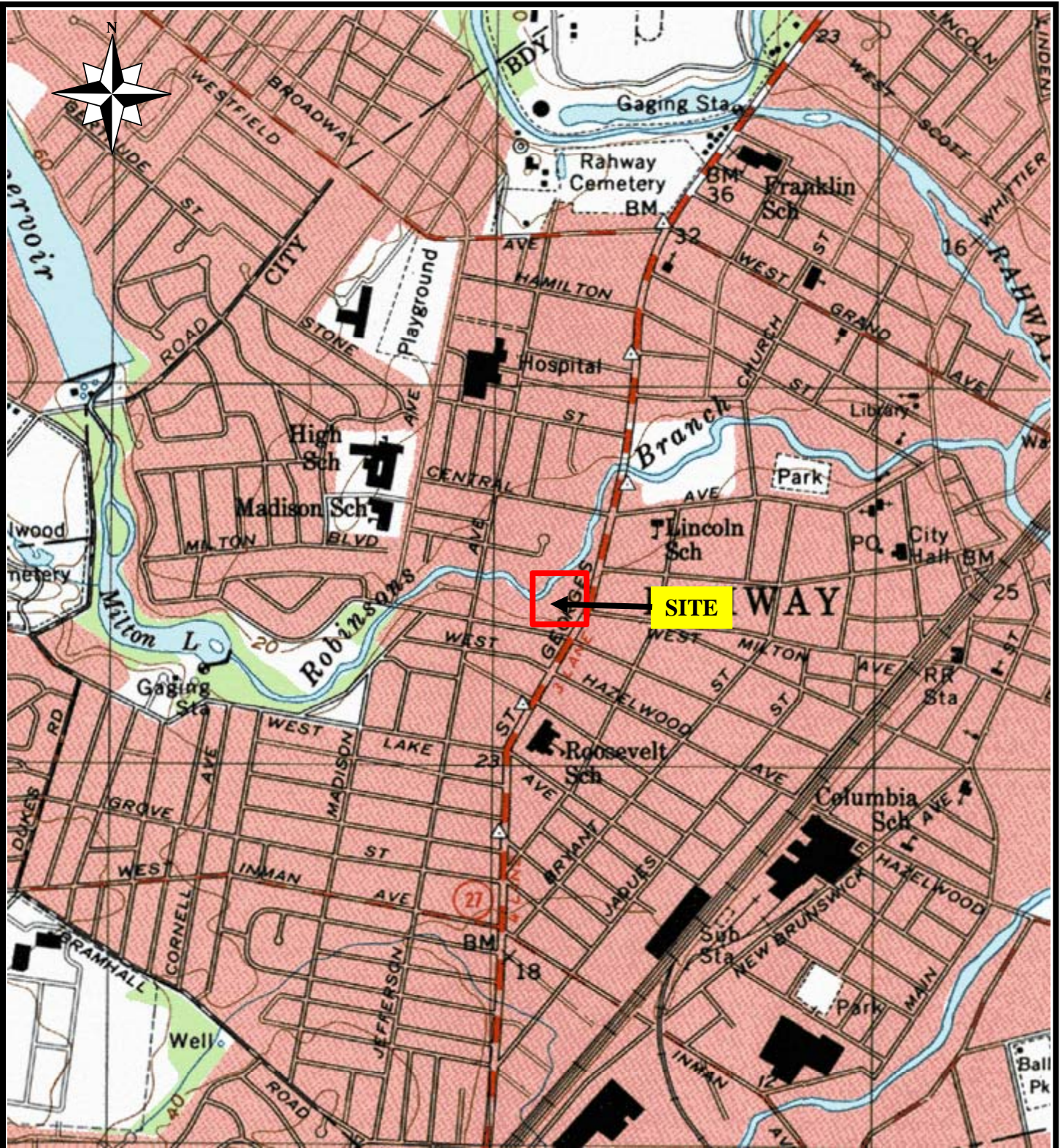
ATC is pleased to have been of service in providing this Environmental Assessment. ATC warrants that neither ATC nor any of its employees have a financial interest in this project. Additionally, no conflict of interest exists between ATC and any of the parties attempting to obtain governmental regulatory approval for this project. The resumes for the individuals that performed the environmental evaluation of the project Site are included in Appendix I.

ATC's professional services have been performed, our findings obtained, and our report prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This warranty is in lieu of all other warranties either express or implied. This Environmental Assessment does not constitute, in any way, an Environmental Protection Agency Environmental Site Assessment. Additionally, subsurface conditions were not field-investigated as part of this study.

The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of others. This company is not responsible for the independent conclusions, opinions or recommendations made by others based on this report. The presented findings and conclusions are a logical summation based solely upon factual evidence required by NEPA and the FCC.

Appendix A

Site Location Map, Construction Drawings, Tax Information, and FEMA FIRM



3 Terri Lane
Burlington, NJ, 08016
(609) 386-8800

SOURCE: U.S. Geologic Survey
Topographic Map 7.5 Minute Series,
Perth Amboy-NJ Quadrangle 1995.
Scale 1:24,000
Contour Interval 20 feet

FIGURE 1: SITE VICINITY MAP

T-Mobile Northeast, LLC

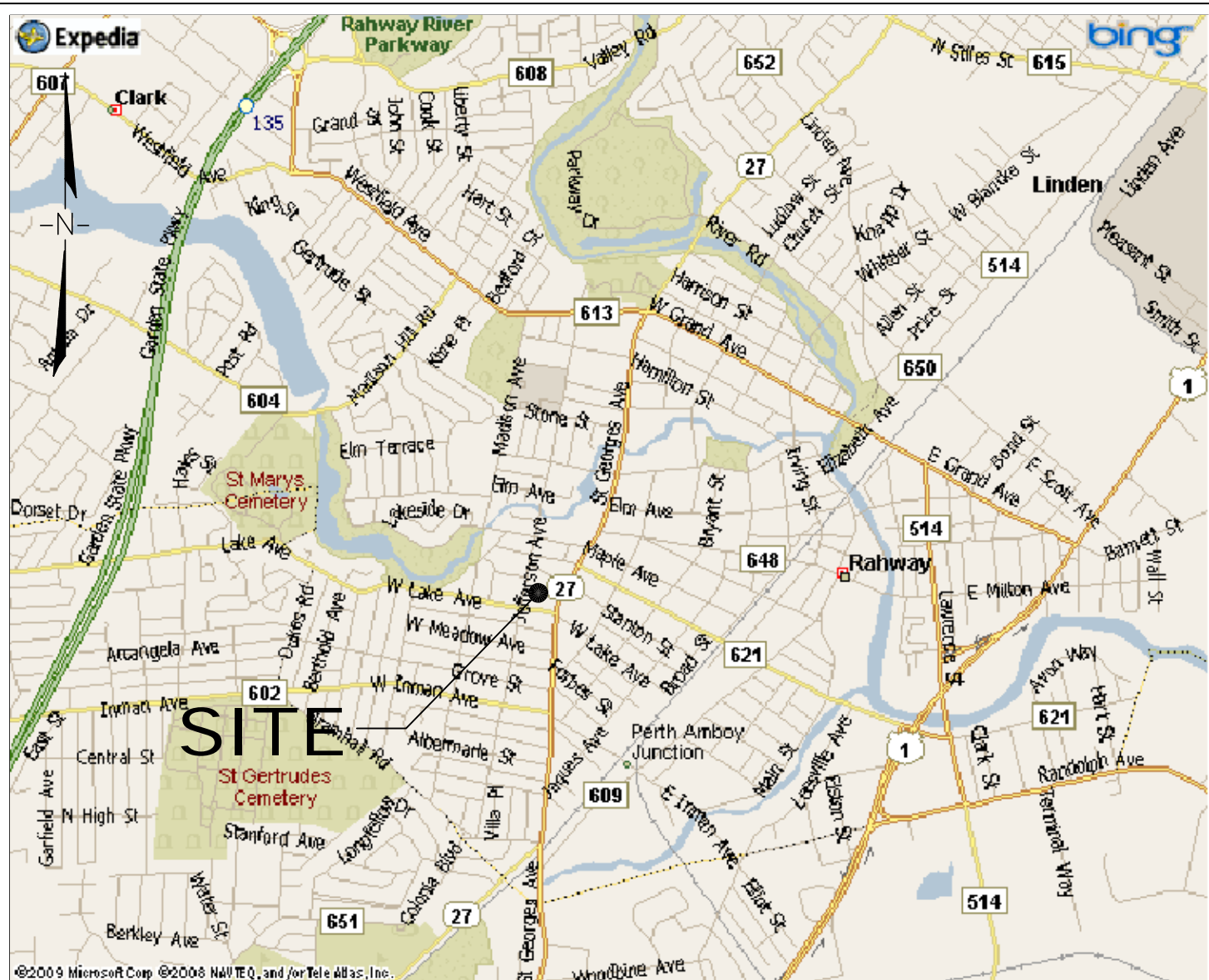
NJ-05-562-B
1100 St Georges Avenue
City of Rahway
Union County, New Jersey 07065

Lat: 40° 36' 27.08" N, Long: 74° 17' 19.91" W



T-MOBILE NORTHEAST LLC

NJ-05-562B
1100 ST. GEORGES AVENUE
RAHWAY, NJ 07065
BLOCK: 140, LOT: 2
TAX MAP #37



KEY MAP

SCALE 1" = 2000'

DIRECTION TO SITE

- START: DEPART START ON SYLVAN WAY (EAST)
1. TURN RIGHT (SOUTH) ONTO DRYDEN WAY
2. TAKE RAMP ONTO SR-10 (RT-10)
3. TAKE RAMP (RIGHT) ONTO I-287 (I-287 / MORRISTOWN)
4. AT EXIT 37, TAKE RAMP (RIGHT) ONTO SR-24 (RT-24 / I-78 E / SPRINGFIELD)
5. TAKE RAMP ONTO I-78 (I-78 / GARDEN STATE PARKWAY / NEWARK)
6. AT EXIT 52, TURN RIGHT ONTO RAMP (GARDEN STATE PARKWAY)
7. KEEP RIGHT TO STAY ON RAMP (PARKWAY SOUTH)
8. MERGE ONTO GARDEN STATE PKWY
9. AT EXIT 135, KEEP RIGHT ONTO RAMP CLARK / WESTFIELD)
10. KEEP LEFT TO STAY ON RAMP (RAHWAY / LINDEN)
11. AT ROUNDABOUT, TAKE THE THIRD EXIT ONTO CR-613 [BRANT AVE]
12. TURN LEFT (EAST) ONTO CR-613 [WESTFIELD AVE]
13. TURN RIGHT (SOUTH) ONTO SR-27 [ST GEORGES AVE]
END: ARRIVE AT 1100 ST GEORGES AVE

SITE LOCATION INFORMATION

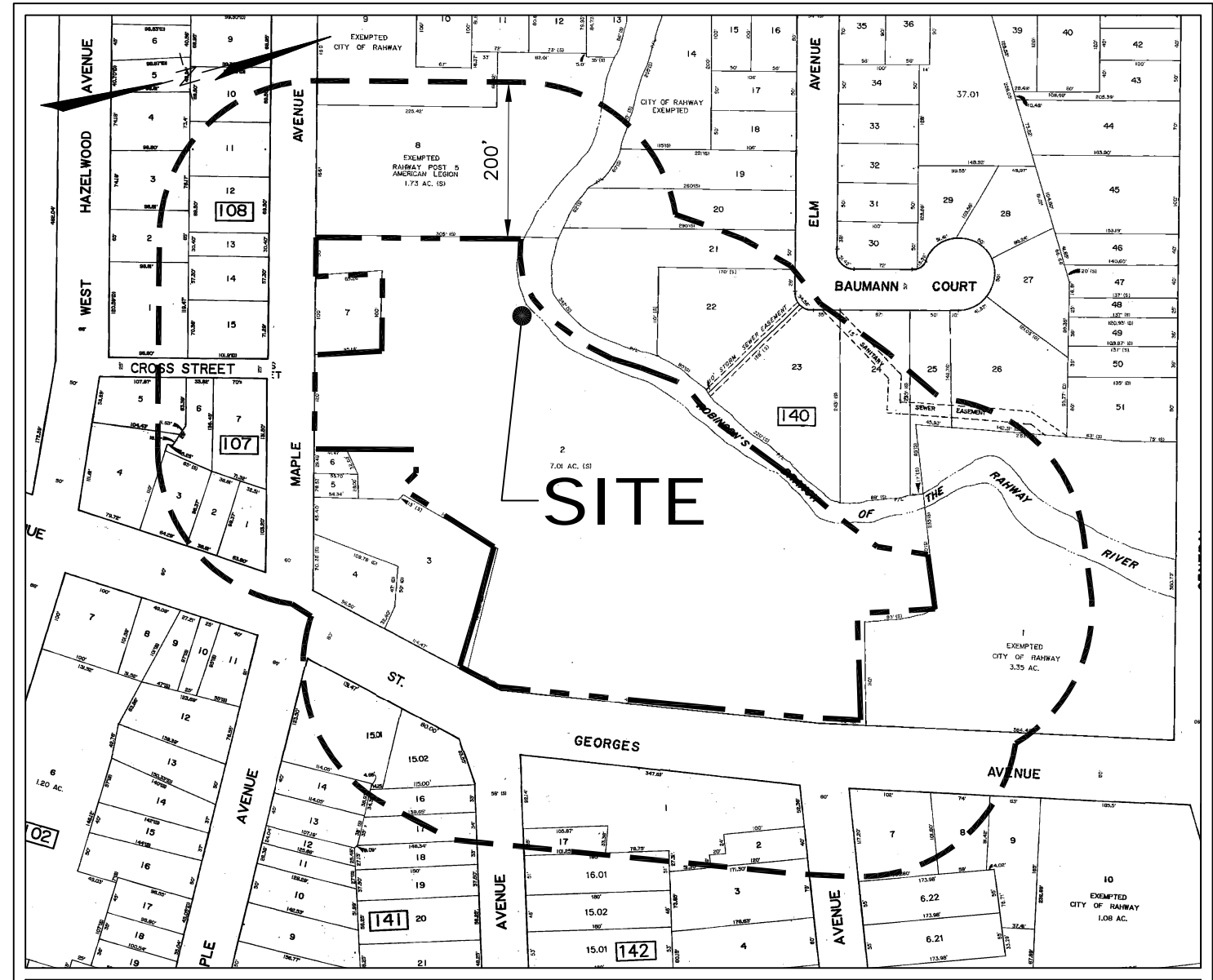
| | |
|-------------------|---|
| SITE ID NUMBER: | NJ-05-562B |
| SITE ADDRESS: | 1100 ST. GEORGES AVENUE RAHWAY, NJ 07065 |
| BLOCK: | 140 |
| LOT: | 2 |
| CURRENT ZONING: | B-2 |
| PROPERTY OWNER: | ST GEORGES CENTER ASSOC. LLC 374 MILLBURN AVENUE POB 785 MILLBURN, NJ 07902 LARRY GELBER PHONE: (973) 379-9016 |
| PROPERTY CONTACT: | |
| APPLICANT: | T-MOBILE NORTHEAST LLC 4 SYLVAN WAY PARSIPPANY, N.J. 07054 |
| COUNTY: | UNION |

SITE CHARACTERISTICS

| | |
|---------------------------------|--|
| LATITUDE: | N 40° 36' 27.08" (NAD 83) |
| LONGITUDE: | W 74° 17' 19.91" (NAD 83) |
| GROUND ELEVATION (AMSL): | 20.06'± (NGVD 29) |
| STRUCTURE TYPE: | FLAGPOLE |
| LOCATION OF PROPOSED EQUIPMENT: | 14x18' ELEVATED EQUIPMENT PLATFORM |
| STRUCTURE HEIGHT: | 120' AGL |
| ANTENNA (RAD CENTER): | ALPHA - 117' AGL & 109' AGL BETA - 117' AGL & 109' AGL GAMMA - 117' AGL & 109' AGL |

SHEET INDEX

| SHEET NO. | SHEET DESCRIPTION |
|-----------|---|
| T-1 | TITLE SHEET |
| Z-1 | KEY MAP, PARTIAL SITE PLAN & GENERAL NOTES |
| S-1 | PROPOSED EQUIPMENT COMPOUND LOCATION PLAN, 120' FLAGPOLE ELEVATION, ANTENNA ORIENTATION & ANTENNA DETAILS |
| S-2 | SITE DETAILS |
| ST-1 | STRUCTURAL LAYOUT, NOTES & DETAILS |
| E-1 | ELECTRICAL PLAN, ELEC. & TELCO RISER DIAGRAM, DETAILS AND NOTES |
| G-1 | GROUNDING PLAN, DETAILS & NOTES |
| GN-1 | GENERAL NOTES |



TAX MAP

SCALE: 1" = ±200'
CITY OF RAHWAY
TAX MAP # 37

ATWELL
www.atwell-group.com



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TOMS RIVER, NJ 08753
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FAX: 7 3 2 6 0 8 9 3 2 5
OFFICES IN NORTH AMERICA AND ASIA

T-Mobile
T-MOBILE NORTHEAST LLC

4 SYLVAN WAY
PARSIPPANY, NJ 07054
OFFICE: (973) 397-4800
FAX: (973) 292-8893

Joseph F. Frega

JOSEPH F. FREGA, P.E.
NJ PROFESSIONAL ENGINEER LIC. # 47298
NY PROFESSIONAL ENGINEER LIC. # 084075-1
CT PROFESSIONAL ENGINEER LIC. # PEN-0026729
PA PROFESSIONAL ENGINEER LIC. # 075975

REVISIONS

| NO. | DATE | DESCRIPTION |
|-----------|----------|--------------------------|
| 5 | | |
| 4 | | |
| 3 | | |
| 2 | 07/20/10 | RE-ISSUED FOR B.P. |
| 1 | 05/21/10 | ISSUED FOR B.P. |
| 0 | 05/19/10 | PRELIMINARY CONSTRUCTION |
| DRAWN BY: | SP | CHECKED BY: JFF |
| SCALE: | AS NOTED | JOB NO: 10000610 |

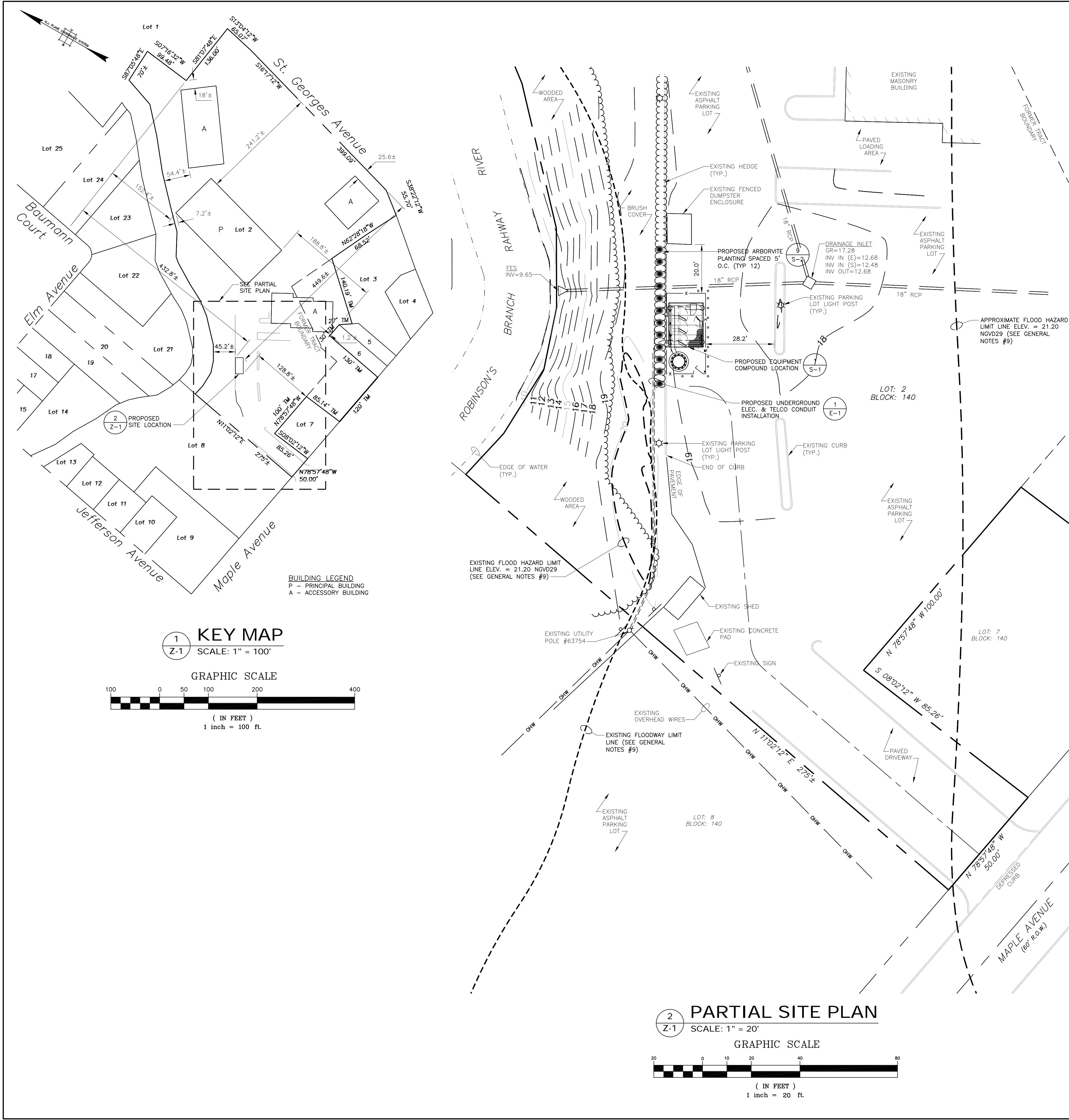
NJ-05-562B
1100 ST. GEORGES AVE
RAHWAY, NJ 07065
BLOCK: 140, LOT: 2
TAX MAP #37

SHEET DESCRIPTION

TITLE SHEET

SHEET NO.

T-1



- GENERAL NOTES:
- SUBJECT PROPERTY IS KNOWN AS LOT 2 BLOCK 140 AS SHOWN ON OFFICIAL TAX MAP # 37 OF THE CITY OF RAHWAY.
 - THE APPLICANT PROPOSES TO INSTALL (6) SIX PANEL ANTENNAS IN A PROPOSED 120' FLAG POLE AS WELL AS INSTALL (3) THREE EQUIPMENT CABINETS ON A 14'x18' ELEVATED STEEL EQUIPMENT PLATFORM.
 - CONTRACTOR SHALL NOT COMMENCE ANY WORK UNTIL HE OBTAINS, AT HIS OWN EXPENSE, ALL INSURANCE REQUIRED BY T-MOBILE THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.
 - THE PROPOSED FACILITY IS NOT INTENDED FOR PERMANENT EMPLOYEE OCCUPANCY AND THEREFORE POTABLE WATER, SANITARY SEWERS, ADDITIONAL SITE PARKING AND HANDICAP ACCESS ARE NOT REQUIRED.
 - THIS FACILITY SHALL BE VISITED ON AN AVERAGE OF ONCE A MONTH FOR MAINTENANCE AND SHALL BE MONITORED FROM A REMOTE FACILITY.
 - FINAL CONNECTION TO ELECTRICAL AND TELEPHONE TO BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY.
 - THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED AND EACH OF THE DRAWINGS HAVE BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION".
 - PROPERTY INFORMATION SHOWN TAKEN FROM A SURVEY PREPARED BY VS LAND DATA, ENTITLED "SITE PLAN OF EXISTING CONDITIONS" FOR SITE ADDRESS 1100 ST. GEORGES AVE., BLOCK 140, LOT 2, CITY OF RAHWAY, UNION COUNTY, NEW JERSEY, DATED 05/15/2009. ADDITIONAL INFORMATION OBTAINED BY A LIMITED FIELD SURVEY BY CMX ON 04/24/09.
 - EXISTING FLOODWAY LIMIT LINE SHOWN TAKEN FROM STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF WATER RESOURCES MAP ENTITLED "DELINEATION OF FLOODWAY AND FLOOD HAZARD AREA, PLANS, CITY OF RAHWAY, NJ," SHEET 2 OF 7. EXISTING FLOOD HAZARD LIMIT LINE SHOWN TAKEN FROM STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF WATER RESOURCES, "DELINEATION OF FLOODWAY AND FLOOD HAZARD AREA, PROFILES, CITY OF RAHWAY, NJ," SHEET 7 OF 7.
 - THIS PLAN IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
 - THE PROPOSED FACILITY WILL CAUSE ONLY A "DE MINIMIS" INCREASE IN STORMWATER RUNOFF. THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
 - NO NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
 - THE PROPOSED DEVELOPMENT DOES NOT INCLUDE STREET SIGNS OF ANY TYPE.
 - THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
 - BASED ON FLOOD INSURANCE RATE MAP, (FIRM) NATIONAL FLOOD RATE MAP, COMMUNITY PANEL NUMBER 34039C-0045-F DATED 09/20/2006 THE PROPOSED AREA IS IN THE 100 YEAR FLOODPLAIN.
 - THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITIES OR OTHER PUBLIC AUTHORITIES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
 - THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THIS PROJECT IN ACCORDANCE WITH THE OVERALL INTENT OF THESE DRAWINGS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
 - THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
 - POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.
 - CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTH WITH RF ENGINEERING PRIOR TO INSTALLATION.
 - DESIGN REQUIREMENTS PER INTERNATIONAL BUILDING CODE 2003 AND THE EIA/TIA-222-F STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
 - ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
 - CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
 - IF ANY PIPING EXISTS BENEATH THE SITE AREA, CONTRACTOR MUST LOCATE IT AND CONTACT OWNERS REPRESENTATIVE.
 - THE CONSTRUCTION CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ALL CONSTRUCTION MEANS AND METHODS. THE CONSTRUCTION CONTRACTOR IS ALSO RESPONSIBLE FOR ALL JOB SITE SAFETY.
 - CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.
 - THE CONTRACTOR IS TO REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. THE CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUB-CONTRACTORS AND RELATED PARTIES. THE SUB-CONTRACTOR SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
 - THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON THE SITE AT ALL TIMES AND INSURE THE DISTRIBUTION OF NEW DRAWINGS TO SUB-CONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH 1 SET OF REDLINE "AS-BUILT" DRAWINGS TO T-MOBILE UPON COMPLETION OF THE WORK.
 - DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
 - ALL MATERIAL PROVIDED BY T-MOBILE IS TO BE REVIEWED BY THE CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS PRIOR TO INSTALLATION. ANY DEFICIENCIES TO PROVIDE MATERIALS SHALL BE BROUGHT TO THE CONSTRUCTION MANAGER'S ATTENTION IMMEDIATELY.
 - THE MATERIALS INSTALLED SHALL MEET REQUIREMENTS OF CONTRACTORS DOCUMENTS. NO SUBSTITUTIONS ARE ALLOWED.
 - THE CONTRACTOR SHALL COORDINATE ALL CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS FOR THE LOCATIONS OF ALL OPENINGS, RECESSES, BUILT-IN WORK, ETC..
 - THE CONTRACTOR SHALL RECEIVE CLARIFICATION AND AUTHORIZATION IN WRITING BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONSTRUCTION DOCUMENTS.
 - THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND TO BE IN THE FIELD.
 - ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST-ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAND PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
 - THE CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
 - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OR WHERE LOCAL CODES OR REGULATIONS MAY TAKE PRECEDENCE.
 - THE CONTRACTOR SHALL REPAIR ALL EXISTING SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
 - THE CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DEBRIS AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITIONS AND FREE FROM PAINT SPOTS, DUST OR SMUDGES OF ANY NATURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
 - BEFORE FINAL ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT, TEMPORARY WORKS, UNUSED AND USELESS MATERIALS, RUBBISH AND TEMPORARY STRUCTURES.
 - A SOIL EROSION AND SEDIMENT CONTROL CERTIFICATION FROM THE SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT WILL NOT BE REQUIRED SINCE THE AREA OF DISTURBANCE IS LESS THAN 5,000 SQ.FT.
 - NO NEW EASEMENTS ARE BEING PROPOSED FOR THIS SITE AS IT IS LOCATED IN AN EXISTING PARKING LOT.

ATWELL

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1130 HOOPER AVENUE
TOMS RIVER, NJ 08753
PH: 8 6 6 8 5 0 4 2 0 0
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NJ PROFESSIONAL ENGINEER LIC. # 47298
NY PROFESSIONAL ENGINEER LIC. # 084075-1
CT PROFESSIONAL ENGINEER LIC. # PEN-0026729
PA PROFESSIONAL ENGINEER LIC. # 075975

| REVISIONS | | |
|-----------------|----------|--------------------------|
| 5 | | |
| 4 | | |
| 3 | | |
| 2 | 07/20/10 | RE-ISSUED FOR B.P. |
| 1 | 05/21/10 | ISSUED FOR B.P. |
| 0 | 05/19/10 | PRELIMINARY CONSTRUCTION |
| NO. | DATE | DESCRIPTION |
| DRAWN BY: SP | | CHECKED BY: JFF |
| SCALE: AS NOTED | | JOB NO: 10000610 |

NJ-05-562B

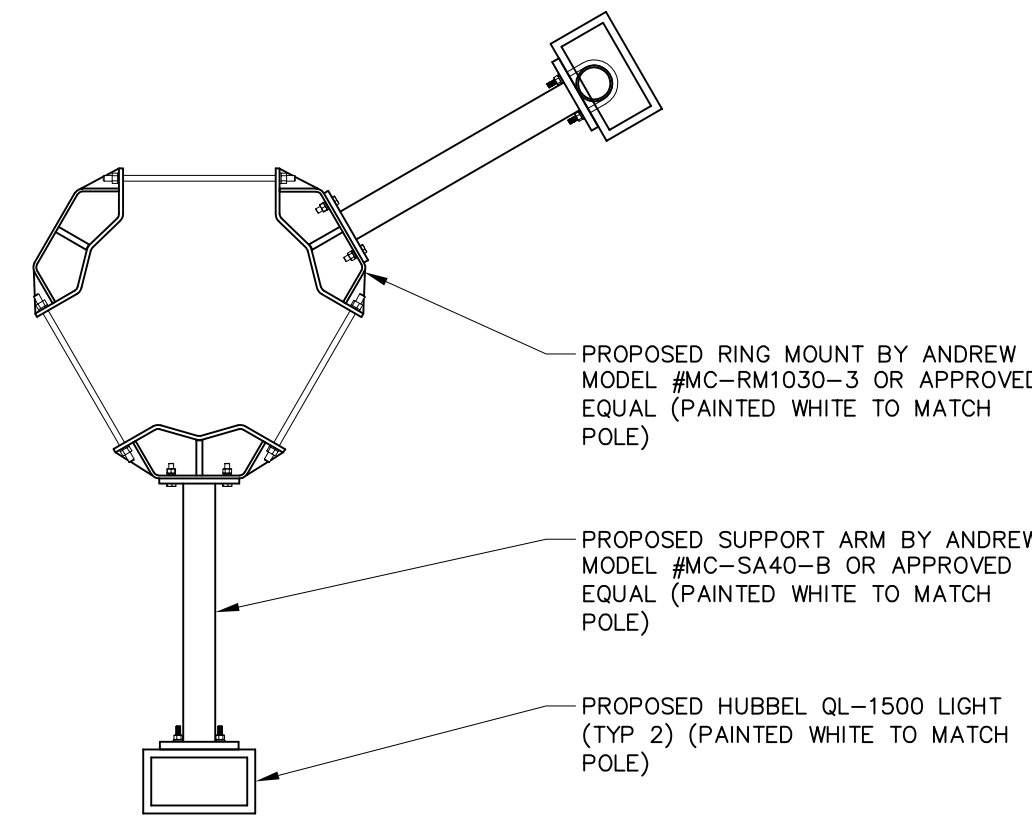
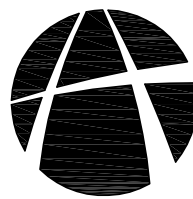
1100 ST. GEORGES AVE
RAHWAY, NJ 07065
BLOCK: 140, LOT: 2
TAX MAP #37

SHEET DESCRIPTION

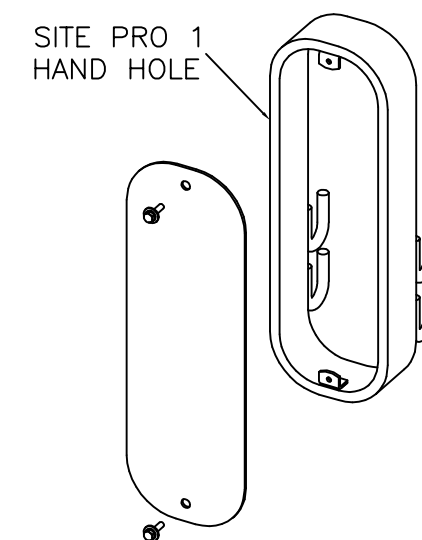
KEY MAP,
PARTIAL SITE
PLAN &
GENERAL NOTES

SHEET NO.

Z-1



6 S-1 PANEL ANTENNA DETAIL
SCALE: 1/2" = 1'-0"

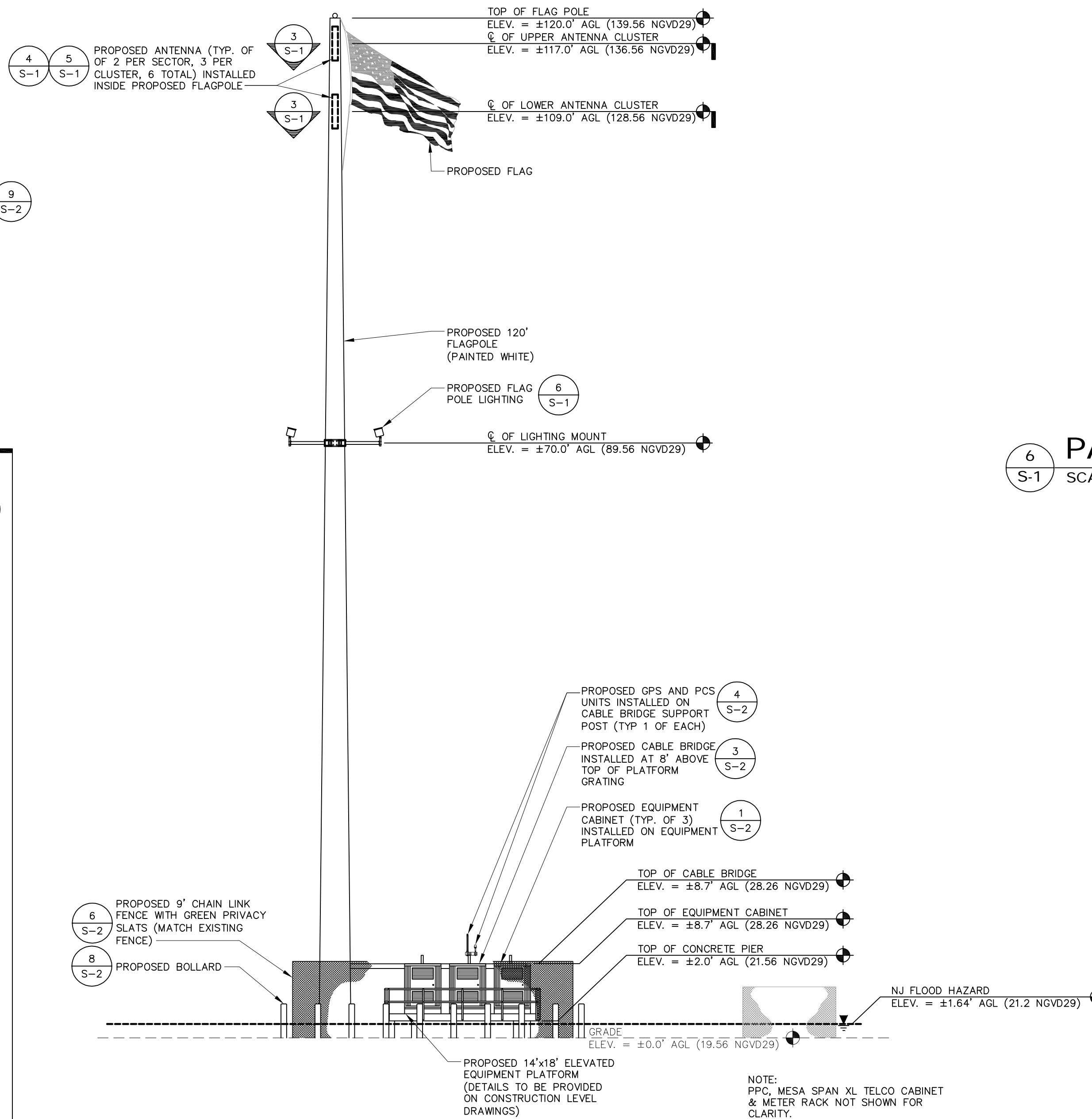


* INSTALLATION OF HAND HOLES SHALL BE LOCATED & INSTALLED IN ACCORDANCE TO TOWER MANUF. SPECIFICATIONS BY QUALIFIED PERSONAL ONLY.

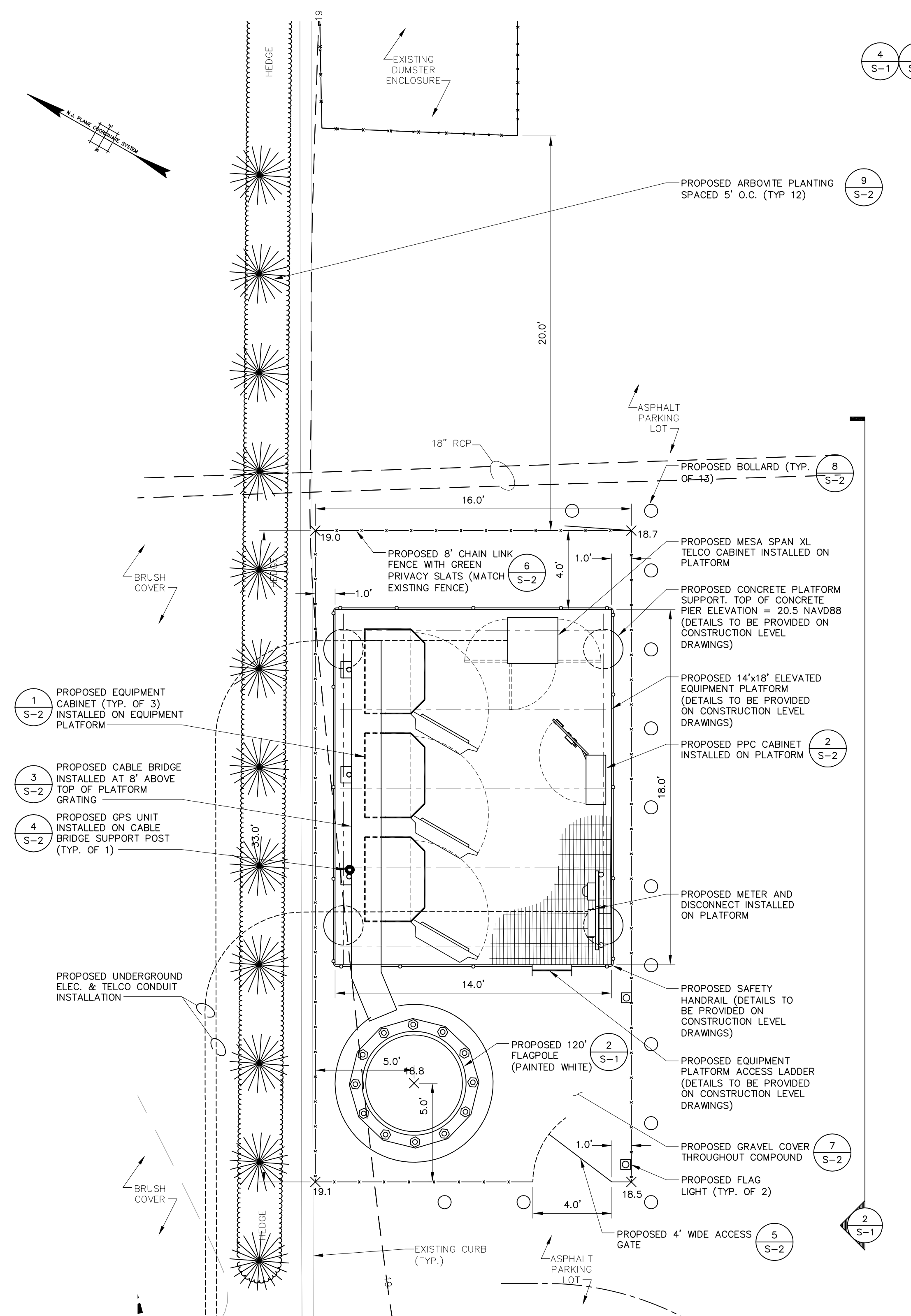
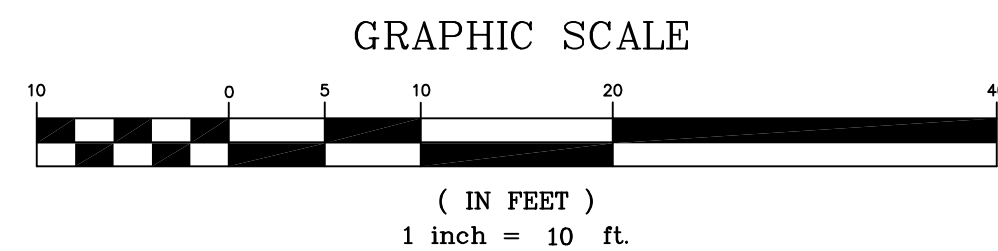
(1) SITE PRO 1 P/N HHR69-G (6"x9") OR APPROVED EQUAL (UPPER)

(1) SITE PRO 1 P/N B2053 (18"x30") OR APPROVED EQUAL (LOWER)

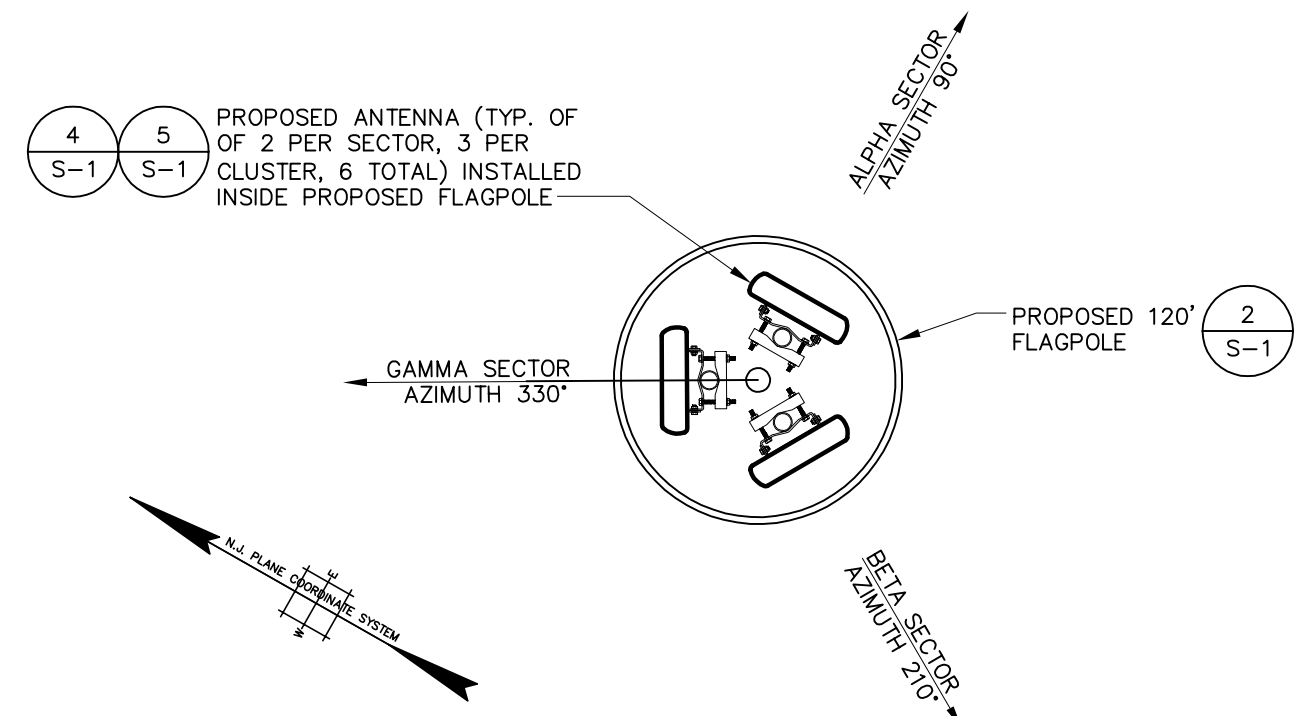
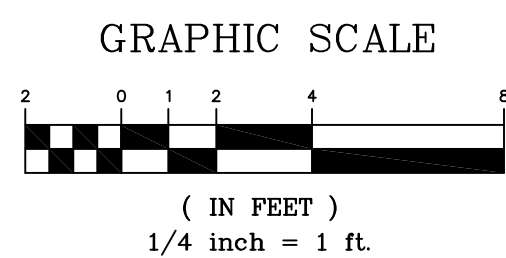
7 S-1 HANDHOLE DETAIL
SCALE: N.T.S.



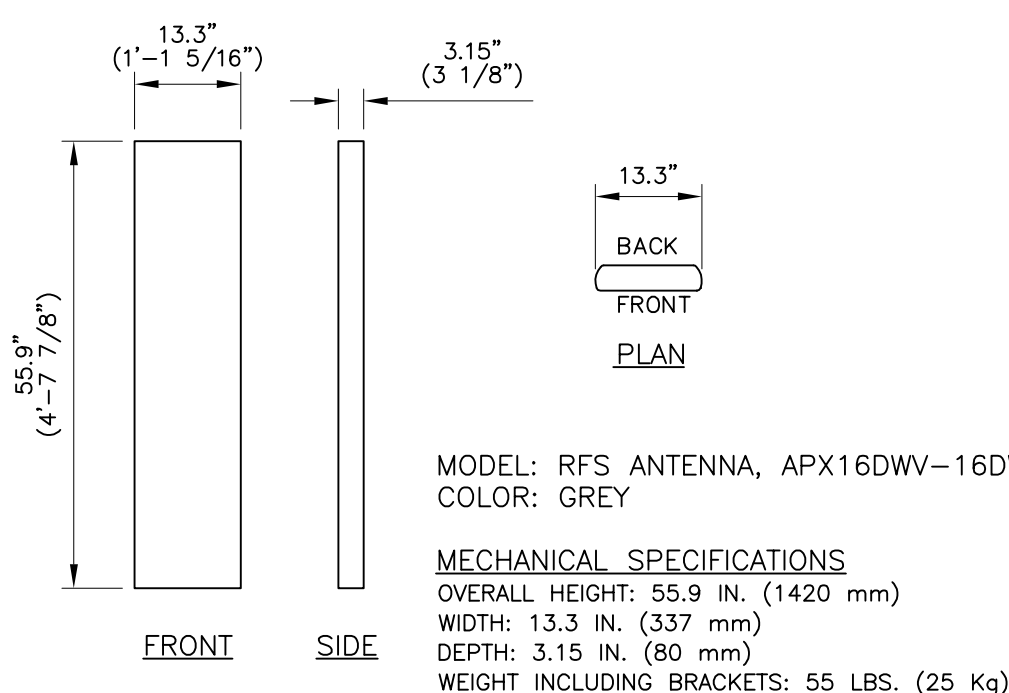
2 S-1 PROPOSED 120' FLAGPOLE ELVATION
SCALE: 1" = 10'



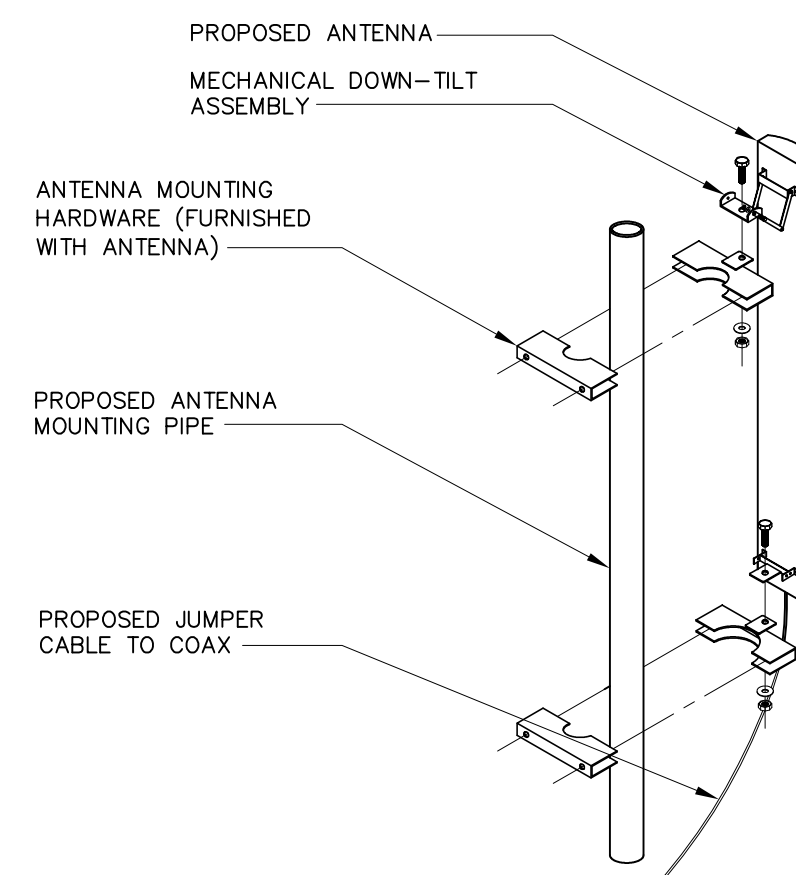
1 S-1 PROPOSED EQUIPMENT COMPOUND LOCATION PLAN
SCALE: 1/4" = 1'-0"



3 S-1 ANTENNA ORIENTATION
SCALE: 1/2" = 1'-0"



4 S-1 PANEL ANTENNA DETAIL
SCALE: 1/2" = 1'-0"



5 S-1 ANTENNA INSTALLATION DETAIL
SCALE: N.T.S.

JOSEPH F. FRECA, P.E.
NJ PROFESSIONAL ENGINEER LIC. # 47298
NY PROFESSIONAL ENGINEER LIC. # 084075-1
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| SCALE: | AS NOTED | JOB NO: 10000610 |

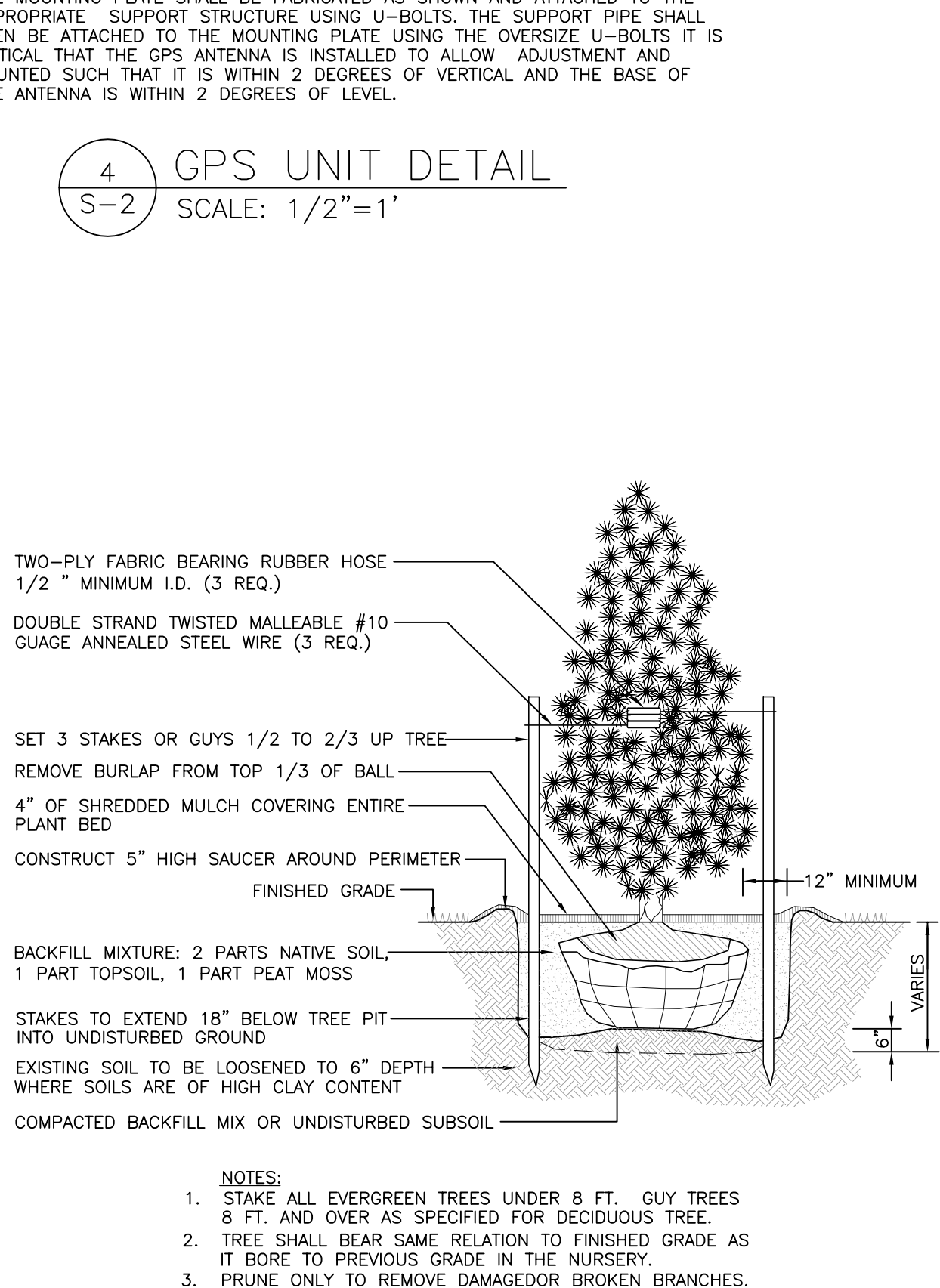
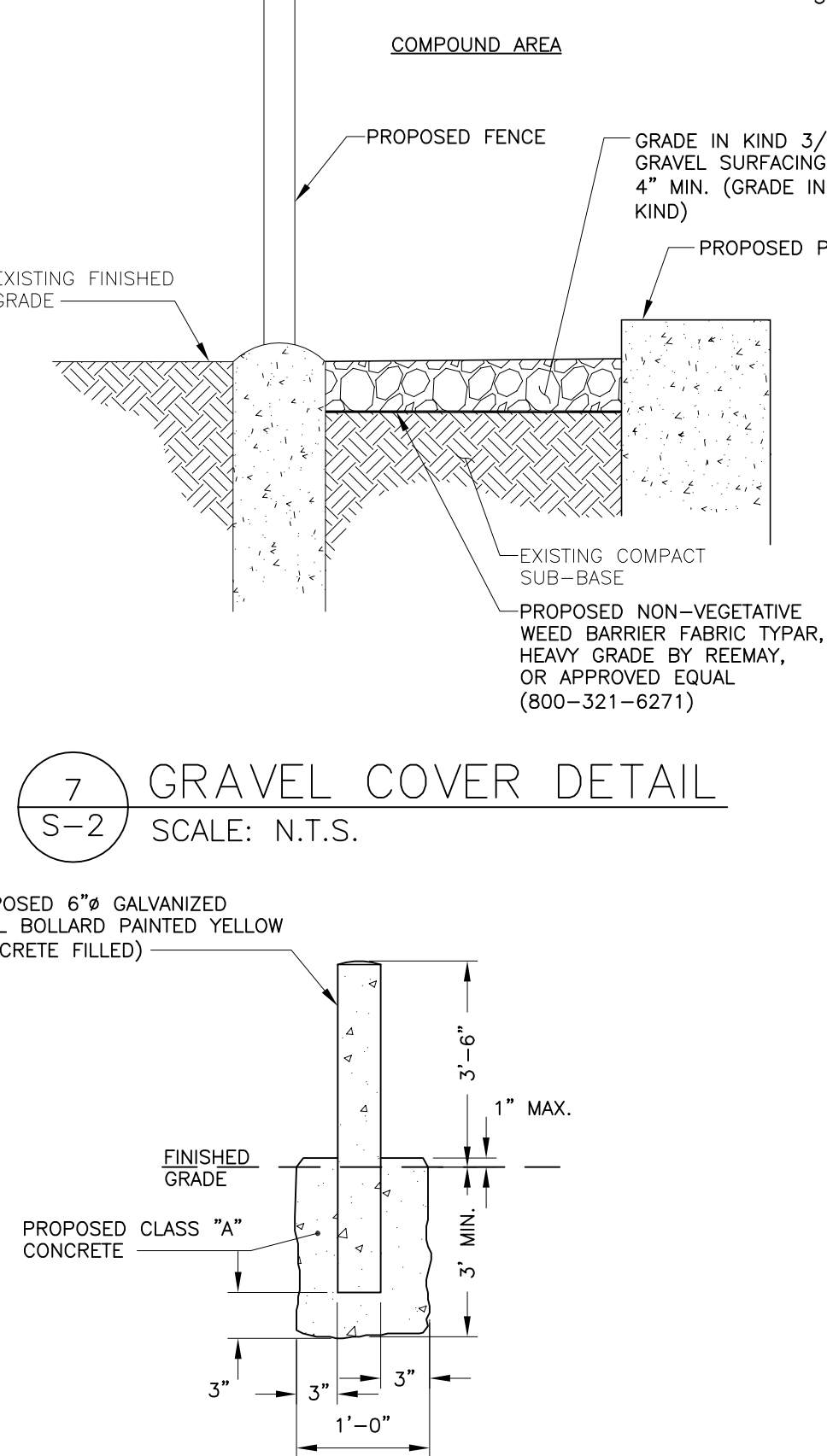
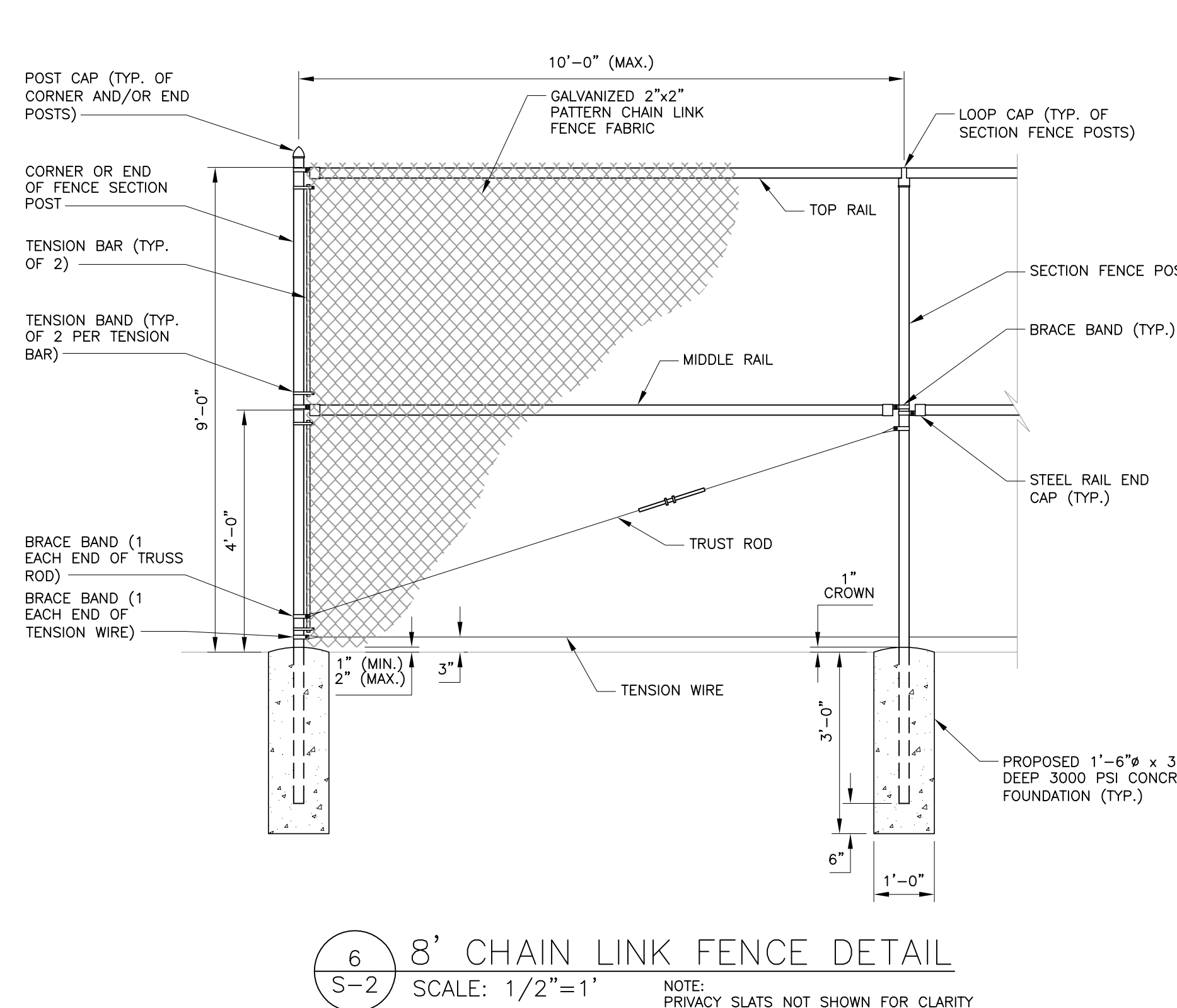
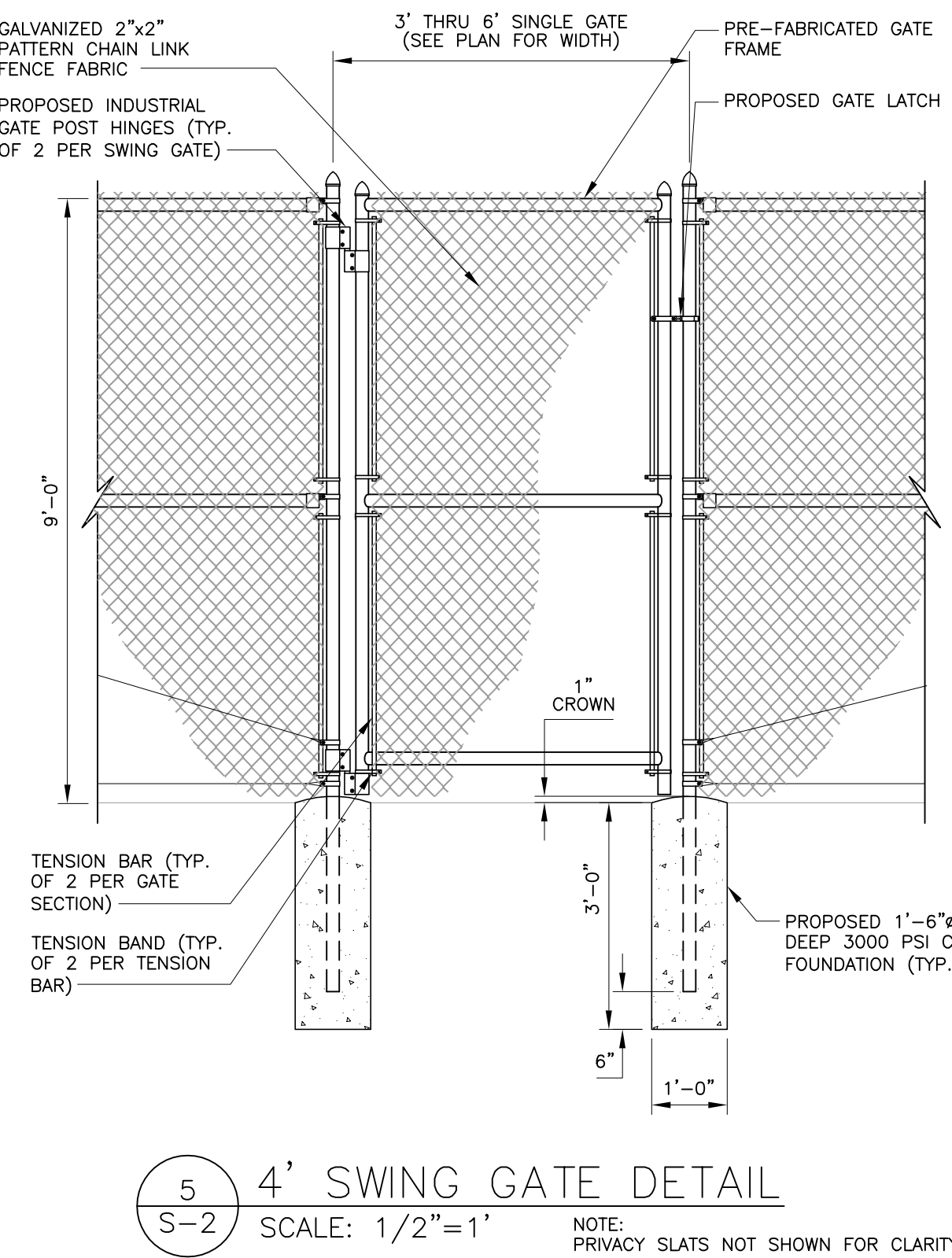
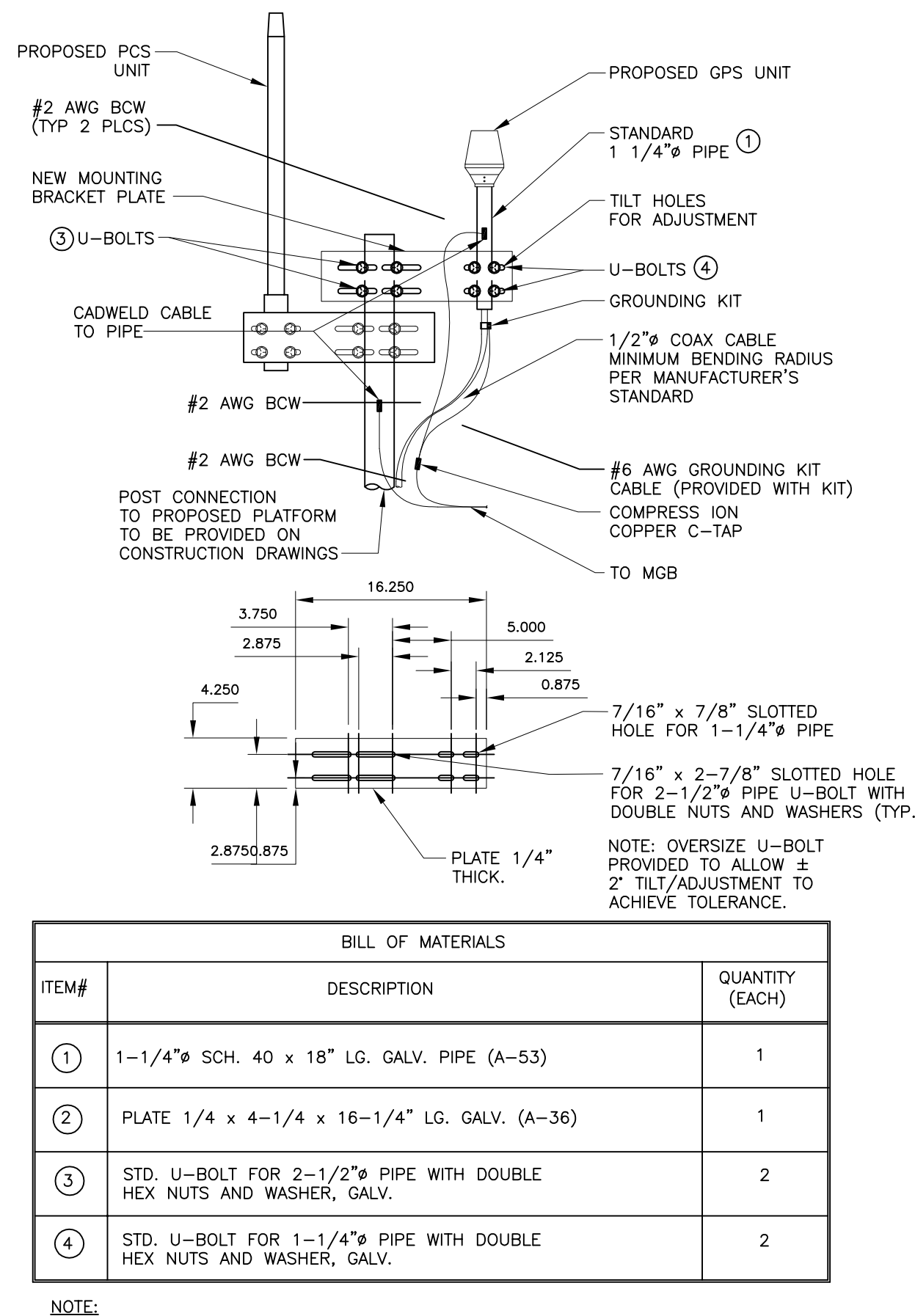
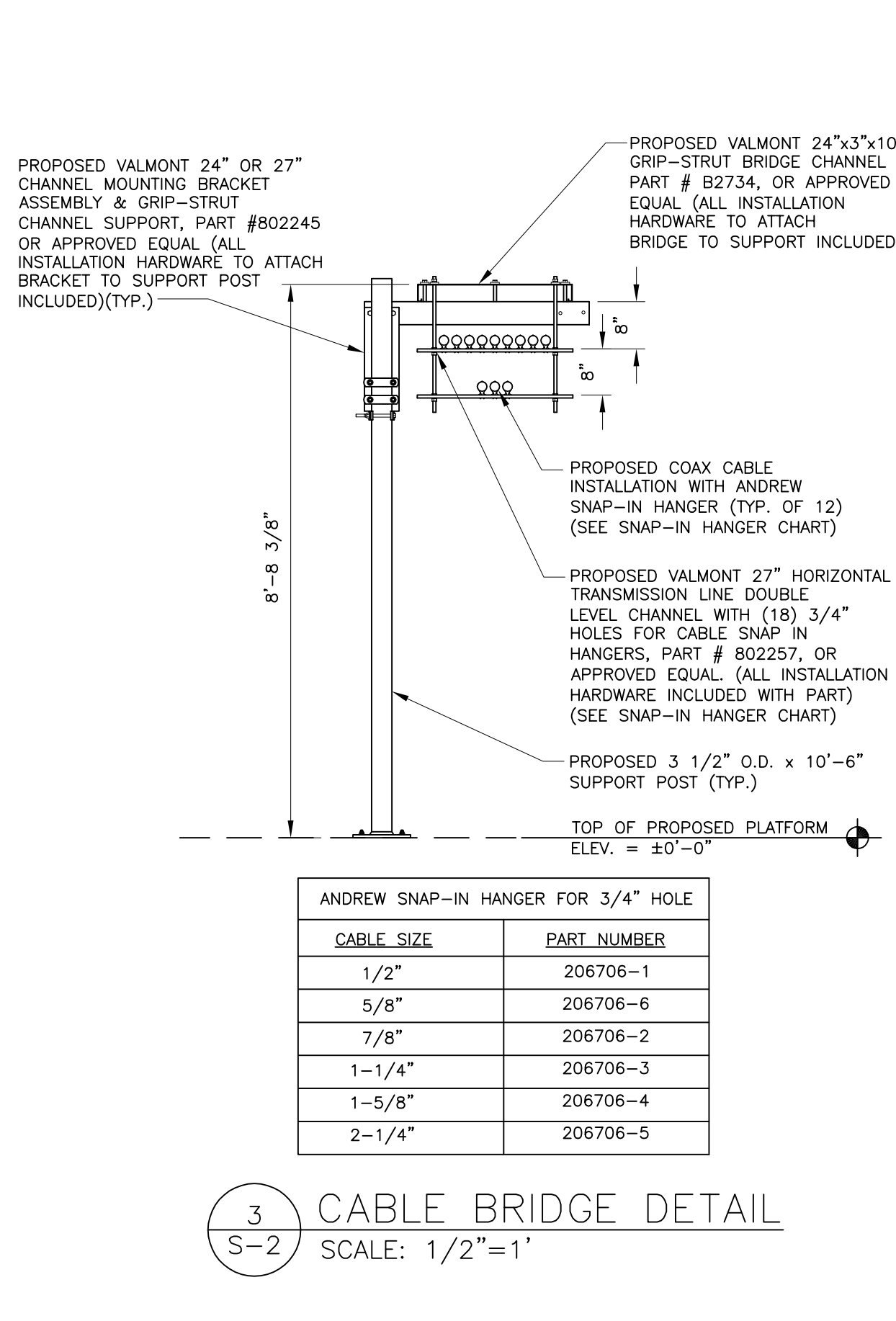
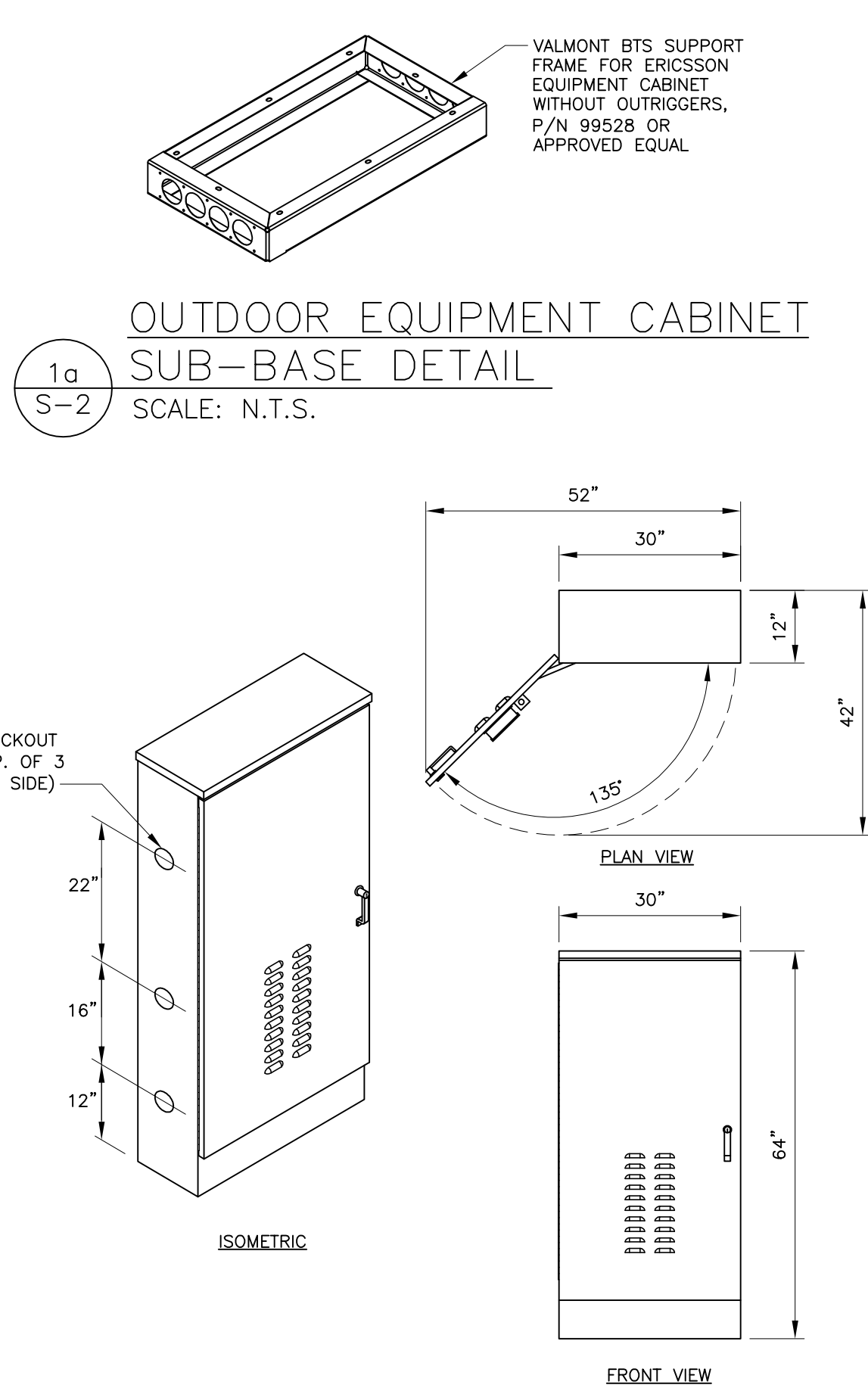
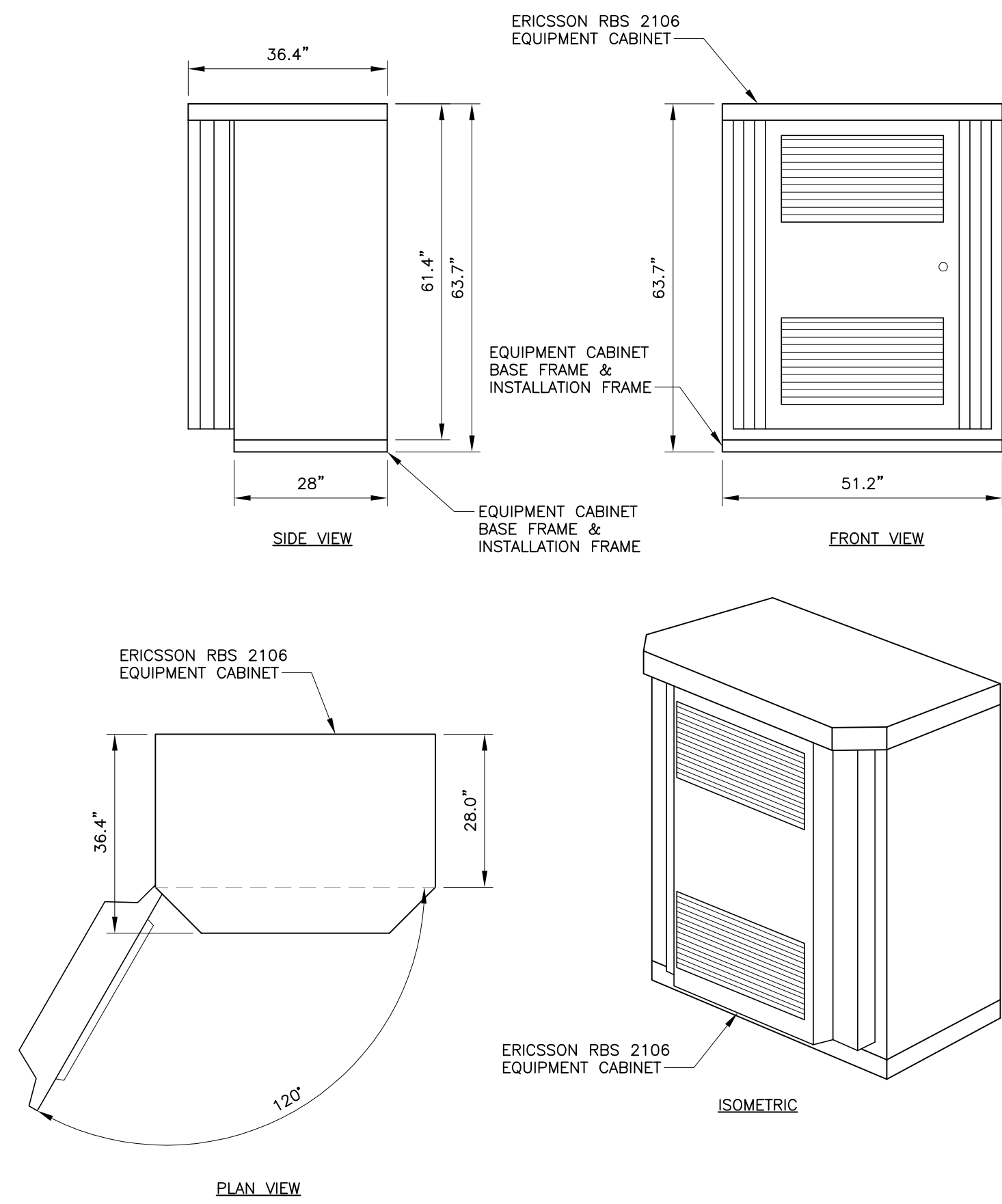
NJ-05-562B

1100 ST. GEORGES AVE
RAHWAY, NJ 07065
BLOCK: 140, LOT: 2
TAX MAP #37

SHEET DESCRIPTION
PROPOSED EQUIPMENT
COMPOUND LOCATION
PLAN, 120' FLAGPOLE
ELEVATION, ANTENNA
ORIENTATION &
ANTENNA DETAILS

SHEET NO.

S-1



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REVISIONS

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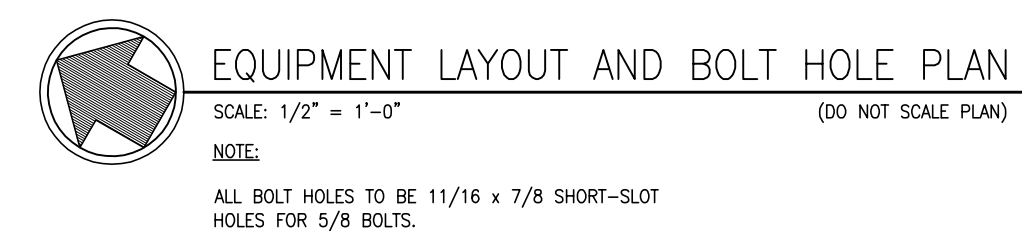
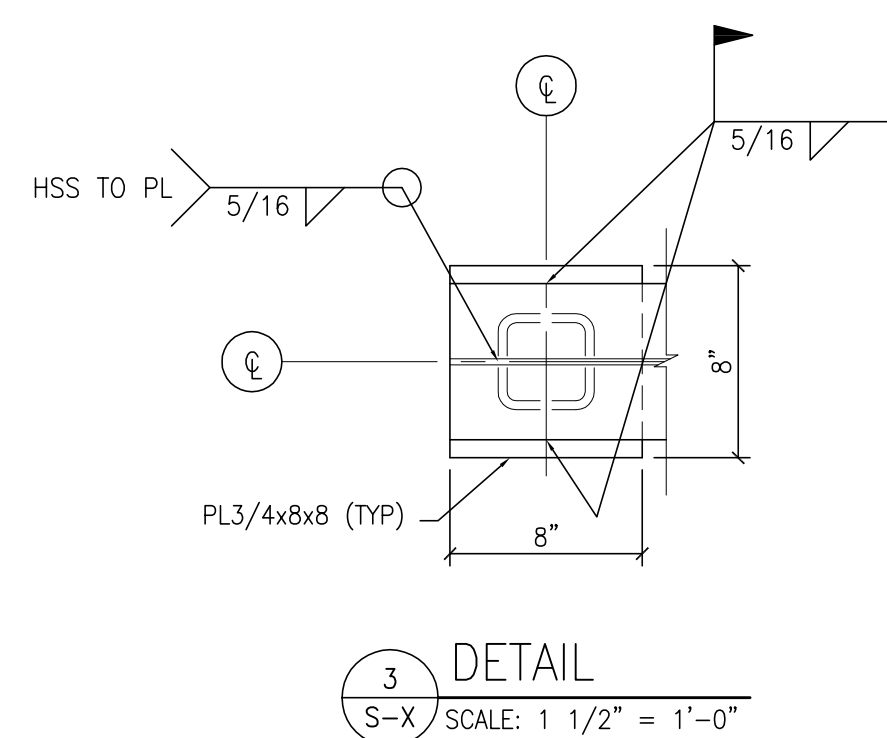
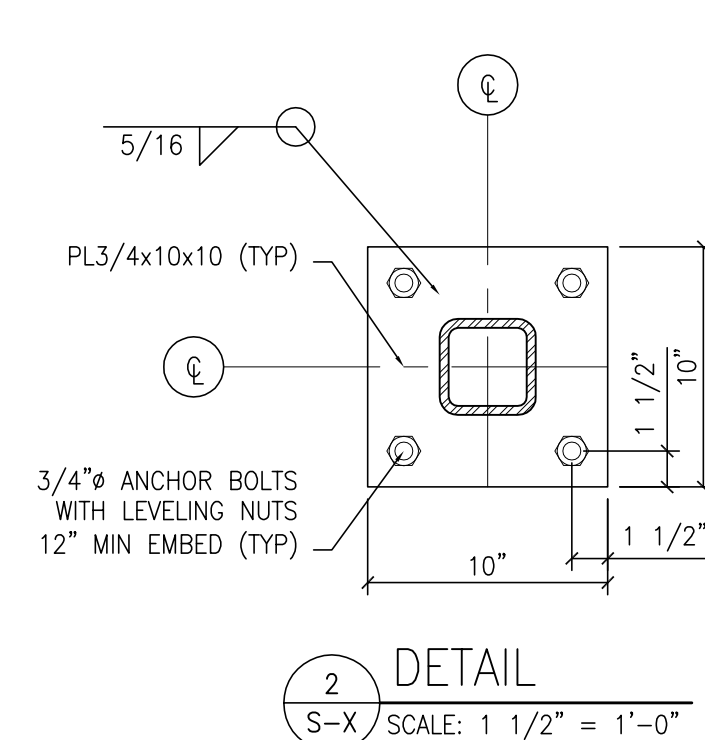
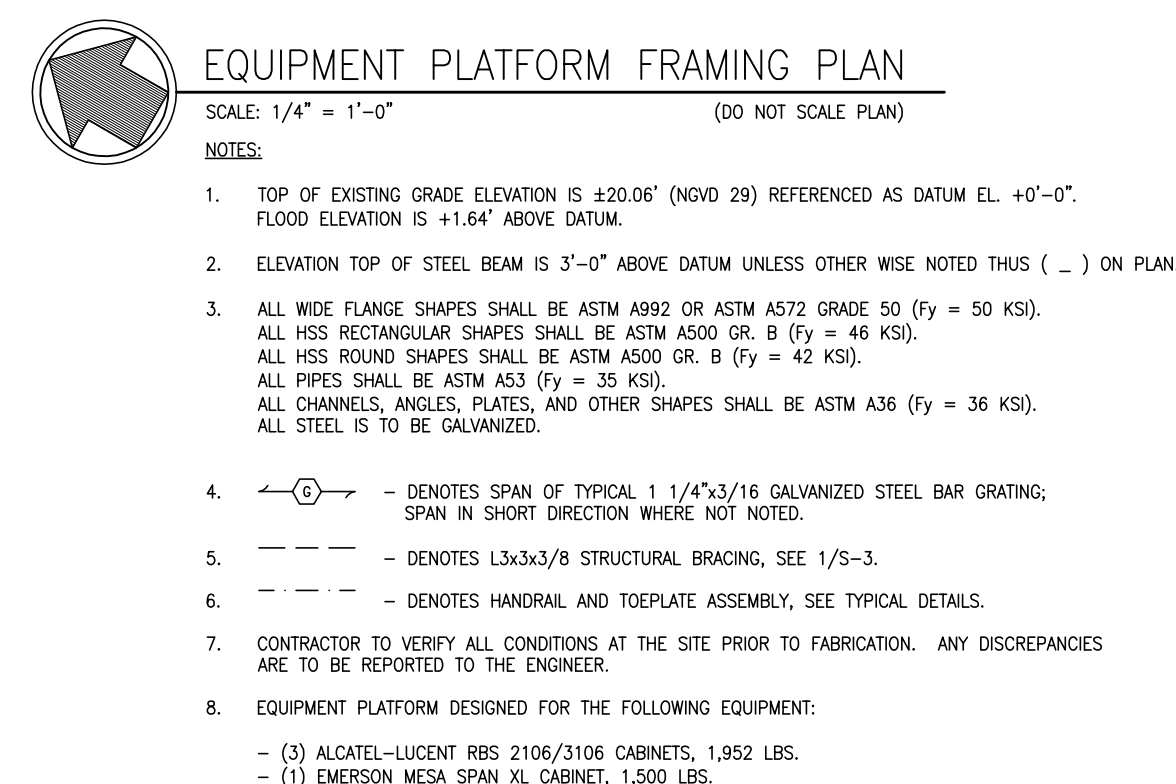
NJ-05-562B
1100 ST. GEORGES AVE
RAHWAY, NJ 07065
BLOCK: 140, LOT: 2
TAX MAP #37

SHEET DESCRIPTION


SITE DETAILS

SHEET NO.

S-2



NOTE: ANCHOR LADDER AT BOTTOM
IF GREATER THAN 4'-0" HIGH


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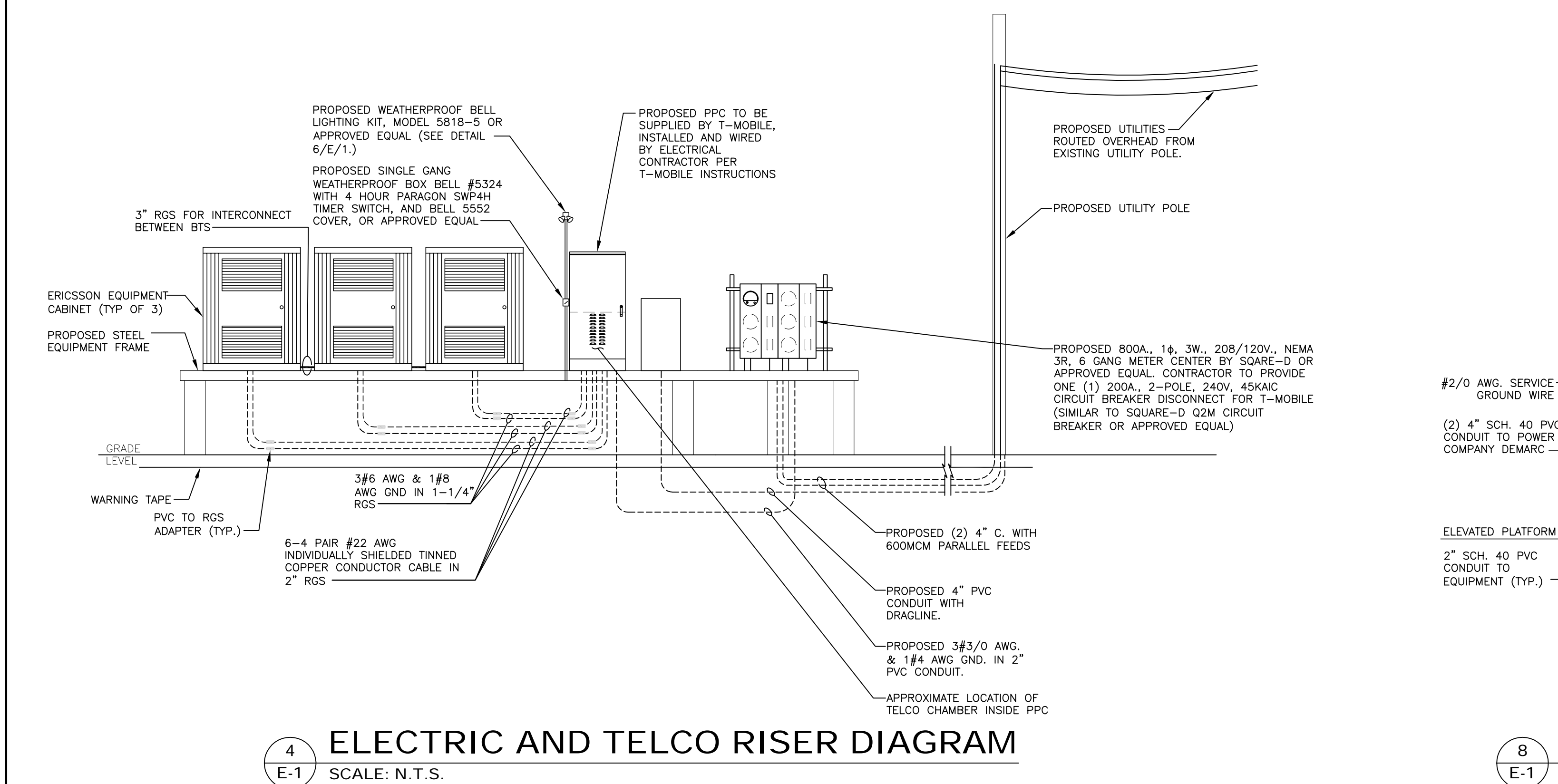
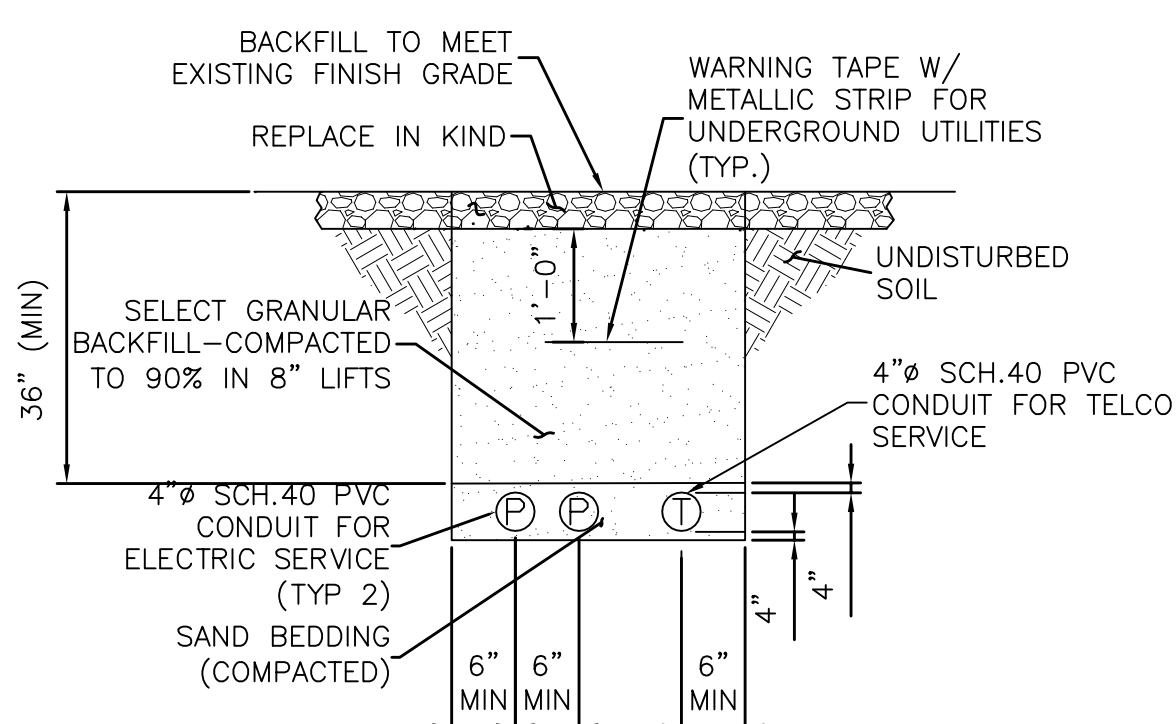
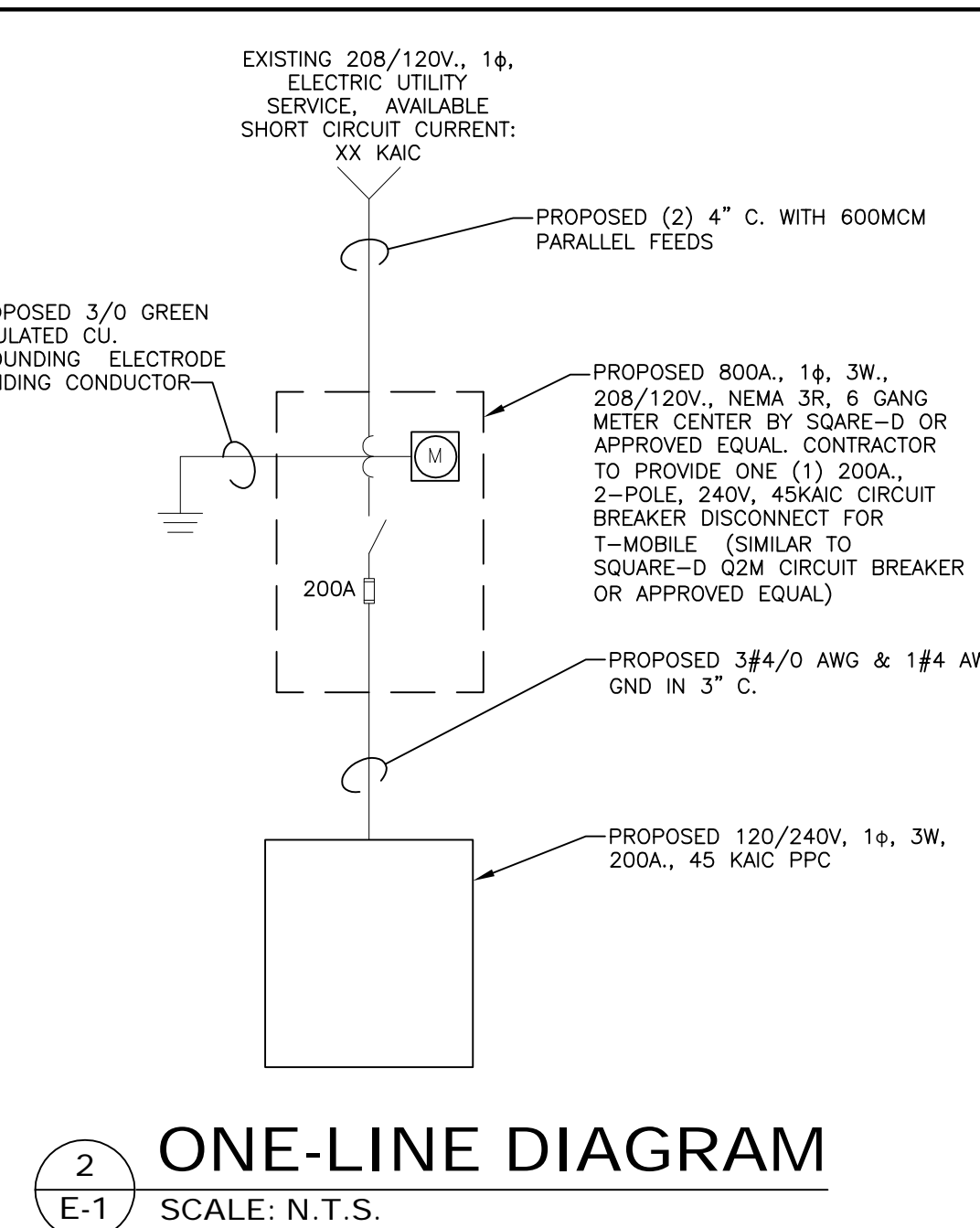
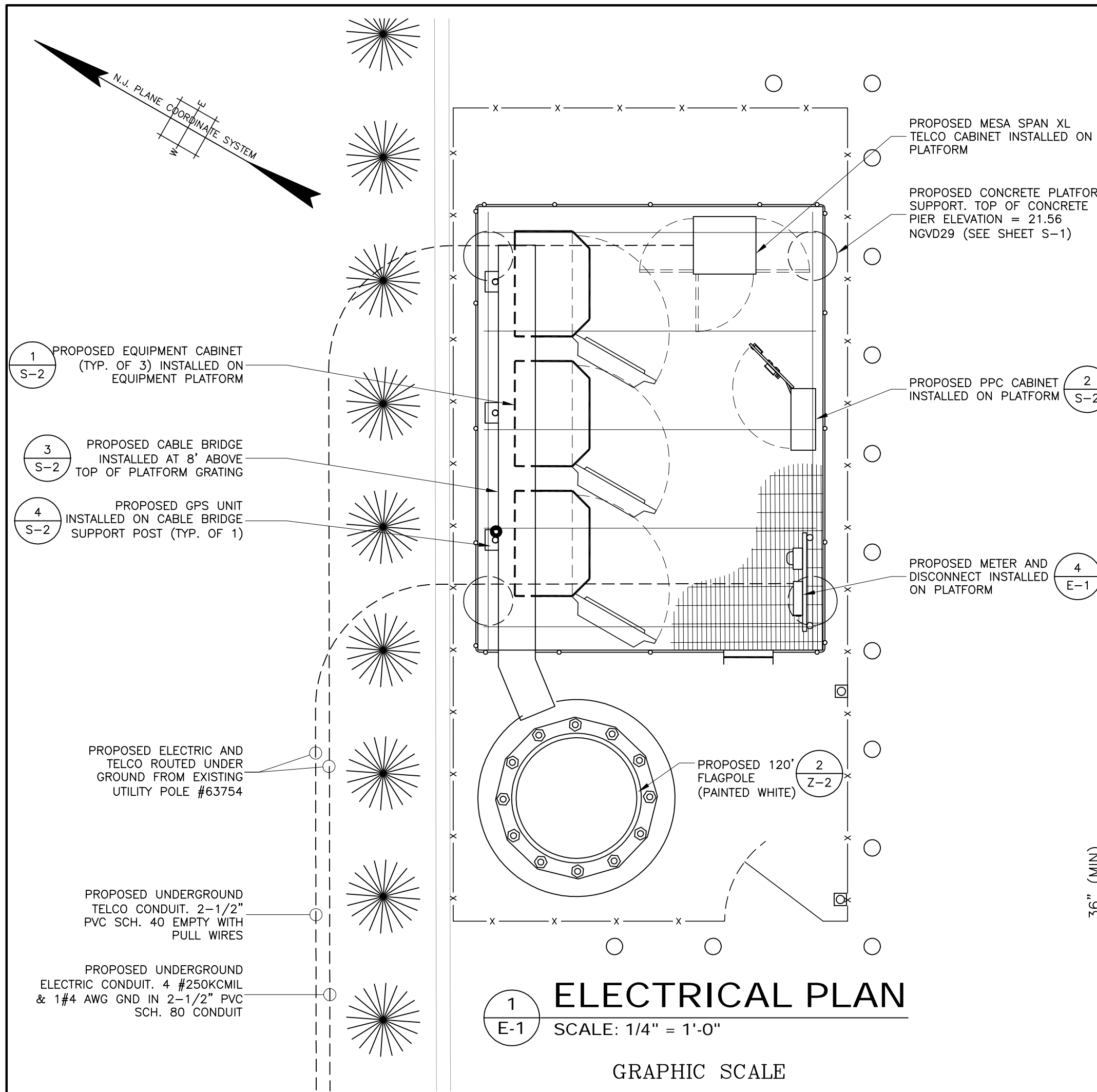
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SHEET DESCRIPTION

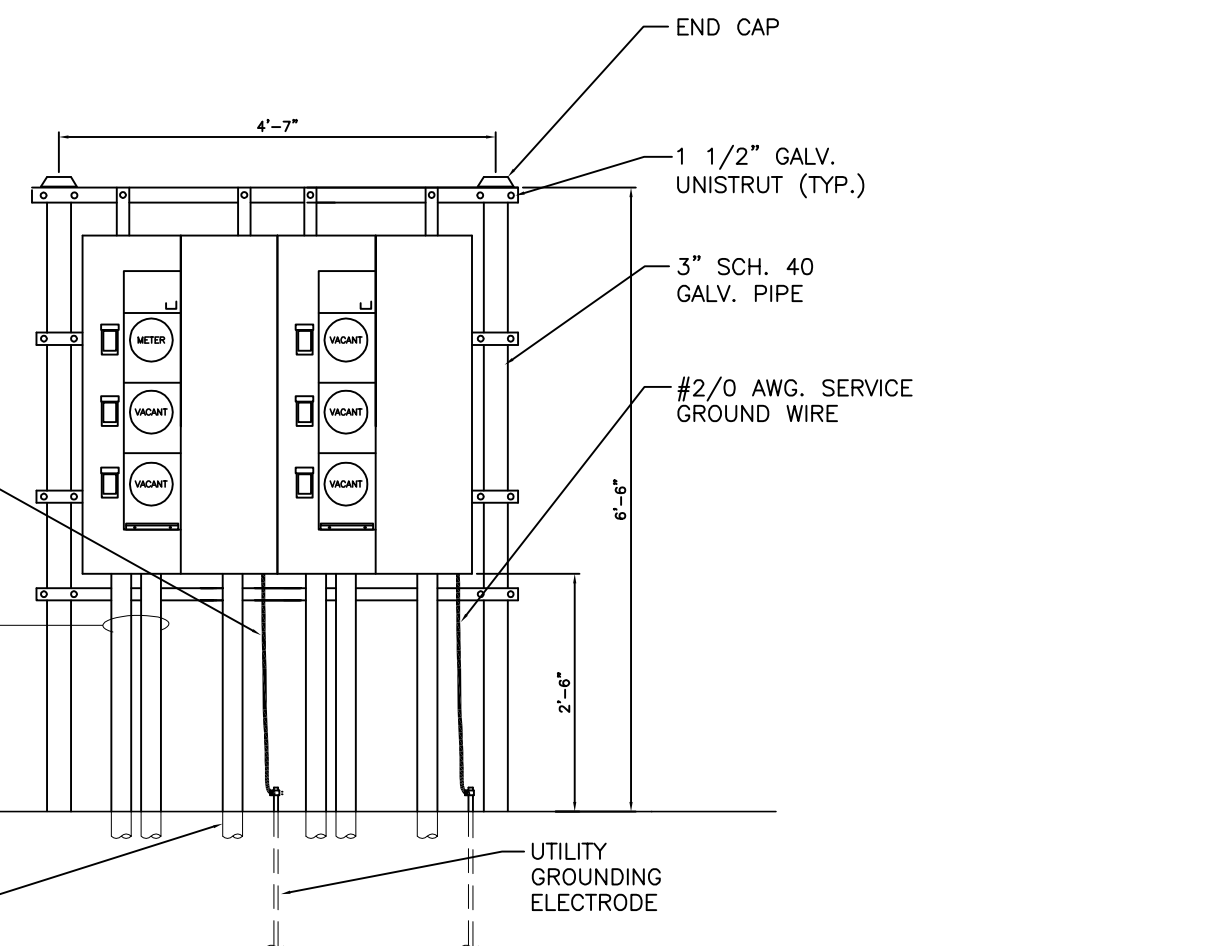
FRAMING PLAN,
DETAILS & NOTES

SHEET NO.

ST-1



- ELECTRICAL NOTES:**
- SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
 - CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
 - THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
 - COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONAL CIRCUMSTANCES SURROUNDING THE PROJECT.
 - CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR COMPLETE AND FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY FOR USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
 - ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION, MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.
 - ALL WORK SHALL COMPLY WITH ALL APPLICABLE GOVERNING STATE, COUNTY AND CITY CODES AND OSHA, NFPA, NEC & ASHRAE REQUIREMENTS.
 - ENTIRE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
 - PROPERLY SEAL ALL PENETRATIONS. PROVIDE UL LISTED FIRE-STOPS WHERE PENETRATIONS ARE MADE THROUGH FIRE-RATED ASSEMBLIES. WATER-TIGHT USING SILICONE SEALANT.
 - LOCATE ALL PENETRATIONS SUCH THAT ALL REINFORCEMENT CONTAINED WITHIN THE EXISTING BUILDING CONSTRUCTION REMAINS INTACT AND UNDISTURBED. SUBMIT LOCATING METHOD TO THE PROJECT MANAGER FOR APPROVAL PRIOR TO EXECUTION.
 - DELIVER ALL BROCHURES, OPERATING MANUALS, CATALOGS AND SHOP DRAWINGS TO THE PROJECT MANAGER AT JOB COMPLETION. PROVIDE MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT. AFFIX MAINTENANCE LABELS TO MECHANICAL EQUIPMENT.
 - ALL CONDUCTORS SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG., UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE TYPE THHN, RATED IN ACCORDANCE WITH NEC 110-14(C).
 - ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM INTERRUPTING CURRENT TO WHICH THEY MAY BE SUBJECTED.
 - THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE; ARTICLES 250 & 810 AND THE UTILITY COMPANY STANDARDS.
 - CONDUIT:
 - ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
 - LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE U.L. LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL CONTAIN A FULL-SIZE GROUND CONDUCTOR.
 - CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLING.
 - PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE GROUND CONDUCTOR IN ALL PVC RUNS, EXCEPT WHERE PERMITTED BY CODE TO OMIT.
 - ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS; EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.
 - UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
 - CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION. LEGALLY DISPOSE OF ALL REMOVED, UNUSED AND EXCESS MATERIAL GENERATED BY THE WORK OF THIS CONTRACT. DELIVER ITEMS INDICATED ON THE DRAWINGS TO THE OWNER IN GOOD CONDITION. OBTAIN SIGNED RECEIPT UPON DELIVERY.
 - RED LINED AS-BUILT PLANS SHALL BE PROVIDED TO OMNIPONT CONSTRUCTION MANAGER.
 - IF A POWER OUTAGE IS REQUIRED OMNIPONT MUST BE NOTIFIED AT LEAST (48) HOURS IN ADVANCE.



- TELCO NOTES:**
- T1 CABLING SHALL BE TAPPAN CABLE SEALPIC-FSF (RUS PE-89) 22 AWG. 25 PAIR CABLE OR EQUAL. CABLE SHALL BE NON-TINNED WITH SOLID ANNEALED COPPER AND INSULATING INNER LAYER OF FOAMED, POLYOLEFIN FOAM COVERED BY AN OUTER LAYER OF SOLID, COLORED POLYOLEFIN. CONDUCTOR SHALL BE COLOR CODED TO INDUSTRY STANDARDS WITH A WRAP OF DIELECTRIC TAPE APPLIED OVER THE CORE ASSEMBLY. SHIELDING SHALL BE COPOLYMER COATED 8-MIL ALUMINUM TAPE. OVERALL JACKET SHALL BE BLACK POLYETHYLENE MARKED WITH MANUFACTURER'S IDENTIFICATION, PAIR COUNT, AWG, AND PRODUCT IDENTIFICATION AT REGULAR INTERVALS. MAXIMUM CONDUCTOR RESISTANCE AT 68° F SHALL BE LESS THAN 92.0 OHMS/MILE. T1 CABLES SHALL MEET OR EXCEED THE REQUIREMENTS OF ANSI/ICEA S-84-608-2002 TELECOMMUNICATIONS CABLE POLYOLEFIN INSULATED COPPER CONDUCTOR, AND RURAL UTILITIES SERVICE 7 CFR 1755.890 SPECIFICATION FOR FILLED TELECOMMUNICATIONS CABLES WITH EXPANDED INSULATION.
 - THE CONTRACTOR SHALL PROVIDE AND INSTALL CABLE IN THE T1 CONDUIT FROM THE NETWORK INTERFACE UNIT (NIU) AT THE POWER PROTECTION CABINET (PPC) TO THE BASE TRANSCEIVER STATION (BTS). IN THE EVENT THAT THE NIU IS REMOTE FROM THE PPC, THE CABLE SHALL BE ROUTED FROM THE NIU, THROUGH THE PPC WITHOUT TERMINATION EXCEPT AS OTHERWISE INDICATED, AND THEN TO THE BTS. WHEN THE NIU IS REMOTE FROM THE PPC, 48' OF SLACK CABLE SHALL BE COILED IN THE PPC TO ENABLE TERMINATION ON A PUNCH-DOWN BLOCK AT A FUTURE TIME AND UNDER A SEPARATE CONTRACT.
 - AT THE NIU AND AT THE BTS, CONTRACTOR SHALL TERMINATE SUITABLE PAIRS TO PROVIDE THE T1 CIRCUITS REQUIRED. ADDITIONAL CARE SHALL BE TAKEN BY THE CONTRACTOR TO ENSURE THAT SUITABLE LENGTHS OF THE REMAINING SPARE CONDUCTOR PAIRS ARE PIG-TAILED FOR TERMINATION AT FUTURE EQUIPMENT. THESE SPARE CONDUCTORS WILL BE UTILIZED AS NEW T1'S ARE ADDED DURING FUTURE PROJECTS REQUIRING ADDITIONAL T1'S. THE LENGTHS OF SPARE PAIRS SHALL BE COILED AND TAPED-OFF BOTH AT THE BTS AND THE END-POINT OF SPRINT'S RESPONSIBILITY WITH THE LEC (TELCO BOX, NIU, MUX etc.). PROVIDE MINIMUM 36" COILED CONDUCTOR AT EACH LOCATION.

LEGEND:

| | | | |
|--|--|--|--|
| | AC GENERATOR CONNECTOR | | PANELBOARD |
| | CADWELD/EXOTHERMIC WELD CONNECTION | | SAFETY DISCONNECT SWITCH |
| | CIRCUIT BREAKER | | TELCO WIRING |
| | COAXIAL CABLE SHIELD GROUND KIT CONNECTION | | TRANSFORMER |
| | COMPRESSION FITTING GROUND CONNECTION | | WEATHERPROOF GFI DUPLEX RECEPTACLE |
| | COPPER GROUND BAR 1/4" x 4"x12" | | WEATHERPROOF LIGHT FIXTURE |
| | ELECTRICAL WIRING | | WEATHERPROOF LIGHT SWITCH |
| | EXOTHERMIC WELD CONNECTION | | 5/8" x 10' COPPER-CLAD STEEL GROUND ROD |
| | GROUND WIRING | | 5/8" x 10' COPPER-CLAD STEEL GROUND ROD W/ INSPECTION WELL |
| | KILOWATT HOUR METER | | |
| | MANUAL TRANSFER SWITCH | | |

ABBREVIATIONS:

| | | | |
|--------|-----------------------------|------|--------------------------|
| A/C | AIR CONDITIONING UNIT | MCB | MAIN GROUND BAR |
| AWG. | AMERICAN WIRE GAUGE | MLO | MAIN LUGS ONLY |
| A. | AMPERE | NF | NON-FUSIBLE |
| AGL | ABOVE GROUND LEVEL | PH. | PHASE |
| CGB | COLLECTOR GROUND BAR | P | POWER |
| C. | CONDUIT | PPC | POWER PROTECTION CABINET |
| CSC | CUSTOMER SERVICE CABINET | RGS | RIGID GALVANIZED STEEL |
| E.M.T. | ELECTRICAL METALLIC TUBING | SN | SOLID NEUTRAL |
| GFI | GROUND FAULT INTERRUPTING | SW | SWITCH |
| GND. | GROUND | TYP. | TYPICAL |
| KCMIL | ONE THOUSAND CIRCULAR MILLS | V. | VOLT |
| KWH | KILOWATT HOUR | W | WIRE |
| MCB | MAIN CIRCUIT BREAKER | | |

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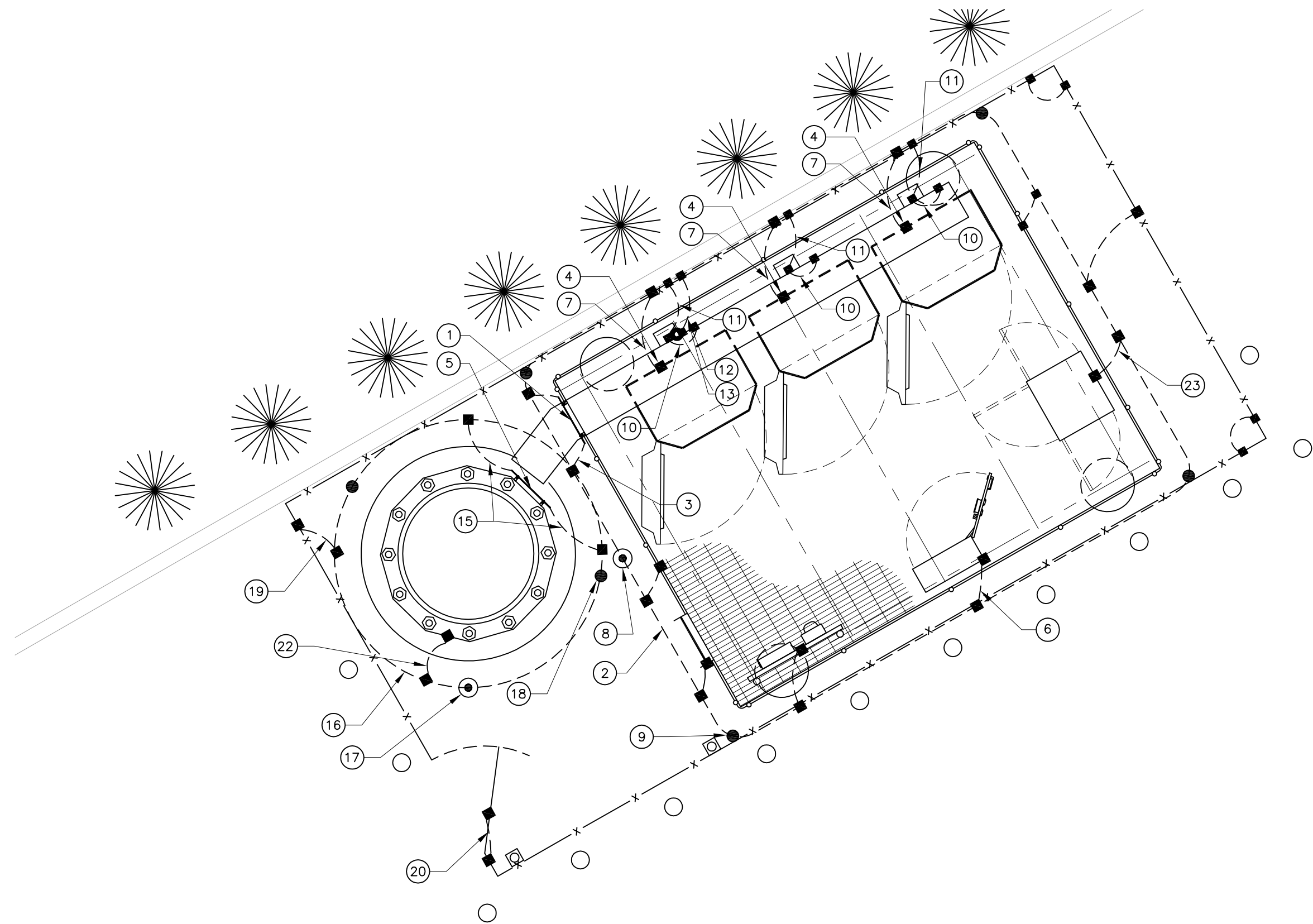
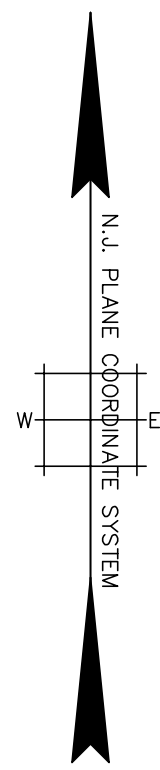
DRAWN BY: SP CHECKED BY: JFF

SCALE: AS NOTED JOB NO: 10000610

NJ-05-562B
1100 ST. GEORGES AVE
RAHWAY, NJ 07065
BLOCK: 140, LOT: 2
TAX MAP #37

SHEET DESCRIPTION
ELECTRICAL PLAN,
ELEC. & TELCO
RISER DIAGRAM,
DETAIL & NOTES

SHEET NO.
E-1



1
E-2
GROUNDING PLAN
SCALE: 1"=5'
GRAPHIC SCALE



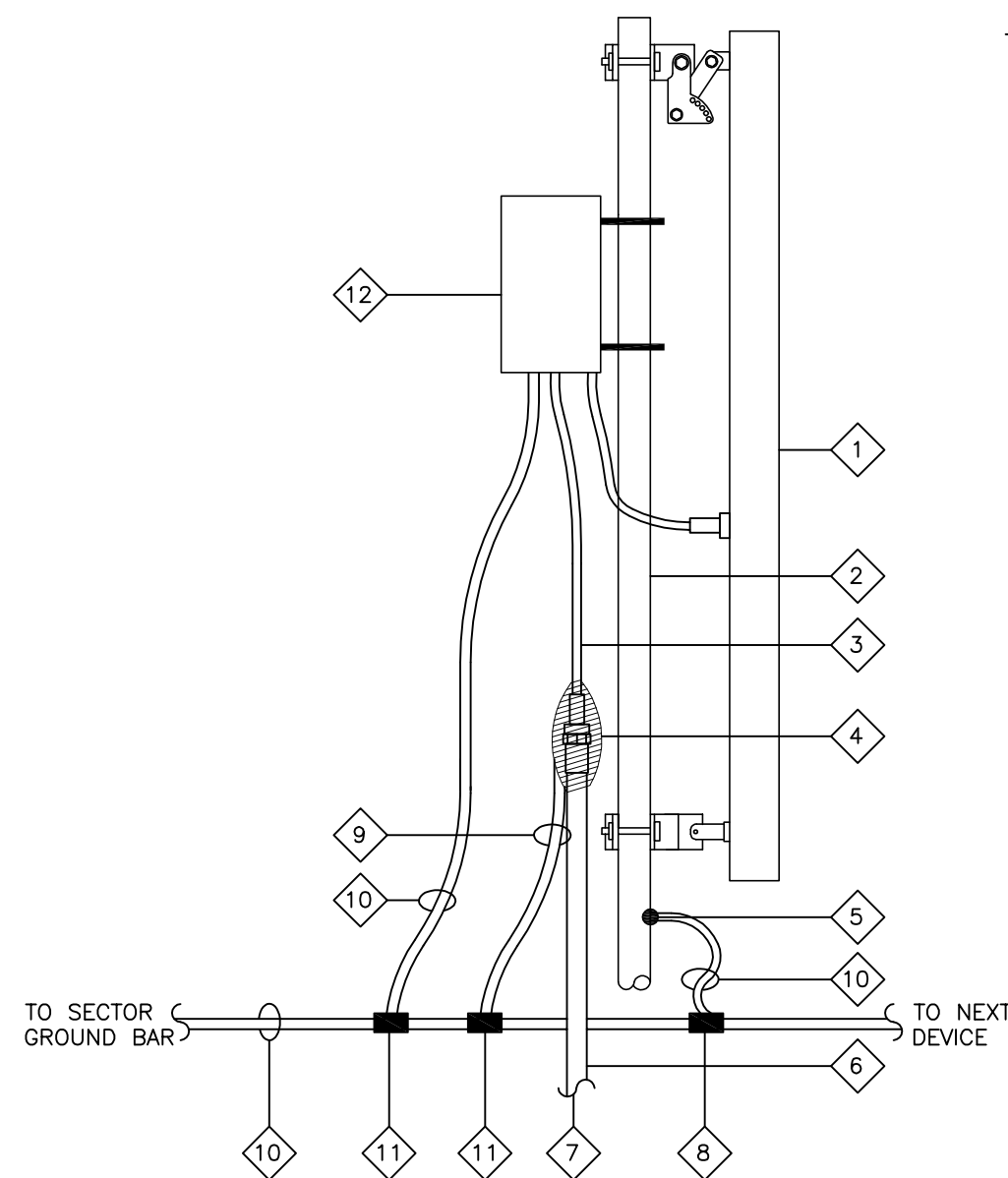
(IN FEET)
1 inch = 5 ft.

GROUNDING KEY NOTES:

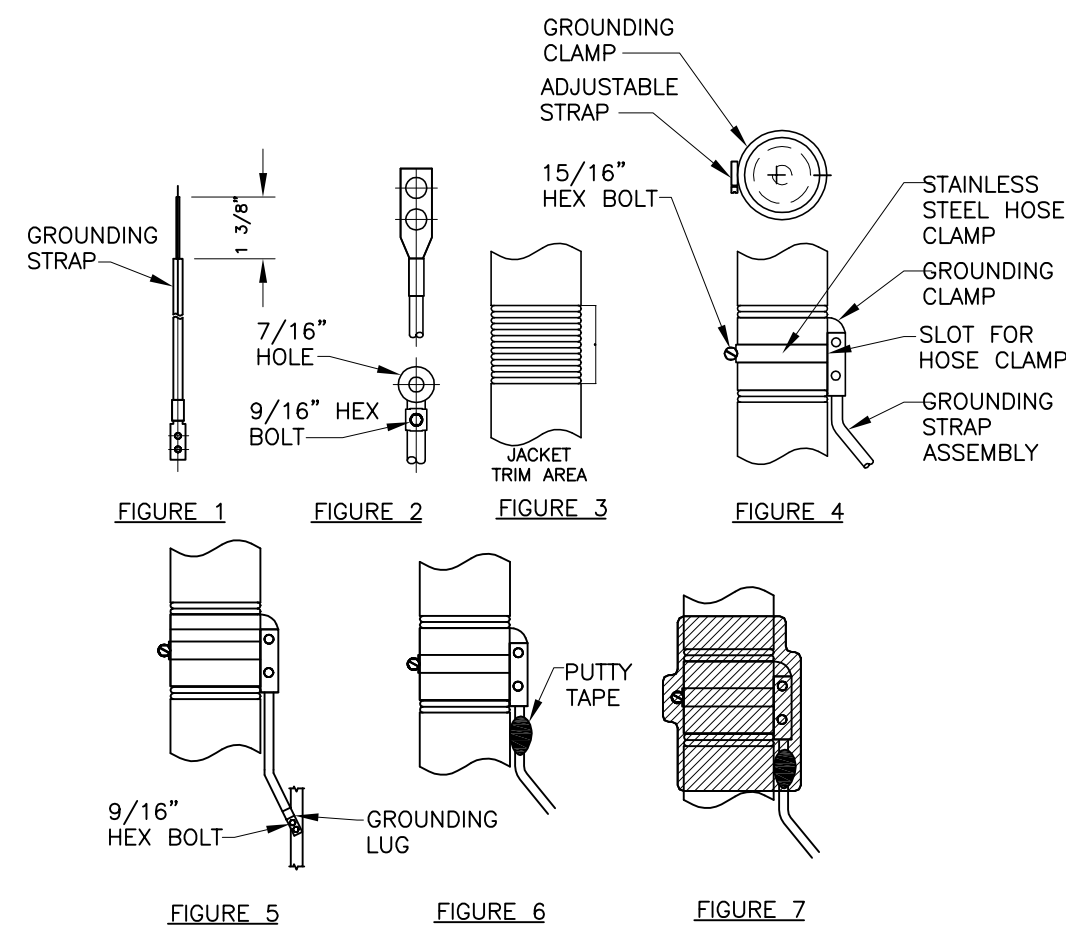
- 1 MASTER GROUND BAR (MGB)
- 2 #2 AWG SOLID TINNED CU. 36" BELOW GRADE (EQUIPMENT GROUND RING)
- 3 #2 AWG SOLID TINNED CU. TO BOND MGB TO GROUND RING
- 4 SECTOR GROUND BAR (SGB) AT EQUIPMENT CABINET (TYP. EACH CABINET)
- 5 SECTOR GROUND BAR (SGB) AT BASE OF MONOPOLE
- 6 #2 AWG SOLID TINNED CU. TO BOND PPC TO GROUND RING
- 7 #2 AWG SOLID TINNED CU. BOND SGB AT EQUIPMENT CABINET TO GROUND RING
- 8 GROUND ROD INSPECTION WELL (TYP. OF 1)
- 9 5/8" x 10' CU. CLAD GROUND ROD (TYP. OF 6)
- 10 #2 AWG SOLID TINNED CU. TO BOND CABLE BRIDGE TO CABLE BRIDGE SUPPORT POST (TYP. EACH POST)
- 11 #2 AWG SOLID TINNED CU. TO BOND CABLE BRIDGE SUPPORT POST TO GROUND RING (TYP. EACH POST)
- 12 #2 AWG SOLID TINNED CU. TO BOND CABLE BRIDGE SECTIONS (TYP. ALL SECTIONS)
- 13 #2 AWG SOLID TINNED CU. TO BOND PCS ANTENNA TO CABLE BRIDGE SUPPORT POST
- 14 #2 AWG SOLID TINNED CU. TO BOND GPS ANTENNA TO CABLE BRIDGE SUPPORT POST
- 15 #2 AWG SOLID TINNED CU. TO BOND SGB AT BASE OF MONOPOLE TO SECTOR GROUND BAR AT ANTENNAS
- 16 #2 AWG SOLID TINNED CU. 36" BELOW GRADE (MONOPOLE GROUND RING)
- 17 GROUND ROD INSPECTION WELL (TYP. OF 1) FOR MONOPOLE GROUND RING
- 18 5/8" x 10' CU. CLAD GROUND ROD (TYP. OF 2) FOR MONOPOLE GROUND RING
- 19 #2 AWG SOLID TINNED CU. TO BOND PROPOSED CHAIN LINK FENCE SECTIONS (TYP.)
- 20 #4/0 BRAIDED COPPER JUMPER TO BOND CHAIN LINK SWING GATE TO CHAIN LINK FENCE
- 21 #2 AWG SOLID TINNED CU. TO BOND PROPOSED CHAIN LINK FENCE TO EQUIPMENT GROUND RING (TYP. OF 2)
- 22 #2 AWG SOLID TINNED CU. TO BOND BASE OF MONOPOLE TO MONOPOLE GROUND RING (TYP. 3)
- 23 #2 AWG SOLID TINNED CU. TO BOND STEEL PLATFORM TO EQUIPMENT GROUND RING (TYP. 4)

GROUNDING NOTES:

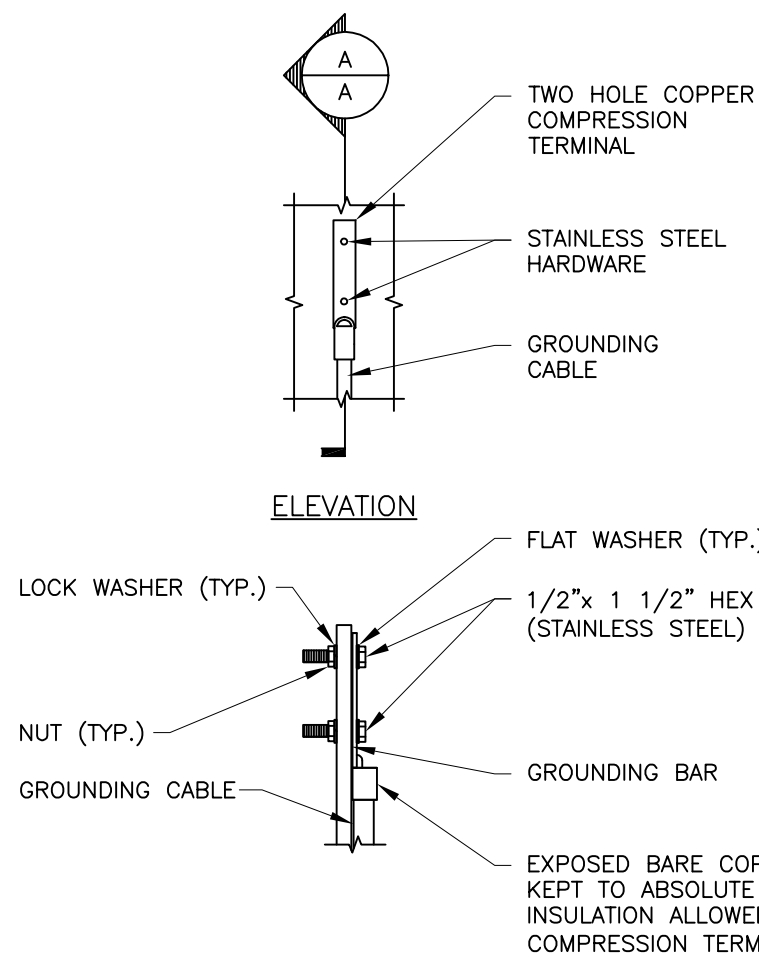
1. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
3. ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.
4. GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
5. GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET). CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
6. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.
7. ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
8. INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
9. REFER TO GROUNDING PLAN FOR GROUND BAR LOCATIONS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
10. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS POSITION ACCORDING TO GROUNDING PLAN. THE GROUND RODS SHALL BE 5/8"x10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 BARE TINNED COPPER WIRE BURIED 36" BELOW GRADE. BURY GROUND RODS A MAXIMUM OF 15' APART, AND A MINIMUM OF 8' APART.
11. IF ROCK IS ENCOUNTERED GROUND RODS SHALL BE PLACED AT AN OBLIQUE ANGLE NOT TO EXCEED 45°.
12. EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT.
13. CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PROVIDE PHOTOS TO OMNIPONT CONSTRUCTION MANAGER.
14. ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2/0 TINNED. ALL EXTERIOR GROUND BARS TINNED COPPER.
15. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
16. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY OMNIPONT REPRESENTATIVE, AND RECORDED ON OMNIPONT "GROUND RESISTANCE TEST" FORM.
17. WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1' BELOW GRADE AND SEAL TOP WITH SILICONE MATERIAL.
18. BOLT 2-HOLE GROUNDING LUGS TO A/C UNITS' ENCLOSURES AND BOND TO GROUND RING WITH #2 TINNED COPPER WIRE.
19. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
20. ALL FOUR CORNER FENCE POST & GATE POSTS NEED TO BE CADWELDED TO GROUND SYSTEM.
21. ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING, THE GROUND RING SHALL BE BONDED TO THE NEAREST FENCE POST USING (2) RUNS OF #2 BARE TINNED COPPER WIRE.



2
E-2
TYPICAL ANTENNA GROUNDING DETAIL
SCALE: N.T.S.



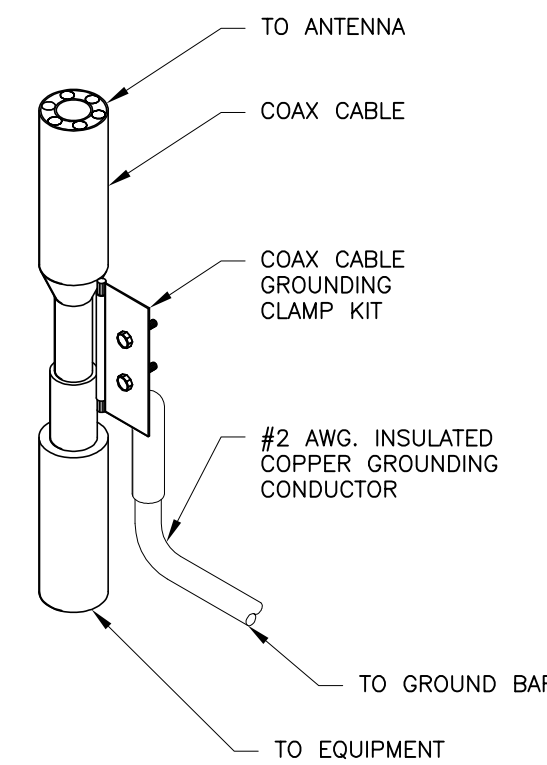
4
E-2
TYPICAL WEATHERPROOFING DETAIL
SCALE: N.T.S.



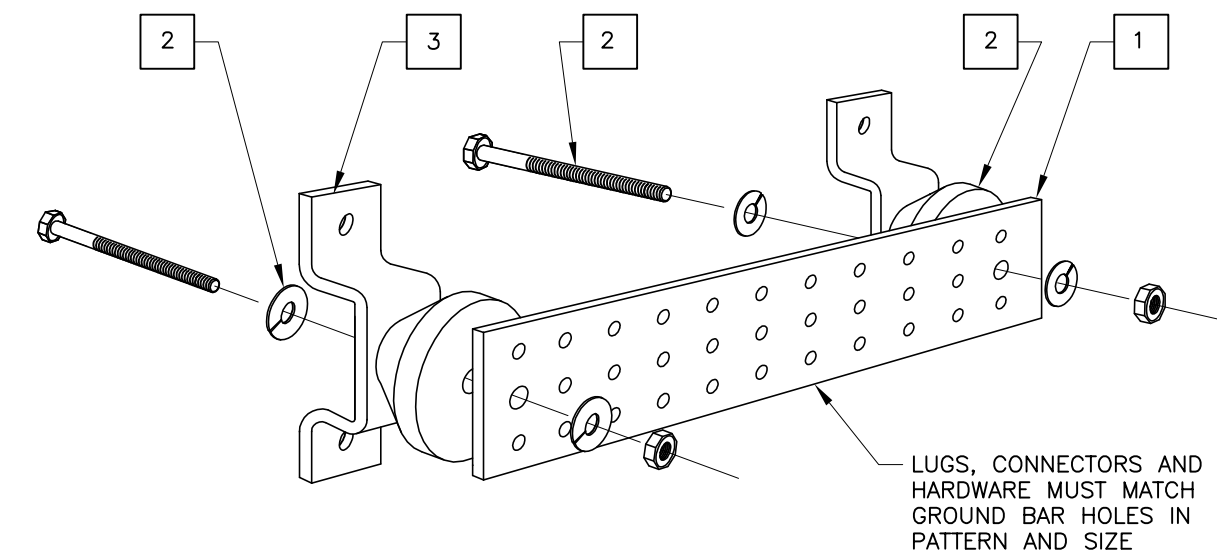
6
E-2
TYPICAL GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.

KEY NOTES:

- 1 ANTENNA
- 2 ANTENNA MAST
- 3 DEVICE JUMPER
- 4 SEE GROUNDING KIT DETAIL. DO NOT INSTALL ON BENDS.
- 5 CADWELD VS
- 6 COAXIAL CABLE
- 7 TO ERICSSON EQUIPMENT CABINET
- 8 2 BARREL HYDRAULICALLY COMPRESSED CONNECTION PANDUIT CATALOG #CTAP 2-2X
- 9 36 INTEGRAL GROUND CONDUCTOR FROM GROUNDING KIT TO #2/0 STRANDED
- 10 #2 SOLID TINNED COPPER GROUNDING CONDUCTOR, 8" MIN. RADIUS.
- 11 2 BARREL HYDRAULICALLY COMPRESSED CONNECTION PANDUIT CATALOG #CTAP 2-2Q
- 12 AMPLIFIER (WHEN APPLICABLE)



3
E-2
TYPICAL COAX GROUNDING DETAIL
SCALE: N.T.S.

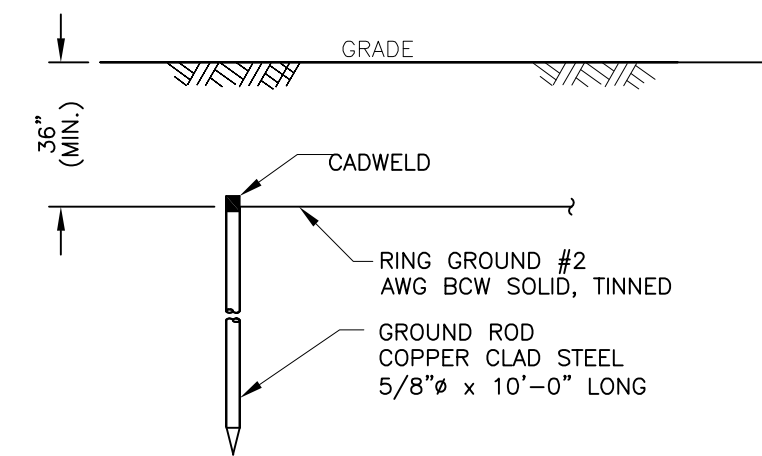


- LEGEND
1. TINNED COPPER GROUND BAR, 1/4" X 4" X 24", HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
 2. INSULATORS WITH HARDWARE, INCLUDED IN KIT.
 3. STAINLESS STEEL MOUNTING BRACKET, NCLUDED IN KIT.

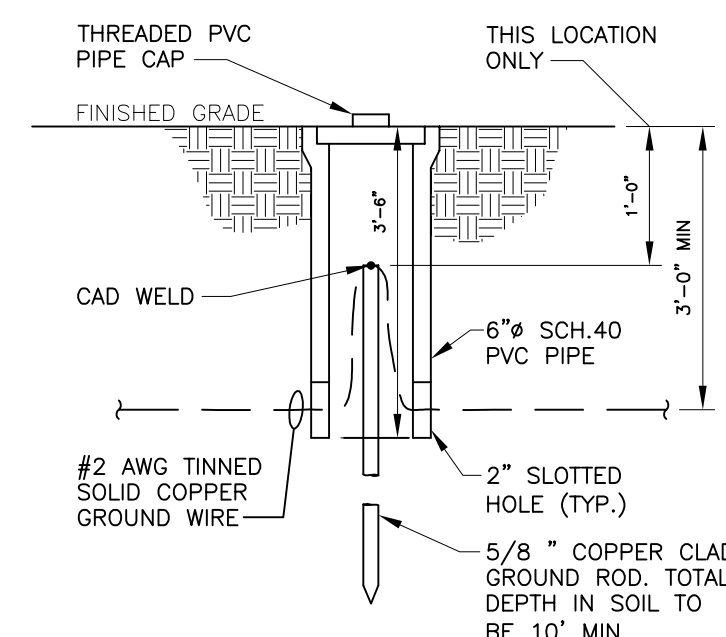
GROUND BAR SCHEDULE

| TYPE | QTY. | MANUFACTURER | CAT. NO. | REMARKS |
|------|------|--------------|------------|----------|
| MGB | 2 | PRIMUS | TGBU14424M | OR EQUAL |
| CGB | 3 | PRIMUS | TGBU14412M | OR EQUAL |

5
E-2
TYPICAL GROUND BAR DETAIL
SCALE: N.T.S.

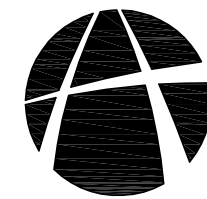


7
E-2
GROUND ROD DETAIL
SCALE: N.T.S.



8
E-2
INSPECTION WELL DETAIL
SCALE: N.T.S.

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REVISIONS

| NO. | DATE | DESCRIPTION |
|-----------|----------|--------------------------|
| 5 | | |
| 4 | | |
| 3 | | |
| 2 | 07/20/10 | RE-ISSUED FOR B.P. |
| 1 | 05/21/10 | ISSUED FOR B.P. |
| 0 | 05/19/10 | PRELIMINARY CONSTRUCTION |
| DRAWN BY: | SP | CHECKED BY: JFF |
| SCALE: | AS NOTED | JOB NO: 10000610 |

NJ-05-562B

1100 ST. GEORGES AVE
RAHWAY, NJ 07065
BLOCK: 140, LOT: 2
TAX MAP #37

SHEET DESCRIPTION

GROUNDING PLAN,
DETAILS & NOTES

SHEET NO.

G-1

1. GENERAL REQUIREMENTS:

- 1.1 THE WORK TO BE DONE UNDER THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES, AND PERFORMING ALL OPERATIONS FOR COMPLETE AND OPERATING SYSTEMS. ANY WORK NOT SPECIFICALLY COVERED BUT NECESSARY TO COMPLETE THIS INSTALLATION, SHALL BE PROVIDED. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.
- 1.2 ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO THE 2005 EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ALL APPLICABLE LAWS AND REGULATIONS AND REGULATORY BODIES HAVING JURISDICTION OVER THIS WORK.
- 1.3 THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "CONTRACTOR" SHALL MEAN ELECTRICAL CONTRACTOR.
- 1.4 ONLY WRITTEN CHANGES AND/OR MODIFICATIONS APPROVED BY THE ENGINEER, CONSULTING ENGINEER OR OWNER'S REPRESENTATIVE WILL BE RECOGNIZED.
- 1.5 THE ELECTRICAL CONTRACTOR SHALL SUBMIT, FOR THE ENGINEER'S APPROVAL, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT SPECIFIED.
- 1.6 CONTRACTOR SHALL COORDINATE WITH SPECIFICATIONS PROVIDED BY OTHER TRADES.
- 1.7 PROVIDE OPERATING AND MAINTENANCE MANUALS, PER SPECIFICATIONS, AND GIVE INSTRUCTIONS TO USER FOR ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT AFTER ALL ARE CLEANED AND OPERATING.
- 1.8 KEEP PREMISES FREE FROM RUBBISH. REMOVE ALL ELECTRICAL RUBBISH FROM SITE.
- 1.9 ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.
- 1.10 THE WORK SHALL INCLUDE ALL PANELS, DEVICES, FEEDERS AND BRANCH CIRCUIT WIRING AS REQUIRED FOR THE DISTRIBUTION SYSTEM INDICATED AND CALLED FOR ON THE DRAWINGS, REQUIRED BY SPECIFICATIONS AND AS NECESSARY FOR COMPLETE FUNCTIONAL SYSTEMS PRESENTED AND INTENDED.
- 1.11 THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, CONSUMABLES AND SERVICES REQUIRED FOR OBTAINING, DELIVERY, INSTALLATION, CONNECTION, DISCONNECTION, REMOVAL, RELOCATION, REPAIR, REPLACEMENT, TESTING AND COMMISSIONING OF ALL EQUIPMENT AND DEVICES, INCLUDED IN OR NECESSARY FOR THE WORK, AS APPLICABLE. THIS INCLUDES SCAFFOLDING, LADDERS, RIGGING, HOISTING, ETC.
- 1.12 ELECTRICAL WORK SHALL INCLUDE ALL REQUIRED CUTTING, PATCHING AND THE FULL RESTORATION OF WALL AND FLOOR STRUCTURE AND SURFACES, ALL EQUIPMENT, WALLS, FLOORS, ETC., DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTORS EXPENSE.
- 1.13 BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL FULLY ACQUAINT HIMSELF/HERSELF WITH THE JOB CONDITIONS AND DIFFICULTIES THAT WILL PERTAIN TO THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSIDERED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- 1.14 THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES.
- 1.15 UPON COMPLETION OF THE ELECTRICAL WORK, THE CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM FOR SHORTS, GROUNDS, AND PROPER OPERATION, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
- 1.16 UPON COMPLETION OF WORK, THE CONTRACTOR SHALL CLEAN AND ADJUST ALL EQUIPMENT AND LIGHTING AND TEST SYSTEMS TO THE SATISFACTION OF OWNER AND ENGINEER. RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- 1.17 THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.
- 1.18 EXACT ROUTING OF CONDUITS AND "MC" CABLES SHALL BE DETERMINED IN THE FIELD.
- 1.19 IF THE OWNER AND/OR HIS REPRESENTATIVE CONSIDERS ANY WORK TO BE INFERIOR, THE RESPECTIVE CONTRACTOR SHALL REPLACE SAME WITH CONTRACT STANDARD WORK WITHOUT ADDITIONAL CHARGE. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE MANNER, LEFT CLEAN AND FREE FROM DEFECTS, AND COMPLETELY OPERABLE.
- 1.20 THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AS SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED. ALL MATERIALS SHALL BE NEW, AND BEAR THE UL LABEL. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.
- 1.21 DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC, AND SHALL BE FOLLOWED AS CLOSELY AS CONDITIONS ALLOW TO COMPLETE THE INTENT OF THE CONTRACT. THE DRAWINGS AND SPECIFICATIONS COMPLIMENT ONE ANOTHER, AND WHAT IS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, AND VICE VERSA, IS TO BE INCLUDED IN THE SCOPE OF WORK.
- 1.22 ALL EQUIPMENT CONNECTIONS SHALL BE INSTALLED PER APPLICABLE SEISMIC REQUIREMENTS.
- 1.23 ENGINEER WILL MAKE A FINAL INSPECTION WITH THE OWNER AND CONTRACTOR AND WILL NOTIFY THE CONTRACTOR IN WRITING OF ALL PARTICULARS IN WHICH THIS INSPECTION REVEALS THAT THE WORK IS INCOMPLETE OR DEFECTIVE. THE CONTRACTOR SHALL IMMEDIATELY TAKE SUCH MEASURES AS ARE NECESSARY TO COMPLETE SUCH WORK OR REMEDY SUCH DEFICIENCIES.
- 1.24 THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, TRENCHING AND BACKFILL REQUIRED FOR ELECTRICAL WORK. BACKFILL SHALL BE SUITABLE MATERIAL PROPERLY COMPACTED TO 95% DENSITY IN EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 3/8" BELOW FINISHED GRADE.

2. PROJECT COORDINATION:

- 2.1 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER OF ANY DISCREPANCIES, PRIOR TO COMMENCING WITH THE WORK.
- 2.2 THE CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE DOCUMENTS OF ALL TRADES.
- 2.3 THE CONTRACTOR SHALL FURNISH A SCHEDULE INDICATING HIS PORTION OF TIME, WITHIN THE OVERALL SCHEDULE, REQUIRED TO COMPLETE THE WORK, IN CONJUNCTION WITH ALL TRADES. ALL WORK THAT MAY AFFECT OPERATION OF BUILDING SYSTEMS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.
- 2.4 REFER TO THE CONSTRUCTION DRAWINGS AND APPROPRIATE VENDORS APPROVED DIMENSIONED LAYOUT DRAWINGS FOR THE LOCATIONS OF ALL ELECTRICAL DEVICES AND EQUIPMENT.
A. EXTERIOR, BUILDING MOUNTED LUMINARIES
B. SWITCHES
- 2.5 REFER TO THE PLUMBING DRAWINGS FOR THE LOCATIONS OF THE FOLLOWING:
A. GENERATOR
- 2.6 SHUT DOWN OF POWER SHALL BE COORDINATED WITH THE OWNER, ARCHITECT AND PROJECT MANAGER AT LEAST 14 WORKING DAYS PRIOR TO SHUT DOWN. SHUT DOWNS LONGER THAN 2 DAYS SHALL BE COORDINATED WITH THE ABOVE PERSONNEL AT LEAST ONE MONTH IN ADVANCE. TEMPORARY POWER FOR CONSTRUCTION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR FOR SHUT DOWNS OVER 2 DAYS.
- 2.7 ALL CONDUITS AND DEVICE BOXES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR, INCLUDING ALL TECHNOLOGY CONDUITS AND BOXES.
- 2.8 EXACT LOCATIONS OF OUTLETS AND EQUIPMENT SHALL BE COORDINATED WITH ARCHITECTURAL AND MILLWORK PLANS. ALL OUTLET AND EQUIPMENT LAYOUTS SHALL BE VERIFIED AND COORDINATED WITH WORK OF OTHER TRADES.
- 2.9 PROVIDE TEMPORARY LIGHTING AND POWER IN ACCORDANCE WITH ARTICLE 305 OF THE NEC. TEMPORARY LIGHTING FIXTURES IN UNFINISHED AREAS SHALL REMAIN CONNECTED UNTIL REMOVAL IS REQUESTED BY THE CONTRACTOR.
- 2.10 COLORS AND FINISHES OF ALL LIGHTING FIXTURES SHALL BE AS DETERMINED BY THE PROPERTY OWNER WHO SHALL SELECT SAME FROM THOSE AVAILABLE AS STANDARD OF THE EQUIPMENT SPECIFIED. PROVIDE CUSTOM ENGRAVING FOR ALL DIMMER SWITCHES.
- 2.11 THE CONTRACTOR SHALL CONTACT THE BUILDING MANAGER TO OBTAIN A COPY OF THE GENERAL REQUIREMENTS AND/OR CONDITIONS TO BE USED FOR THIS PROJECT.
- 2.12 INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. TEMPORARY SHUT DOWNS OF ANY SYSTEM SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER AND ARCHITECT.
- 2.13 CONTRACTOR SHALL VERIFY ALL EQUIPMENT POWER REQUIREMENTS AND REQUIRED OUTLET TYPES WITH EQUIPMENT MANUFACTURER AND OWNER PRIOR TO POWER DISTRIBUTION AND RECEPTACLE INSTALLATION.

3. PROTECTION OF WORK:

- 3.1 EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.

4. WARRANTIES AND BONDS:

- 4.1 ALL MATERIALS, EQUIPMENT AND WORKMANSHIP SHALL BE GUARANTEED IN WRITING FOR A MINIMUM OF ONE YEAR AFTER FINAL ACCEPTANCE BY OWNER.
- 4.2 OBTAIN AND DELIVER TO THE OWNER'S REPRESENTATIVE ALL GUARANTEES AND CERTIFICATES OF COMPLIANCE.

5. PERMITS:

- 5.1 CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES FOR ELECTRICAL WORK.

6. RACEWAYS:

- 6.1 ALL CONDUIT SHALL BE MINIMUM SIZE OF 3/4" FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE FLEXIBLE CONDUIT IS CALLED FOR ON PROJECT DOCUMENTS. ALL EXTERIOR EXPOSED CONDUIT SHALL BE GRC (GALVANIZED RIGID METAL CONDUIT). ALL UNDERGROUND, IN SLAB OR UNDER SLAB SHALL BE RNC (RIGID NONMETALLIC CONDUIT). CHANGE TO RIGID METALLIC CONDUIT OR INTERMEDIATE METALLIC CONDUIT BEFORE EXITING OUT OF CONCRETE OR PENETRATING A WALL, FLOOR OR ROOF. EMT IS ALLOWED IN INTERIOR DRY LOCATIONS WHERE NOT SUBJECT TO DAMAGE.
- 6.2 ALL FLEXIBLE CONDUIT IN WET OR DRY AREAS SHALL BE LIQUID TIGHT CONDUIT. NONMETALLIC FLEXIBLE CONDUIT IS SPECIFICALLY PROHIBITED.
- 6.3 CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES. SHALL BE NEATLY RACKED AND SECURELY FASTENED. JUNCTION BOXES SHALL BE PROVIDED WHERE REQUIRED TO FACILITATE INSTALLATION OF WIRES.
- 6.4 ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER.
- 6.5 ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE.
- 6.6 ARRANGEMENT OF CONDUIT AND EQUIPMENT SHALL BE AS INDICATED, UNLESS MODIFICATION IS REQUIRED TO AVOID INTERFERENCES.
- 6.7 ALL RACEWAY AND WIRING SHALL BE CONCEALED IN FINISHED AREAS. RACEWAY IN MECHANICAL ROOMS, BASEMENTS AND CRAWL SPACES MAY BE SURFACE MOUNTED.
- 6.8 FOR CONDUITS CROSSING EXPANSION JOINTS, PROVIDE EXPANSION FITTINGS FOR SIZE 1-1/4", AND LARGER. PROVIDE SECTIONS OF FLEXIBLE CONDUIT WITH GROUNDING JUMPERS FOR SIZES 1" AND SMALLER.
- 6.9 THE CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WITH APPROVED FIRE RATED SEALANT. ALL PENETRATIONS THROUGH ALL WALLS AND FLOORS SHALL BE SEALED. FOR ALL SLAB PENETRATIONS THE METHOD, DEPTHS AND LOCATIONS SHALL BE PRE-APPROVED BY THE BUILDING ENGINEER PRIOR TO THE START OF WORK.
- 6.10 THE CONTRACTOR SHALL INSTALL DETECTABLE UNDERGROUND TAPES FOR THE PROTECTION, LOCATION AND IDENTIFICATION OF UNDERGROUND CONDUIT INSTALLATION.
- 6.11 EXACT ROUTING OF CONDUITS AND CABLES SHALL BE DETERMINED IN FIELD.
- 6.12 ALL PENETRATIONS THROUGH FLOORS SHALL BE FIRE STOPPED AND SEALED WITH APPROVED SEALANT.
- 6.13 ELECTRICAL RACEWAY CONNECTIONS TO VIBRATING EQUIPMENT AND MACHINERY SUCH AS MOTORS, TRANSFORMERS, ETC., SHALL BE MADE WITH FLEXIBLE LIQUID TIGHT METALLIC CONDUIT.
- 6.14 SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS IN HOLLOW MASONRY. EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS IN METAL. BEAM CLAMPS IN FRAMEWORK AND WOOD SCREWS IN WOOD. NAILS, RAW PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO BUILDING LINES.
- 6.15 DO NOT RUN RACEWAYS CLOSER THAN 6 INCHES WHEN PARALLEL TO HOT WATER OR STEAM PIPES. WHEN CROSSING WATER OR STEAM PIPES CROSS A MINIMUM OF 3 INCHES ABOVE. IF CROSSING BELOW IS UNAVOIDABLE, PROVIDE DRIP SHIELDS EXTENDING 6 INCHES BEYOND THE WATER OR STEAMPIPE. BOXES INSTALLED IN PROXIMITY TO WATER OR STEAM PIPE SHALL BE RATED NEMA 4X.

7. BOXES:

- 7.1 INTERIOR OUTLET BOXES SHALL BE METALLIC, EXCEPT AS NOTED. FAN MOUNTING BOXES SHALL BE RATED FOR THE APPLICATION AND FOR THE WEIGHT OF THE FAN. EXTERIOR OUTLET BOXES SHALL BE CAST ALUMINUM AND SHALL BE MADE WEATHERTIGHT.
- 7.2 INTERIOR JUNCTION BOXES SHALL BE SHEET STEEL. EXTERIOR JUNCTION BOXES SHALL BE NONMETALLIC, WITH SCREW COVERS. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUITS.
- 7.3 MOUNTING HEIGHTS OF EQUIPMENT AND DEVICES SHALL BE AS FOLLOWS:
A. RECEPTACLES (WALL MOUNTED) - 18" A.F.F.
B. RECEPTACLES (COUNTER HEIGHT) - 9" ABOVE COUNTER
C. RECEPTACLES (EXTERIOR) - 24" ABOVE FINISHED GRADE
D. COMMUNICATION OUTLETS - SAME AS RECEPTACLES
E. LIGHTING SWITCHES AND CONTROLS - 44" A.F.F.
F. PANELBOARDS AND CABINETS - 78" TO TOP OF ENCLOSURE
- 7.4 WHERE MULTIPLE SWITCHES AND RECEPTACLES ARE INDICATED AT THE SAME LOCATION, THEY SHALL BE MOUNTED BEHIND A COMMON FACEPLATE. TECHNOLOGY OUTLETS SHALL BE SEPARATED FROM AND BE PROVIDED WITH SEPARATE FACEPLATES FROM THE ASSOCIATED POWER RECEPTACLES.
- 7.5 RECEPTACLES SHALL BE ACCESSIBLE EXCEPT A DEDICATED RECEPTACLE MAY BE OBSTRUCTED BY THE REMOVABLE EQUIPMENT IT SERVES.
- 7.6 OUTLET BOXES IN EXISTING CONCRETE FLOORS WITH ACCESS FROM BELOW SHALL BE FIRE RATED, POKE-THROUGH TYPE FOR POWER AND LOW TENSION SERVICE. SERVICE FITTING HEADS SHALL BE ANODIZED ALUMINUM AND SHALL CONTAIN DEVICES AS SHOWN ON THE DRAWINGS. BOXES SHALL BE AS MANUFACTURED BY STEEL CITY OR HUBBELL.
- 7.7 SET BOXES SQUARE AND TRUE WITH BUILDING FINISH. INSTALL RECEPTACLE AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. SECURE TO BUILDING STRUCTURE IN ACCORDANCE WITH NEC REQUIREMENTS.
- 7.8 FURNISH OUTLET BOXES WITH RAISED COVERS AND FIXTURE STUDS WHERE REQUIRED. WHERE NO FIXTURE OR DEVICE IS INSTALLED, PROVIDE OUTLET BOX WITH BLANK COVER. OFFSET BACK-TO-BACK OUTLETS WITH MINIMUM 6 INCH HORIZONTAL SEPARATION.

8. WIRING:

- 8.1 ALL WIRE SHALL BE COPPER WITH TYPE THNN/THWN 600 VOLT INSULATION, MINIMUM #12 AWG FOR POWER AND LIGHTING CIRCUITS AND #16 AWG FOR CONTROL CIRCUITS.
- 8.2 UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPliced.
- 8.3 ALL COMPUTER CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTORS. ALL OTHER CIRCUITS MAY SHARE GROUND AND NEUTRAL CONDUCTORS.
- 8.4 WHERE EQUIPMENT, LIGHTING FIXTURES AND WIRING DEVICES ARE SHOWN WITH CIRCUIT NUMBERS ONLY, THE MINIMUM BRANCH CIRCUITTING REQUIREMENTS SHALL BE AS FOLLOWS:
A. LIGHTING FIXTURES - (2)#12 & #12 GND.
B. RECEPTACLES - (2)#12 & #12 GND.
C. BRANCH CIRCUIT BREAKERS (120 VOLT) - 1P, 20A
D. HOMERUNS TO PANEL BOARDS SHALL CONTAIN NO MORE THAN THREE CIRCUITS.
E. WHERE LIGHTING SWITCH INDICATIONS ARE NOT SHOWN, SWITCHES SHALL BE CONNECTED TO CONTROL ALL SWITCHED FIXTURES WITHIN THE CORRESPONDING SPACE.
- 8.5 CONTRACTOR SHALL INCREASE SIZE OF CIRCUIT WIRING/CONDUCTORS TO COMPENSATE FOR VOLTAGE DROP.
- 8.6 WIRE SIZES SHALL BE INCREASED TO COMPENSATE FOR VOLTAGE DROP AS FOLLOWS:
A. 120V AND 208V CIRCUITS LONGER THAN 80' SHALL UTILIZE MIN. #10 AWG.
B. 208V CIRCUITS LONGER THAN 150' SHALL UTILIZE MIN. #10 AWG.

9. GROUNDING:

- 9.1 PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250, OF THE NEC, AND AS SPECIFIED HEREIN.
- 9.2 ALL BRANCH CIRCUITS FOR POWER WIRING SHALL CONTAIN A COPPER GROUND WIRE. NO FLEXIBLE METAL CONDUIT OF ANY KIND OR LENGTH SHALL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.

10. MECHANICAL SYSTEMS POWER:

- 10.1 EXCEPT AS OTHERWISE NOTED, EQUIPMENT FURNISHED UNDER THE MECHANICAL TRADE WILL INCLUDE MOTORS, STARTERS, CONTROL EQUIPMENT, INTERLOCK AND CONTROL WIRING. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL POWER WIRING FROM SOURCE THROUGH INTERVENING EQUIPMENT TO MOTOR TERMINALS. STARTERS SHALL BE INSTALLED BY ELECTRICAL CONTRACTOR.
- 10.2 DISCONNECT SWITCHES SHALL BE HEAVY DUTY, HORSEPOWER RATED, QUICK MAKE, QUICK BREAK TYPE, ENCLOSED IN A HEAVY SHEET METAL ENCLOSURE WITH HINGED INTERLOCK COVER, IN PROPER NEARBY RATED ENCLOSURES. FUSED OR NON-FUSED AS REQUIRED. DISCONNECT SWITCHES SHALL BE PROVIDED BY CONTRACTOR, EXCEPT AS NOTED ON DRAWINGS.
- 10.3 THE RATING FOR DISCONNECT SWITCHES SHALL BE THE SAME AS, OR GREATER THAN, THE PROTECTIVE DEVICE SERVING THE EQUIPMENT.
- 10.4 COORDINATE ALL RECEPTACLES, PLUGS, WIRING AND LOCATIONS WITH THE EQUIPMENT PROVIDED PRIOR TO ROUGH IN.
- 10.5 A STRUT FRAME SHALL BE PROVIDED AT ALL LOCATIONS WHERE STRUCTURE WILL NOT ADEQUATELY SUPPORT EQUIPMENT, OR FOR FREESTANDING EQUIPMENT.
- 10.6 THE CONTRACTOR SHALL WIRE ALL MECHANICAL AND FIRE PROTECTION EQUIPMENT SHOWN ON THE DRAWINGS. COORDINATE WITH MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS.
- 10.7 ELECTRICAL EQUIPMENT SHIPPED LOOSE BY THE MANUFACTURER SHALL BE INSTALLED AND WIRED BY THE CONTRACTOR. EQUIPMENT MOUNTED IN THE DUCTWORK WILL BE MOUNTED BY THE MECHANICAL CONTRACTOR AND WIRED BY THE CONTRACTOR.
- 10.8 THE CONTRACTOR SHALL PROVIDE REMOTE INDICATORS FOR ALL DUCT DETECTORS LOCATED ABOVE REMOVABLE CEILINGS. DUCT DETECTORS SHALL BE INSTALLED FOR ALL VENTILATION UNITS WITH 200 CFM OR GREATER SUPPLY AIR. REMOTE INDICATORS SHALL BE WALL MOUNTED 12" BELOW CEILING IN CLOSE PROXIMITY TO CONCEALED DUCT DETECTOR, UON.

11. DEVICES:

- 11.1 THE CONTRACTOR SHALL VERIFY COLOR, LOCATION AND MOUNTING HEIGHT OF ALL DEVICES WITH ARCHITECT PRIOR TO INSTALLATION.
- 11.2 RECEPTACLES SHALL BE DUPLEX TYPE, 20 AMP, 125 VOLT RATING, WITH SIDE AND BACK WIRING. HUBBELL 5362 OR APPROVED EQUAL.
- 11.3 GROUND FAULT INTERRUPTERS SHALL BE SPECIFICATION GRADE. HUBBELL GF5362 OR APPROVED EQUAL.
- 11.4 SWITCHES SHALL BE SPECIFICATION GRADE, 20 AMP AT 120/277 VOLTS, QUIET, AC, SINGLE OR DOUBLE POLE, THREE OR FOUR WAY AS REQUIRED, ROCKER STYLE WITH BACK AND SIDE WIRING.
- 11.5 ALL RECEPTACLES MARKED WP SHALL BE GROUND FAULT PROTECTED AND WEATHER TIGHT WHILE IN USE.
- 11.6 THE COLOR OF FACEPLATES SHALL MATCH COLOR OF DEVICE WHICH IT COVERS. ALL PLATES SHALL BE METALLIC.

12. PANEL BOARDS:

- 12.1 PANELBOARDS: SWITCHING UNITS SHALL BE 3 PHASE, 4 WIRE CIRCUIT BREAKER TYPE UNLESS OTHERWISE NOTED ON PANEL SCHEDULES. BUS BARS SHALL BE HARD DRAWN COPPER, MINIMUM 98% CONDUCTIVITY, AND SILVER OR TIN-PLATED JOINTS. CABINETS SHALL BE GALVANIZED SHEET STEEL BACK BOX, WITH DOOR AND TRIM AND LAPPED AND WELDED CORNERS. HARDWARE SHALL BE CHROME-PLATED WITH FLUSH LOCK/LATCH HANDLE ASSEMBLY (UP TO 48 IN. HIGH DOORS) OR VAULT HANDLE, LOCK AND 3-POINT CATCH (LARGER THAN 48 IN. HIGH DOORS). HINGES SHALL BE SEMI-CONCEALED, 5-KNUCKLE STEEL WITH NONFERREROUS PINS, 180-DEG OPENING, LOCATED A MAXIMUM 26 IN. ON CENTERS. PROVIDE DOOR-IN-DOOR CONSTRUCTION, MINIMUM GUTTER SPACES FOR LIGHTING PANELS SHALL BE 5" BOTTOM. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC, TRANSPARENT COVER.
- 12.2 PROVIDE A NEW TYPE WRITTEN CIRCUIT DIRECTORY FOR EACH PANEL AFFECTED BY THIS PROJECT.
- 12.3 WHEREVER POSSIBLE, PANELBOARDS SHALL BE RECESSED IN WALL. SURFACE MOUNTED PANELBOARDS SHALL BE MOUNTED ON A PLYWOOD BACKBOARD. PLYWOOD SHALL BE MOUNTED ON TOP OF GYMPSUM BOARD. PLYWOOD SHALL BE PAINTED ON ALL SIDES AND EDGES. COORDINATE WITH OWNER FOR COLOR.
- 12.4 PROVIDE LIGHTNING SURGE PROTECTION FOR MAIN SWITCHBOARD OR MAIN SERVICE PANEL BOARD. PROVIDE GROUNDING OF SURGE DEVICE PER THE NEC.
- 12.5 CIRCUIT NUMBERS SHOWN SHALL BE GENERALLY FOLLOWED. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR BALANCING LOADS ON ALL PHASES AND MAY ALTER ASSIGNMENT OF CIRCUITS FOR BALANCING PHASES.
- 12.6 CIRCUIT SCHEDULES ARE INTENDED TO REPRESENT THE GENERAL WIRING NEEDS OF THE EQUIPMENT SERVICED FROM THE PANEL. THE EXACT CIRCUIT ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND PANELS ACTUALLY FURNISHED.
13. LIGHTING:
- 13.4 PROVIDE LIGHTING FIXTURES AS SHOWN ON THE CONSTRUCTION DRAWINGS, COMPLETE WITH ALL STEMS, RODS, SUPPORTS, PLASTER FRAMES, ETC., NECESSARY FOR AN INSTALLATION IN OR ON THE MATERIAL FINISHES PROVIDED. PROVIDE ALL LAMPS FOR LIGHTING FIXTURES. FIXTURES SHALL HAVE ENERGY SAVING LAMPS, AND WHERE APPLICABLE, ENERGY SAVING BALLASTS WITH HIGH POWER FACTOR.
- 13.5 SEE DRAWINGS AND SPECIFICATIONS FOR FIXTURE REQUIREMENTS.

14. IDENTIFICATION:

- 14.1 PROVIDE BLACK PHENOLIC IDENTIFICATION PLATES, WITH WHITE LETTERS ON ALL ELECTRICAL EQUIPMENT FURNISHED IN THIS CONTRACT. ATTACH WITH SUITABLE ADHESIVE.
- 14.2 INSTALL NAMEPLATES ON ALL MAJOR EQUIPMENT, INCLUDE STARTERS, TRANSFORMERS, PANELBOARDS, DISCONNECT SWITCHES AND OTHER ELECTRICAL BOXES AND CABINETS INSTALLED UNDER THIS CONTRACT.
- 14.3 APPLY CABLE/CONDUCTOR IDENTIFICATION MARKERS ON EACH CABLE AND CONDUCTOR IN EACH BOX, ENCLOSURE OR CABINET.

15. RECORD DRAWINGS:

- 15.1 THE CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS. THE APPROVAL OF SHOP DRAWINGS SHALL ONLY BE CONSTRUED TO APPLY TO THE GENERAL LAYOUT AND CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT AND FOR THE COMPLIANCE WITH THE GENERAL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL RETAIN THE RESPONSIBILITY FOR ANY DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- 15.2 PROVIDE SHOP DRAWINGS FOR THE LIGHTING FIXTURES, PANEL BOARDS, CIRCUIT BREAKERS, WIRING DEVICES, FIRE ALARM DEVICES AND SEALS FOR FIRE AND WATER STOPPING.
- 15.3 DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A RECORD SET OF INSTALLATION PRINTS. HE SHALL NEATLY AND CLEARLY RECORD ON THESE PRINTS ALL DEVIATIONS FROM THE CONTRACT DRAWINGS IN SIZES, LOCATIONS AND DETAILS.
- 15.4 UPON PROJECT COMPLETION, THE CONTRACTOR SHALL COMPLETE THE MARK UP OF ALL PROJECT DRAWINGS TO RECORD INSTALLED CONDITIONS.
- 15.5 REPRODUCIBLE "RECORD" DRAWINGS PREPARED IN CAD (AUTOCAD 2002) FORMAT SHALL BE PROVIDED TO T-MOBILE INDICATING THE AS INSTALLED CONDITIONS OF THE WORK. A FULL SIZE PRINT OUT OF THE "RECORD" DRAWING FILE SHALL BE PROVIDED TO T-MOBILE AFTER COMPLETION OF THE INSTALLATION.
- 15.6 UPON COMPLETION AND ACCEPTANCE OF WORK, THE CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO T-MOBILE THE PROPER OPERATIONS AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

ATWELL
www.atwell-group.com



1130 HOOPER AVENUE
TOMS RIVER, NJ 08753

PH: 8 6 6 8 5 0 4 2 0 0

FAX: 7 3 2 6 0 8 9 3 2 5

OFFICES IN NORTH AMERICA AND ASIA

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T-MOBILE NORTHEAST LLC

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OFFICE: (973) 397-4800
FAX: (973) 292-8893

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NY PROFESSIONAL ENGINEER LIC. # 086075-1
CT PROFESSIONAL ENGINEER LIC. # PEH-0026729
PA PROFESSIONAL ENGINEER LIC. # 075975

REVISIONS

| | | |
|---|----------|--------------------------|
| 5 | | |
| 4 | | |
| 3 | | |
| 2 | 07/20/10 | RE-ISSUED FOR B.P. |
| 1 | 05/21/10 | ISSUED FOR B.P. |
| 0 | 05/19/10 | PRELIMINARY CONSTRUCTION |

| NO. | DATE | DESCRIPTION |
|-----------------|------|------------------|
| DRAWN BY: SP | | CHECKED BY: JFF |
| SCALE: AS NOTED | | JOB NO: 10000610 |

NJ-05-562B
1100 ST. GEORGES AVE
RAHWAY, NJ 07065
BLOCK: 140, LOT: 2
TAX MAP #37

SHEET DESCRIPTION

GENERAL NOTES

SHEET NO.

GN-1

| | | | |
|------------------------|-----------------------------------|------------------------------------|---------------------------------|
| Block: 140 | Prop Loc: 998-1100 ST GEORGES AVE | Owner: ST GEORGES CENTER ASSOC LLC | Square Ft: 1 |
| Lot: 2 | District: 2013 RAHWAY | Street: 374 MILLBURN AV, POB 785 | Year Built: 0000 |
| Qual: | Class: 4A | City State: MILLBURN, NJ 07902 | Style: |
| Additional Information | | | |
| Prior Block: 456 | Acct Num: 04056000 | Addl Lots: | EPL Code: 0 0 0 |
| Prior Lot: 1 | Mtg Acct: | Land Desc: 280X125 | Statute: |
| Prior Qual: | Bank Code: 660 | Bldg Desc: CB&B | Initial: 000000 Further: 000000 |
| Updated: 12/03/07 | Tax Codes: | Class4Cd: 0 | Desc: |
| Zone: | Map Page: | Acreage: 0.8035 | Taxes: 141661.00 / 0.00 |
| Sale Information | | | |
| Sale Date: 05/11/98 | Book: 4662 | Page: 246 | Price: 1 NU#: 0 |

| | | | | | | | |
|------|------|------|------|-------|-----|-------|---------|
| Sr1a | Date | Book | Page | Price | NU# | Ratio | Grantee |
|------|------|------|------|-------|-----|-------|---------|

TAX-LIST-HISTORY

| Year | Owner Information | Land/Imp/Tot | Exemption | Assessed |
|------|-----------------------------|--------------|-----------|----------|
| 2010 | ST GEORGES CENTER ASSOC LLC | 1273800 | 0 | 2762500 |
| | 374 MILLBURN AV, POB 785 | 1488700 | | |
| | MILLBURN, NJ 07902 | 2762500 | | |
| 2009 | ST GEORGES CENTER ASSOC LLC | 1273800 | 0 | 2762500 |
| | 374 MILLBURN AV, POB 785 | 1488700 | | |
| | MILLBURN, NJ 07902 | 2762500 | | |
| 2008 | ST GEORGES CENTER ASSOC LLC | 1273800 | 0 | 2762500 |
| | 374 MILLBURN AV, POB 785 | 1488700 | | |
| | MILLBURN, NJ 07902 | 2762500 | | |
| 2007 | ST GEORGES CENTER ASSOC LLC | 2123000 | 0 | 4294800 |
| | 374 MILLBURN AV, POB 785 | 2171800 | | |
| | MILLBURN, NJ 07902 | 4294800 | | |



Appendix B

NJDEP Flood Hazard Applicability Determination and FEMA National Flood Insurance Plan Elevation Certificate



State of New Jersey
Department of Environmental Protection



FLOOD HAZARD AREA INDIVIDUAL PERMIT CHECKLIST

Revised: November 5, 2007

Website: www.nj.gov/dep/landuse

CALL NJDEP AT (609) 777-0454 OR (609) 984-0162 IF YOU HAVE ANY

To apply for a flood hazard area individual permit, complete this checklist and send the material required below to the following address (please do not submit more copies than required):

Postal Mailing Address:
NJDEP Division of Land Use Regulation
P.O. Box 439
Trenton, NJ 08625

Street Address (For courier service and hand deliveries only):
NJDEP Division of Land Use Regulation
501 East State Street, Station Plaza Five, 2nd Floor
Trenton, NJ 08609

Please note: If you apply for a verification and a permit at the same time, you may combine application requirements and save time and paper. For example, both a verification and an individual permit application require three copies of an application report. You may therefore submit three copies to cover both applications; you do not need to submit six copies (three copies for each application).

PART ONE: APPLIES TO ALL APPLICATIONS (CHECK ALL BOXES OR MARK N/A)

- ☒ 1. One completed copy of this checklist.
- ☐ 2. Three copies of an application report, as described at N.J.A.C. 7:13-15.3, which includes:
- ☐ a. A complete written description of the project and all proposed activities.
 - ☒ b. One completed LURP-2 application form (with original signatures on at least one copy).
 - ☒ c. One copy of a USGS quad map with the site clearly outlined to scale.
 - ☒ d. One copy of a municipal tax map with the site clearly outlined to scale.
 - ☒ e. One copy of a Department flood hazard area map or FEMA flood insurance rate map with the site clearly outlined to scale, if such mapping exists.
 - ☐ f. One copy of each previous approval received from NJDEP concerning the site, if such approvals exist.
 - ☒ g. One set of color photographs depicting the entire project area, mounted on 8½ -inch by 11-inch paper and accompanied by a map showing the location and direction from which each photograph was taken. Copies of photographs are acceptable provided they are color copies. Black and white copies of photographs are not acceptable. (Note: The photographs shall show any sections of channel or riparian zone that will be disturbed by the project.)
- ☐ 3. One copy of an engineering report, as described at N.J.A.C. 7:13-15.4, if the Department must review detailed engineering calculations in order to determine whether the proposed activity complies with this chapter. The engineering report shall include:
- ☐ a. The signature and seal of an engineer.
 - ☐ b. The name, mailing address and telephone number of the engineer, as well as any other person designated by the engineer to answer questions about the report.
 - ☐ c. All supporting hydrologic, hydraulic, flood storage volume, stormwater and structural calculations, which are necessary to demonstrate that the proposed application meets the requirements of the Flood Hazard Area Control Act rules at N.J.A.C. 7:13.
 - ☐ d. A narrative that explains the submitted calculations and describes why each particular calculation or methodology was used.
 - ☐ e. All maps, references and other supporting materials that were used to prepare the submitted calculations.
 - ☐ g. The total area of impervious surface proposed and the total land area that will be disturbed.
 - ☐ h. If stormwater management is required pursuant to N.J.A.C. 7:13-11.2, the following information where applicable:

- ☐ (i) An explanation of how nonstructural stormwater management strategies have been maximized on site, as required at N.J.A.C. 7:8-5.3.
- ☐ (ii) A demonstration of how the project meets the groundwater recharge standards at N.J.A.C. 7:8-5.4(a)2.
- ☐ (iii) A table which compares existing and proposed stormwater discharges for the two-year, 10-year and 100-year storm in order to demonstrate compliance with the runoff quantity standards at N.J.A.C. 7:8-5.4(a)3.
- ☐ (iv) An explanation of how the project meets the water quality standards at N.J.A.C. 7:8-5.5.

☒ **4. Three copies of an environmental report, as described at N.J.A.C. 7:13-15.5.**

Note: no environmental report is required if a project consists solely of the construction of one private residence, which is not being constructed as part of a larger residential subdivision, and/or the construction of a building appurtenant to a private residence, such as a garage, barn or shed. If this applies, check here: ☐

- ☐ a. A narrative that describes the proposed design and the construction techniques that will be used.
- ☐ b. Maps (such as freshwater wetlands maps and USDA soil surveys) which provide an environmental inventory of the site.
- ☐ c. An analysis of any potential adverse impacts to the following resources and a detailed description of how potential adverse impacts shall be minimized. This analysis shall include all temporary and permanent adverse impacts of each proposed activity, whether onsite or offsite, as follows:
 - ☐ (i) Channels: compliance with the requirements of N.J.A.C. 7:13-10.1, as well as any anticipated effects on the size, shape and characteristics of existing channels, including low-flow aquatic passage, shall be addressed.
 - ☐ (ii) Riparian zones: compliance with the requirements of N.J.A.C. 7:13-10.2 shall be addressed.
 - ☐ (iii) Fishery resources: compliance with the requirements of N.J.A.C. 7:13-10.5 shall be addressed.
 - ☐ (iv) Threatened or endangered species: if a survey for threatened or endangered species is required under N.J.A.C. 7:13-10.6(e), it shall meet the requirements of N.J.A.C. 7:13-15.5(c).
 - ☐ (v) Regulated waters: the effects on water quality due to stormwater runoff, exposure of acid producing soils, and potential for erosion and turbidity shall be addressed.
- ☐ d. If a proposed project is likely to cause an adverse impact to any resource listed above, the environmental report shall also include the following:
 - ☐ (i) A justification for the project, including an explanation of why the proposed structures and their locations are the most appropriate for the site and how the proposed design minimizes environmental damage.
 - ☐ (ii) An analysis of alternatives to the proposed activity, including the no-build alternative.
 - ☐ (iii) A description of all measures to be taken to reduce temporary and permanent detrimental impacts to each resource listed at (a)3 above, whether onsite or offsite.
 - ☐ (iv) A plan to mitigate to effects of all unavoidable adverse impacts.

☐ **5. Documentation that the applicable public notice requirements of N.J.A.C. 7:13-16 have been met.**

Note: no public notice is required if a project consists solely of the construction of one private residence, which is not being constructed as part of a larger residential subdivision, and/or the construction of a building appurtenant to a private residence, such as a garage, barn or shed. If this applies, check here: ☐

☒ **6. The application fee required under N.J.A.C. 7:13-17.**

☐ **7. Six sets of drawings, signed and sealed by a engineer, land surveyor or architect, as appropriate, which contain the following information:**

- ☐ a. All proposed regulated activities (including the size, location and all construction details for each).
- ☐ b. The limit of any riparian zone onsite.
- ☐ c. Existing and proposed topography if fill or grading is proposed, unless the Department determines that topography is not necessary to determine compliance with this chapter. All topography shall reference NGVD, or include the appropriate conversion factor to NGVD, unless the applicant demonstrates that such reference is not necessary.
- ☐ d. The limit of the flood hazard area and floodway onsite if present. If proposed fill, construction and/or grading

will affect these limits, then both existing and proposed flood hazard area and floodway limits shall be included on all drawings.

- ☐ e. Details of proposed soil erosion and sediment control measures.
- ☐ f. If construction is proposed in a regulated water, the drawings shall also include the following:
 - ☐ (i) An explanation of the exact method of proposed construction.
 - ☐ (ii) A timetable for the construction.
 - ☐ (iii) All proposed trenching, diversionary channels and temporary piping of the regulated water.
- ☐ g. If construction is proposed in a riparian zone, the drawings shall also include the following:
 - ☐ (i) All locations where vegetation will be cleared, cut or removed.
 - ☐ (ii) Details of any replanting pursuant to N.J.A.C. 7:13-10.2.

- ☐ 8. **A copy of an NJDEP, Office of Natural Lands Management, Natural Heritage Database data request response for endangered or threatened species of flora or fauna, including a Landscape map report.**

Please see www.nj.gov/dep/parksandforests/natural/heritage for details on how to apply.

PART TWO: APPLIES TO CERTAIN APPLICATIONS (CHECK ONLY IF APPLICABLE)

- ☐ 9. **An application that proposes activities in a regulated area known or suspected to contain acid producing soils shall include the following:**
- ☐ a. A comprehensive evaluation of the potential environmental risks caused by exposure of the acid soils.
 - ☐ b. A plan to minimize any such risks.

- ☐ 10. **An application that proposes the use of fill credits to balance fill on a site in the Central Passaic Basin, as described at N.J.A.C. 7:13-10.4(s) and (t), shall include documentation that the fill credits have been purchased by the applicant prior to the submittal of the application.**

- ☐ 11. **An application that proposes to construct a dry flood-proofed building shall include the following material, signed and sealed by an architect or engineer:**
- ☐ a. Drawings that clearly show the proposed dry flood-proofing measures.
 - ☐ b. Calculations that demonstrate that the structure meets the requirements for flood resistance at N.J.A.C. 7:13-11.4(b).
 - ☐ c. A dry flood-proofing certification, listing each applicable dry flood-proofing requirement at N.J.A.C. 7:13-11.5(q), and stating how the building meets each requirement.

- ☐ 12. **If the Department requires a survey for threatened or endangered species under N.J.A.C. 7:13-10.6(e), the survey shall be performed by a person with education and experience in wildlife biology, zoology and/or botany, as appropriate, and shall include the following:**
- ☐ a. The name, mailing address and qualifications of all persons participating in the survey.
 - ☐ b. The acreage of the surveyed area.
 - ☐ c. A USGS quad map with the surveyed area for each habitat outlined.
 - ☐ d. A description of each habitat and cover type onsite including vegetation, hydrology, soils and natural communities. These habitats shall be assessed for suitability and compatibility to the life history of the species being investigated. If no threatened or endangered species are observed, a discussion of the site's suitability for such species shall be provided.
 - ☐ e. The date and time of the investigation (including total number of hours spent by each individual for species observation).
 - ☐ f. The number of observers present on the site at any one time, including their location on the site relative to one another.
 - ☐ g. Site conditions during the survey, such as precipitation, temperature, wind speed and direction, artificial or natural noise, and nearest onsite or offsite human activity or development. and
 - ☐ h. If the survey reveals the presence or evidence of a threatened or endangered species, detailed information regarding each sighting, including:
 - ☐ (i) Whether the subject was sighted directly or identified by call, track, scat, remains or other indirect evidence of presence.
 - ☐ (ii) The date(s) and time(s) of each such sighting or discovery of evidence.

- ☐ (iii) The relative age and condition of any indirect evidence observed and its location on the property.
- ☐ (iv) A description of the techniques and methodologies employed by the observer during the investigation.
- ☐ (v) If an animal species is observed directly, the number of each species observed, likely age, observed activity, gender, location on or near the site, and proximity to the observer at each sighting.
- ☐ (vi) If a plant species is observed directly, the number of each species observed and its location on or near the site.



State of New Jersey
Department of Environmental Protection
Division of Land Use Regulation Application Form (LURP-2)
Division of Land Use Regulation
501 E. State Street P.O. Box 439
Trenton, NJ 08625-0439
www.nj.gov/dep/landuse



PLEASE PRINT OR TYPE THE FOLLOWING: (Complete all sections unless otherwise noted)

1. **Applicant Name:** Maxton Technology Email: mike.mooney@maxtontech.com

Address: 4 Sylvan Way City: Parsippany

State: NJ Zip: 07054 Daytime Phone: _____ Ext.: _____ Cell Phone: 412.559.5853

2. **Agent Name:** Scott Potter Firm: Atwell, LLC Email: spotter@atwell-group.com

Address: 1130 Hooper Avenue City: Toms River

State: NJ Zip: 08753 Daytime Phone: 866.850.4200 Ext.: _____ Cell Phone: 732.948.7409

3. **Property Owner Name:** _____ Email: _____

Address : _____ City: _____

State: _____ Zip: _____ Daytime Phone: _____

4. **Project Name:** NJ-05-562 Site Location (Street Address): 1100 St. Georges Avenue

Zip: NJ Municipality: Rahway County: Union

Block(s): 140 Lot(s): 2

N.A.D. 1983 State Plane Coordinates (feet) 6 digits only: E (x): 741719 N (y): 403627

Nearest Waterway: Robinson's Branch of the Watershed: Sandy Hook-Staten Island Subwatershed:

Rahway River 02030104

5. **Fees:** Total Fee: \$1,000.00 Project Cost: _____ Check No: _____

6. **Project Description:** _____

7. **Application(s) for:** Check all that apply (Please follow directions on page 5)

| | Application Type | Fee Amt | Amt Paid |
|-------------------------------------|--|------------|----------|
| | Flood Hazard Area | | |
| <input type="checkbox"/> | FHA Verification | | |
| <input checked="" type="checkbox"/> | FHA Individual Permit | \$1,000.00 | |
| <input type="checkbox"/> | FHAGP1 / Chan Clean w/o Sed Removal | No Fee | No Fee |
| <input type="checkbox"/> | FHAGP1 / Chan Clean w/Sed Removal | No Fee | No Fee |
| <input type="checkbox"/> | FHAGP2A / Ag - Bank Restoration | | |
| <input type="checkbox"/> | FHAGP2B / Ag - Channel Cleaning | | |
| <input type="checkbox"/> | FHAGP2C / Ag - Road Crossing | | |
| <input type="checkbox"/> | FHAGP2D / Ag - Wetlands Restoration | | |
| <input type="checkbox"/> | FHAGP2E / Ag - Livestock Ford | | |
| <input type="checkbox"/> | FHAGP2F / Ag - Livestock Fence | | |
| <input type="checkbox"/> | FHAGP2G / Ag - Livestock Water Intake | | |
| <input type="checkbox"/> | FHAGP3 / Bridge/Culvert Scour Protection | | |

| | Application Type | Fee Amt | Amt Paid |
|--------------------------|---------------------------------------|---------|----------|
| | Flood Hazard Area | | |
| <input type="checkbox"/> | FHAGP4 / Stormwater Maintenance | | |
| <input type="checkbox"/> | FHAGP5 / Building Relocation | | |
| <input type="checkbox"/> | FHAGP6 / Rebuild Damaged Home | No Fee | No Fee |
| <input type="checkbox"/> | FHAGP7 / Residential in Tidal FHA | | |
| <input type="checkbox"/> | FHAGP8 / Utility Crossing <50acres | | |
| <input type="checkbox"/> | FHAGP9 / Road Crossing <50acres | | |
| <input type="checkbox"/> | FHAGP10 / Stormwater Outfall <50acres | | |
| <input type="checkbox"/> | Revision of a GP, IP or Verification | | |
| <input type="checkbox"/> | Transfer of an Approval | | |
| | | | |
| | Stormwater Review Fees | | |
| <input type="checkbox"/> | Fee for all Stormwater Reviews | | |

| | Application Type | Fee Amt | Amt Paid |
|--------------------------|---|---------|----------|
| | Applicability Determination | | |
| <input type="checkbox"/> | Coastal Jurisdictional Determination | No Fee | No Fee |
| <input type="checkbox"/> | Highlands Jurisdictional Determination | No Fee | No Fee |
| <input type="checkbox"/> | Flood Hazard Area Applicability | No Fee | No Fee |
| | CAFRA | | |
| <input type="checkbox"/> | Individual Permit | | |
| <input type="checkbox"/> | Exemption Request | | |
| <input type="checkbox"/> | Permit Modification | | |
| <input type="checkbox"/> | CAFGP5 / Amusement Pier Exp | | |
| <input type="checkbox"/> | CAFGP6 / Beach/Dune Maintenance | | |
| <input type="checkbox"/> | CAFGP7 / Voluntary Reconstruction | | |
| <input type="checkbox"/> | CAFGP8 / New Single Family or Duplex | | |
| <input type="checkbox"/> | CAFGP9 / Reconstruct Single Fam/Dup | | |
| <input type="checkbox"/> | CAFGP10 / New Bulkhead/Fill Lagoon | | |
| <input type="checkbox"/> | CAFGP11 / Revetment | | |
| <input type="checkbox"/> | CAFGP12 / Gabions | | |
| <input type="checkbox"/> | CAFGP13 / Support Facilities/ Marina | | |
| <input type="checkbox"/> | CAFGP14 / Reconst Bulkhead A/MHWL | | |
| <input type="checkbox"/> | CAFGP15 / Hazard Waste Clean-up | | |
| <input type="checkbox"/> | CAFGP16 / Landfall of Utilities | | |
| <input type="checkbox"/> | CAFGP17 / Recreat Facility Public Park | | |
| <input type="checkbox"/> | CAFGP18/BulkheadConstuct/Fill upland | | |
| <input type="checkbox"/> | CAFGP21 / Shoreline Stabilization | | |
| <input type="checkbox"/> | CAFGP22 / Avian Nesting Structures | | |
| <input type="checkbox"/> | CAFGP23 / Electrical Sub Facility | | |
| <input type="checkbox"/> | CAFGP24 / Legalize Filling of Tidelands | | |
| <input type="checkbox"/> | CAFGP25 / Construct Telecom Tower | | |
| <input type="checkbox"/> | CAFGP26 / Tourism Ind Construction | | |
| <input type="checkbox"/> | CAFGP27 / Geotechnical Borings | | |
| <input type="checkbox"/> | CAFGP29 / Habitat Creation/Enhance | | |
| | Coastal/Tidal Wetlands | | |
| <input type="checkbox"/> | Coastal/Tidal Wetlands Permit | | |
| <input type="checkbox"/> | Coastal Wetland Permit Modification | | |
| | Waterfront Development | | |
| <input type="checkbox"/> | WDGP10 / New Bulkhead/Fill Lagoon | | |
| <input type="checkbox"/> | WDGP14 / Reconstruct Bulkhead | | |
| <input type="checkbox"/> | WDGP19/Dock/Piers, Boat Lifts Lagoon | | |
| <input type="checkbox"/> | WDGP20 / Minor Maint Dredge Lagoon | | |
| <input type="checkbox"/> | WDGP21 / Shoreline Stabilization | | |
| <input type="checkbox"/> | Individual Permit/Upland | | |
| <input type="checkbox"/> | Individual Permit/Inwater | | |
| <input type="checkbox"/> | Zane Letter | | |
| <input type="checkbox"/> | Modification | | |
| | Highlands | | |
| <input type="checkbox"/> | Emergency Permit | | |
| <input type="checkbox"/> | Pre-application Meeting | | |
| <input type="checkbox"/> | Preservation Area Approval | | |
| <input type="checkbox"/> | PAA with Waiver | | |
| <input type="checkbox"/> | Resource Area Determination footprint | | |
| <input type="checkbox"/> | Resource Area Determination <acre | | |
| <input type="checkbox"/> | Resource Area Determination >acre | | |
| <input type="checkbox"/> | HPAAGP 1/ Habitat Creation/Enhance | | |
| <input type="checkbox"/> | HPAAGP 2 Bank Stabilization | | |

| | Application Type | Fee Amt | Amt Paid |
|--------------------------|--------------------------------------|---------|----------|
| | Freshwater Wetlands | | |
| <input type="checkbox"/> | FWGP1 / Main. & repair Exist Feature | | |
| <input type="checkbox"/> | FWGP2 / Utility Crossing | | |
| <input type="checkbox"/> | FWGP3 / Discharge of Return Water | | |
| <input type="checkbox"/> | FWGP4 / Hazard Site Invest/Cleanup | | |
| <input type="checkbox"/> | FWGP5 / Landfill Closure | | |
| <input type="checkbox"/> | FWGP6 / Filling of NSWC | | |
| <input type="checkbox"/> | FWGP6A /TA- Filling of NSWC | | |
| <input type="checkbox"/> | FWGP7 / Fill ditch / swale | | |
| <input type="checkbox"/> | FWGP8 / House Addition | | |
| <input type="checkbox"/> | FWGP9 / Airport Sightline Clearing | | |
| <input type="checkbox"/> | FWGP10A / Very Minor Road Crossing | | |
| <input type="checkbox"/> | FWGP10B / Minor Road Crossing | | |
| <input type="checkbox"/> | FWGP11 / Outfalls / Intakes | | |
| <input type="checkbox"/> | FWGP12 / Survey / Investigation | | |
| <input type="checkbox"/> | FWGP13 / Lake Dredging | | |
| <input type="checkbox"/> | FWGP14 / Water Monitoring | | |
| <input type="checkbox"/> | FWGP15 / Mosquito Control | | |
| <input type="checkbox"/> | FWGP16 / Habitat Create / Enhance | No Fee | No Fee |
| <input type="checkbox"/> | FWGP17 / Trails / Boardwalks | | |
| <input type="checkbox"/> | FWGP17A / Multiuse paths | | |
| <input type="checkbox"/> | FWGP18 / Dam Repairs | | |
| <input type="checkbox"/> | FWGP19 / Dock or Pier | | |
| <input type="checkbox"/> | FWGP20 / Bank Stabilization | | |
| <input type="checkbox"/> | FWGP21 / Above Ground Utility | | |
| <input type="checkbox"/> | FWGP23 / Expand Cranberry | | |
| <input type="checkbox"/> | FWGP24 / Spring Developments | | |
| <input type="checkbox"/> | FWGP25 / Malfunction Septic System | No Fee | No Fee |
| <input type="checkbox"/> | FWGP26 / Channel / Stream Clean | | |
| <input type="checkbox"/> | FWGP27 / Redevelop Disturbed Site | | |
| <input type="checkbox"/> | FWGP Modification | | |
| <input type="checkbox"/> | Individual Wetlands Permit | | |
| <input type="checkbox"/> | Individual Open Water Permit | | |
| <input type="checkbox"/> | Individual Permit Modification | | |
| <input type="checkbox"/> | Wetlands Exemption | | |
| | Letter of Interpretation | | |
| <input type="checkbox"/> | Presence Absence | | |
| <input type="checkbox"/> | Presence Absence Footprint | | |
| <input type="checkbox"/> | Delineation | | |
| <input type="checkbox"/> | Verification | | |
| <input type="checkbox"/> | Extension | | |
| | Transition Area Waiver | | |
| <input type="checkbox"/> | Averaging Plan | | |
| <input type="checkbox"/> | Reduction | | |
| <input type="checkbox"/> | Hardship Reduction | | |
| <input type="checkbox"/> | Special Activity Stormwater | | |
| <input type="checkbox"/> | Special Activity Linear Development | | |
| <input type="checkbox"/> | Special Activity Redevelopment | | |
| <input type="checkbox"/> | Special Activity Individual Permit | | |
| <input type="checkbox"/> | Exemption | | |
| <input type="checkbox"/> | Modification | | |
| | Consistency Determination | | |
| <input type="checkbox"/> | Water Quality Certificate | | |

Both the Applicant and Property owner's section must be filled out for all Land Use Regulation Applications

A. APPLICANT SIGNATURE

I certify under penalty of law that the information provided in this document is true and accurate. I am aware that there are significant civil and criminal penalties for submitting false or inaccurate information. (If corporate entity, print/type the name and title of person signing on behalf of the corporate entity.)

Signature of Applicant/Owner

Signature of Applicant/Owner

Date

Date

Print Name

Print Name

Print Address

Print Address

B. PROPERTY OWNER'S CERTIFICATION

I hereby certify that the undersigned is the owner of the property upon which the proposed work is to be done. This endorsement is certification that the owner grants permission for the conduct of the proposed activity. In addition, I hereby give unconditional written consent to allow access to the site by representatives or agents of the Department for the purpose of conducting a site inspection or survey of the project site.

In addition, the undersigned property owner hereby certifies:

1. Whether any work is to be done within an easement – Yes: ☐ No: ☐
2. Whether any part of the entire project (e.g., pipeline, roadway, cable, transmission line, structure, etc.) will be located within property belonging to the State of New Jersey-Yes: ☐ No: ☐
3. Whether any work is to be done on any property owned by any public agency that would be encumbered by Green Acres – Yes: ☐ No: ☐
4. Whether any part of this project requires a Section 106(National Register of Historic Places) Determination as part of a federal permit or approval – Yes: ☐ No: ☐

Signature of Owner

Signature of Owner

Date

Date

Print Name

Print Name

Print Address

Print Address

C. APPLICANT'S AGENT

NOTE: Notary seal is required for Flood Hazard Area (SEA) applications.

I _____, the Applicant/Owner, authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name _____

Occupation/Profession _____

(Signature of Applicant/Owner)

AGENT'S CERTIFICATION

Sworn before me this day of

I agree to serve as agent for the above-mentioned applicant

_____ 20 ____

(Signature of Agent)

Notary Public

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT

I hereby certify that the plans, specifications and engineer's report, if any, applicable to this project comply with the current rules and regulations of the New Jersey Department of Environmental Protection with the exceptions as noted. In addition, I certify the application is complete as per the appropriate checklist(s).

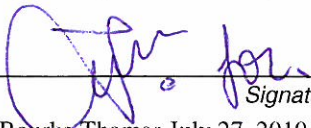
Signature

Type: Name and Date

Position, Name of Firm

E. STATEMENT OF PREPARER OF APPLICATION, REPORTS AND/OR SUPPORTING DOCUMENTS (other than engineering)

I certify under penalty of law that I have personally examined the information submitted in the document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate and complete in accordance with the appropriate checklist(s). I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.


Signature

Bourke Thomas July 27, 2010

Type: Name and Date

Ecological Specialist - Atwell, LLC

Position, Name of Firm

Please note: In addition to the standard paper submission, an electronic copy of the entire application, including plans, may be submitted on CDROM to assist the Department in the review this application.

Plans should be submitted as a CAD file or Shapefile, referenced in NJ state plane feet NAD83.

Please do NOT send the electronic version via E-Mail.

Instructions for completing the LURP2 Form

(Please print clearly or type all information in every section)

Section 1. Applicant Information

Make sure all applicant information is correct and up to date.
Do not provide telephone numbers with call intercept.

Section 2. Agent Information

Make sure all agent information is correct and up to date.
Do not provide telephone numbers with call intercept.
If you do not have an agent, leave this section blank.

Section 3. Property Owner Information

Identify the property owner if different from applicant.

Section 4. Project Site Information

List the street address if known along with the correct zip code for the property.
List all blocks and lots if more space is needed please attach a list to the LURP2 form.
Make sure the state plane coordinates are given and that they are 1983 datum otherwise the application will be rejected.
(Applicants can find state plane coordinates on USGS maps or by going to the NJDEP website and using the IMAP feature to find the location of property and the exact state plane coordinates)

Section 5. Fees and Costs

Make sure to list total fees paid and check number(s) of the fee. Also list the estimated cost for the project in the regulated area if applying for a coastal permit or the total cost of the project if applying for any non-coastal permit or waiver. A separate fee breakdown sheet must be attached to the LURP2 form detailing the breakdown of all fees paid.

Section 6. Project Description

Briefly describe what you are proposing to construct within regulated areas.

Section 7. Type of Application you are submitting

Place a check mark next to each type of activity you are requesting in this application package. Please fill in the amount of fee required for each permit and the amount of fees paid for each permit. The fee paid may be different from the amount required for each permit since the amount required may differ due to the multiple permit fee rule and/or the three payment plan for fees in excess of \$1,000.

Section A. Applicant's Signature

The person or corporate officer applying for this permit and to whom the permit will be issued must sign here.

Section B. Property Owner's Signature

The legal owner of the property on which the regulated activities are proposed must sign here and certify items one through four in this section.

Section C. Applicant's Agent Authorization

If the applicant is represented by a consultant or engineer, that individual shall fill out this section.

Section D. Statement of the Preparer of Plans

For all Stream Encroachment (Flood Hazard Area), and Waterfront applications require that the person preparing the plans and reports fill out this section

Section E. Statement of the Preparer of Application, Reports and Supporting Documents

Anyone who prepares and is the responsible person for part of the application, reports or supporting documents must fill out this section

APPLICATION REPORT

1.0 INTRODUCTION

Atwell, LLC (Atwell) was contracted by Maxton Technology to prepare a New Jersey Department of Environmental Protection (NJDEP) flood hazard area permit application for an individual permit within a flood hazard area for the placement of a new cellular communication facility. The subject site is located within an existing shopping center (Deal\$ Shopping Center) with road frontage along Maple Avenue and St. George Avenue. Specifically the site is located at 1100 St. Georges Avenue Rahway, New Jersey 07065, in Block 140, Lot 2, in Union County. Refer to the *Site Location Map*, *Municipal Tax Map*, and *Parcel Map* in **Appendix I**.

2.0 EXISTING SITE CONDITIONS

The subject site is entirely developed and consists of an existing shopping center, multiple buildings, paved parking lots, and landscaped areas. Refer to the *Photographic Log* and *Photograph Location Map* in **Appendix II**. The Robinson's Branch of the Rahway River is located along the northeastern property boundary. The banks of the river consist of overgrown upland shrubs and other herbaceous vegetation. The Robinson's Branch of the Rahway River is considered a State open water under NJAC 7:7A.

A review of the *FEMA-FIRM* (located in **Appendix III**) indicates the site is located within a Flood Hazard Area associated with the Robinson's Branch of the Rahway River. The existing ground elevation within the site is 20.06-feet± (NGVD 29) and the flood hazard as indicated on the NJDEP *Delineation of Floodway and Flood Hazard Area Plans* is approximately 21.20-feet± (NGVD 29).

3.0 PROPOSED PROJECT DESCRIPTION

The specific location of the proposed cellular tower is located in the northern portion of the site, behind an existing building and west of an existing fenced asphalt dumpster area. The proposed activities associated with the construction of the new cellular communication facility consists of constructing a 14-foot by 18-foot elevated equipment platform (placed on four concrete piers), cable bridge, equipment cabinet, a 120-foot flag pole style cellular tower, underground electric and telecommunication conduit, chain link privacy fence, bollards, and evergreen landscaping buffer adjacent to Robinson's Branch of the Rahway River. The majority of the cellular communication facility will be placed on four concrete piers and elevated above the flood hazard area. The cellular tower (10-feet in diameter), four concrete piers, and 13 bollards will be placed within the flood hazard area. The proposed work should not obstruct floodway flow because construction will take place in the floodway fringe.

The total proposed impact within the flood hazard area will include the placement of approximately 3.3-cubic yards of material within approximately 550 square feet. The total proposed compensating cut includes excavating 3.3-cubic yards of material from 550-square feet from the flood hazard area associated with the Robinson's Branch of the Rahway River. Refer to the *NJDEP Flood Hazard Area Impact Plan* in **Appendix IV**.

4.0 ENVIRONMENTAL REPORT

A wetland and waterfront review and a March 4, 2010 field visit were performed by CMX to determine the presence or absence of jurisdictional wetlands, waters, and transition areas water. Refer to **Appendix V** for the *Wetlands and Waterfront Development Review Letter* dated March 5, 2010. CMX found the site to be absent of jurisdictional wetlands, waters, and transitional areas.

CMX also conducted an in-house review of Geographic Information System information contained within the NJDEP Interactive Mapping tool to review threatened and endangered species information in accordance with the NJDEP Landscape Project Version 2.1. The CMX letter dated March 5, 2010 provided in **Appendix V** states that no threatened or endangered species habitat is mapped within a one mile radius of the subject site. The *National Wetland Inventory Map* and *County Soil Survey Map* are provided in **Appendix VI** for additional environmental review.

CMX also requested a review to the NJDEP Natural Heritage Program and the Landscape Project to obtain threatened and endangered species information for the proposed project. Refer to **Appendix V** for the *Natural Heritage Program Review Letter* dated March 9, 2010. The Natural Heritage Program found that neither the Natural Heritage Database nor the Landscape Project has records of rare wildlife species on the proposed site.