verizon

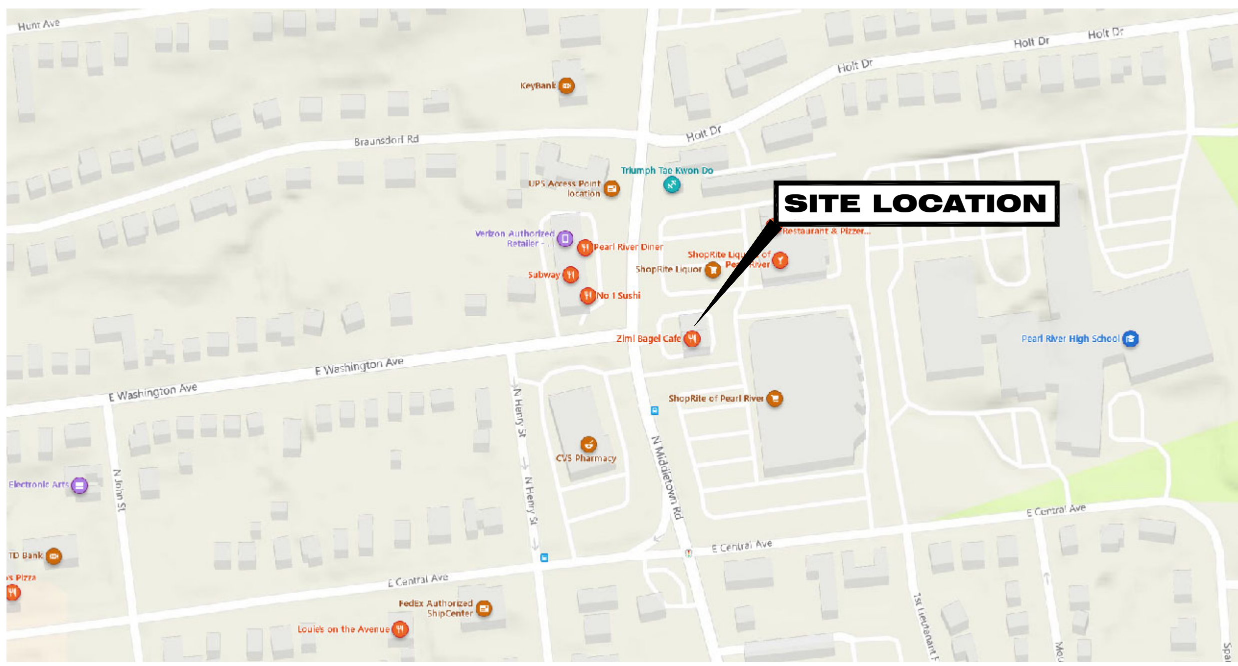
PEARL RIVER 1_RSC

38 N MIDDLETON ROAD, PEARL RIVER, NY 10965

FUZE PROJECT ID: 16245428
LOCATION CODE: 385190

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

KEY MAP



100 0 50 100 200 400 (IN FEET)

11x17 SCALE: 1" = 400'   24x36 SCALE: 1" = 200'

PROJECT INFORMATION

SITE ADDRESS: 38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PROPERTY OWNER:
GREGG SLATER
(201) 264-6012

SECTION: 69.13
BLOCK: 1
LOT: 8
ZONE: CC RETAIL COMMERCE
JURISDICTION: TOWN OF ORANGETOWN

COORDINATES:
LATITUDE: N 41° 3' 40.04" (NAD 83)
LONGITUDE: W 74° 0' 45.29" (NAD 83)
GROUND ELEVATION: ±313' AMSL
STRUCTURE HEIGHT: ±19'-7" AGL (TOP OF HVAC EQUIPMENT)

APPLICANT:
NEW YORK SMSA LIMITED PARTNERSHIP D/B/A VERIZON WIRELESS
4 CENTEROCK ROAD
WEST NYACK, NY 10994

ENGINEER:
KMB DESIGN GROUP, LLC
1800 ROUTE 34, SUITE 209
WALL, NJ 07719
PROJECT MANAGER: ROBERT MELLACI (732) 280-5623

VERIZON WIRELESS CONTACTS:
CONSTRUCTION MANAGER: TBD
EQUIPMENT ENGINEER: CAMILLA VASQUEZ
RF ENGINEER: QUAISON MCKITTY
REAL ESTATE CONTACT: ASHLEY CATALDI

UTILITY CONTACT:
NATIONAL GRID

TELCO CONTACT:
VERIZON

DRAWING INDEX

5

DWG #	DRAWING TITLES
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C02A	ELEVATION
C03	EQUIPMENT, STEEL FRAMING & ANTENNA PLANS (BETA SECTOR)
C03A	EQUIPMENT & ANTENNA SPECIFICATIONS
C03B	STRUCTURAL DETAILS
C03C	STRUCTURAL DETAILS
C03D	RAILING & UNISTRUT FRAME DETAILS
C03E	SHIPS LADDER DETAILS
C04	CONCEALMENT SCREEN PLAN
C04A	CONCEALMENT SCREEN DETAILS
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C05	ANTENNA PLAN
C05A	ANTENNA MOUNT DETAILS (ALL SECTORS)
C05B	ANTENNA KICKBACK DETAILS (BETA SECTOR)
C06	ANTENNA & CABLE SCHEDULE
C07	ANTENNA PAINT SPECIFICATIONS
E01	GENERAL INFORMATION
E02	GROUNDING & WEATHERPROOFING DETAILS

CODES & STANDARDS

These documents are in compliance & all construction to be in accordance with the following codes & standards as applicable:

2020 Building Code of New York State
2020 Residential Code of New York State
2020 Existing Building Code of New York State
2020 Fire Code of New York State
2020 Plumbing Code of New York State
2020 Mechanical Code of New York State
2020 Fuel Gas Code of New York State
2020 Energy Conservation Construction Code of New York State
2020 Property Maintenance Code of New York State
2017 Uniform Code Supplement of New York State
2017 National Electrical Code of New York State

JOB DESCRIPTION

REPLACING TELECOMMUNICATIONS EQUIPMENT CABINETS AND RELATED ANTENNAS ON AN EXISTING ROOFTOP.

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
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1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK
STEPHEN A. BRAY
086064
LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064   9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
COVER SHEET

SHEET NUMBER: A01
REV.: 5

GENERAL CONSTRUCTION NOTES:

1. 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 drawings have been revised to indicate "ISSUED FOR CONSTRUCTION." The Contractor shall e-mail plans@kmbdg.com to ensure that they have the latest set of construction drawings prior to commencing any work whatsoever.
2. ADA compliance: The facility is a normally unoccupied mobile radio facility.
3. These plans are intended to be used to direct the proposed layout. Drawings should not be scaled unless otherwise noted. Plans, elevations and details are intended to show the end result of design. Minor modifications may be required to suit job dimensions or conditions.
4. The contractor shall verify all dimensions and conditions and notify the Project Manager of any discrepancies before starting any work.
5. These plans are designed to reflect observed field conditions. Certain conditions are assumed to comply with general standard construction design methods and principles, and the Contractor shall note that not all areas of structural attachment have been opened or specifically verified. The Contractor is therefore requested to notify the Engineer immediately should encountered field conditions vary from those depicted on the drawings. KMB Design Group, LLC will issue field change direction if required. The Project Manager is referenced on the cover sheet.
6. All equipment and materials shall be installed in accordance with the manufacturer's recommendations unless otherwise noted by the Engineer of Record.
7. The Contractor shall be responsible for all work performed and materials installed to be in strict conformance, as a minimum standard, with all applicable codes, regulations and ordinances having jurisdiction. Electrical systems shall be installed in conformance with the National Electrical Code, and all other local and state jurisdictional codes, ordinances, and with local utility company specifications, whichever is more stringent.
8. The Contractor shall keep contract area clean, hazard free and dispose of all dirt, stumps, stones, rubbish or debris in accordance with all local and environmental laws. No materials or equipment shall be placed anywhere on or in the structure without making adequate provisions to protect existing property. Upon completion, repair any damage that may have occurred during construction. Repair all existing wall surfaces damaged during construction such that they match and blend with adjacent surfaces.
9. The Contractor shall be solely responsible and have control over construction means, methods, techniques, sequences, and procedures.

SITE WORK GENERAL NOTES:

1. The Contractor shall call utilities prior to the start of construction.
2. All existing active sewer, water, gas, electric, and other utilities where encountered in the work, shall be protected at all times, and where required for the proper execution of the work, shall be relocated as directed by engineers. Extreme caution should be used by the contractor when excavating or pier drilling around or near utilities. Contractor shall provide safety training for the working crew. This will include but not limited to:
   A. Fall protection
   B. Confined space
   C. Electrical safety
   D. Trenching & excavation
3. All site work shall be as indicated on the drawing.
4. The areas of the Owners property disturbed by the work and not covered by the building or driveway, shall be graded to a uniform slope, fertilized, seeded, and covered with mulch.
5. The Contractor shall minimize disturbance to existing site during construction. Erosion control measures, if required during construction, shall be in conformance with the local guidelines for erosion and sediment control.

SPECIFICATIONS FOR SIKA TOP 123 PLUS NON SHRINK GENERAL PURPOSE GROUT:

1. All non-shrink general-purpose grout shall be installed in accordance with the manufacturer's recommendations.
2. The non-shrink general-purpose grout shall be mechanically mixed for a minimum of ten minutes.
3. Mix no more grout then can be placed in 10 to 15 minutes.
4. Surfaces to receive the grout shall be free of any type of foreign material and bond inhibiting materials. Be sure repair area is not less than 1/8" in depth.
5. The substrate shall be saturated surface dry with no standing water. Mortar must be scrubbed into substrate filling all pores and voids.
6. Typical properties of the grout shall be as follows:
   - Compressive strength (ASTM C-109 modified)
   - 1 day: 3500 psi min (24.1 mpa)
   - 7 day: 6000 psi min (44.8 mpa)
   - 28 day: 7000 psi min (48.3 mpa)
   - Flexural strength (ASTM C-293) @ 28 days: 2000 psi (13.8 mpa)
   - Splitting tensile strength (ASTM C-496) @ 28 days: 900 psi (6.2 mpa)
   - Bond strength (ASTM C-882 modified) @ 28 days: 2200 psi (15.2 mpa)
   - The Portland cement mortar shall not produce a vapor barrier
   - Density (wet mix): 132 lbs/cu ft (2.2 kg/l)
   - Permeability - AASHTO T-277 @ 28 days: approximately 500 coulombs
7. All steel bearing plates and main support steel shall be installed once the grout has been leveled and has been cured for a minimum of 24 hours. The full design equipment load shall be installed after the grout has cured for 48 hours.
8. Should the contractor wish to propose an alternative grout and method of working outside these parameters, this must be presented to the Engineer in writing with a full method statement, material data sheet and installation instructions for his/her approval.
9. Failure to comply with this specification could seriously affect the stability of the installation.

CONCEALED CONDITIONS

In order for the Engineer to ensure the Contractors workmanship complies with the drawings, the contractor is instructed to provide the following information to KMB during the construction phase for any items that will be covered or concealed after construction completion:

1. Photo of the open conditions prior to work commencing.
2. Phased photos showing the completion of the work including all items called out on the drawings that will be concealed.
3. Final concealed conditions.

Should the General Contractor fail to provide this information KMB may require items that are concealed to be opened and documented at the General Contractor's expenses including and not limited to the cost of KMB dispatching an Engineer to review conditions in the field.

GENERAL NOTES FOR POST-INSTALLED ANCHORS (HILTI OR APPROVED EQUAL)

EPOXY ANCHOR MOUNTING CHART	
WALL TYPE	METHOD OF ATTACHMENT
CONCRETE	HILTI HIT HY200, MINIMUM EMBEDMENT 6" SPACED 16" ON CENTER UNLESS NOTED OTHERWISE
MASONRY (CMU AND BRICK)	HILTI HIT HY270 WITH SCREEN TUBE, MINIMUM EMBEDMENT 6" SPACED 16" ON CENTER UNLESS NOTED OTHERWISE

THRU-BOLT MOUNTING CHART	
WALL TYPE	BOLT TYPE
CONCRETE/MASONRY	F1554 GRADE 55 THRU- BOLT UNLESS NOTED OTHERWISE

INSTALLER TRAINING

1. Installers must be certified through the ACI/CRSI Adhesive Anchor Installer Certification program or equivalent. The General Contractor shall arrange installation training for all post-installed anchor products specified and shall provide the Engineer of Record documentation demonstrating that all personnel responsible for installing anchors are trained prior to the commencement of installing anchors.
2. Installers shall be trained on the complete installation process for drilled-in anchors, including but not limited to:
   A. Hole Drilling Procedure
   B. Hole Preparation & Cleaning Technique
   C. Adhesive Injection Technique & Dispenser Training / Maintenance
   D. Rebar Dowel Preparation and Installation
   E. Proof Loading/Tensile Tests/Torquing

GENERAL PROCEDURES

Contractor/installer to follow anchor manufacturer specifications and instructions for use, including but not limited to the following general procedures:

1. Hole Drilling Procedure
   A. Drill holes with rotary impact hammer drills using carbide-tipped bits, hollow drill bit system, and/or core drills using diamond core bits. Drill bits shall be of diameters as specified by the anchor manufacturer. Unless otherwise shown on the Drawings, all holes shall be drilled perpendicular to the concrete or masonry surface.
2. Hole Preparation & Cleaning
   A. Holes must be free of debris, dust, water, ice, oil, grease, and other contaminants prior to adhesive injection. Installer to ensure all holes are properly cleaned using compressed air and steel wire brush, following manufacturer specified methods:
   - For blowing out the hole, blow out with oil free air until return air stream is free of noticeable dust.
   - For brushing out the hole, only use specified wire brush. The brush must resist insertion into the hole. If not, brush is too small and must be replaced.
3. Cartridge Injection Adhesive Anchors
   A. Clean all holes per manufacturer instructions to remove loose material and drilling dust prior to installation of adhesive. Inject adhesive into holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive. Follow manufacturer recommendations to ensure proper mixing of adhesive components. Sufficient adhesive shall be injected in the hole to ensure that the annular gap is filled to the surface. Remove excess adhesive from the surface. Shim anchors with suitable device to center the anchor in the hole.
   B. For hollow masonry applications, contractor to use plastic-mesh screen tubes and inserts, following manufacturer specifications.
   C. Do not disturb or load anchors before manufacturer specified cure time has elapsed.
   D. Observe manufacturer recommendations with respect to installation temperatures for cartridge injection adhesive anchors.

POST-INSTALLED ANCHOR SPECIAL INSPECTION

1. The General Contractor shall notify the Engineer of Record and Special Inspector of Record when post-installed anchor work is scheduled to be performed to allow on-site inspection during installation.
2. The General Contractor shall document their work with photographs and/or video during the installation process demonstrating the above minimum general procedures have been performed, and shall furnish photographs, videos, and/or test reports to the Engineer of Record as part of the Special Inspection review and project close-out process.
3. The Contractor is responsible for the compliance with all items noted. Failure for the Contractor to provide sufficient training documentation, notifications to the engineer, and/or to provide sufficient progress photographs does not remove the Contractor's liability for full compliance and may require the Contractor to remove and reinstall all anchors and repair adjacent affected areas.

DIVISION 1 - GENERAL REQUIREMENTS SECTION 01010 SUMMARY OF WORK:

1. The Contractor shall review and become familiar with specifications contained in the bid package prepared by KMB Design Group, LLC and the client. The Contractor shall e-mail plans@kmbdg.com to ensure that they have the latest set of construction drawings prior to commencing any work whatsoever.
2. In the event of a conflict between the bid package specifications and these notes, the provisions of the clients specifications shall take precedence.
3. The Contractor shall visit the site of the proposed work and fully acquaint themselves with the conditions as they exist in order that any restrictions pertaining to the work are understood. All areas and dimensions are indicated on the drawings as accurately as possible, but all conditions shall be verified by each contractor and/or subcontractor at the site. The failure of the Contractor to examine or receive any form, instrument or document, or to visit the site shall not relieve the Contractor from any obligation with respect to their quoted price. The submission of a quotation shall acknowledge that the Contractor and their Subcontractors have fully examined the site and know the existing conditions and have made provisions for operating under the conditions as they exist at the site and have included all necessary items.
4. The General Contractor's responsibilities shall include, but not be limited to, construction of the equipment foundation, including electrical service, telephone conduits, grounding system and coordination with local utility companies.
5. The antenna installers responsibilities shall include, but not be limited to, cable tray installation, routing of cables from radio equipment to antennas, associated hardware for securing antenna cables, antenna mounts, determining supplier of antennas, grounding of antennas to grounding system, installing antennas and verifying with Radio Frequency Engineers, the alignment, location, and proper orientation of antennas.
6. The Contractors shall coordinate construction activities with the building Landlord in order to avoid conflicts with current use of the site.
7. The Owner may have work performed under separate contracts, concurrently, with the work of this contract.
8. The General Contractor shall permit access to the project to these contractors to perform their work.
9. The Contractor shall conform to all applicable local, county, state, and federal codes, laws and requirements, including OSHA.
10. The Contractor shall apply and pay for the construction permit, certificate of occupancy and all other required permits or licenses. The Contractor is responsible for obtaining all inspections.
11. Care shall be exercised in protecting the building occupants during the demolition and construction periods of this project. Every effort shall be made to maintain a clean operation. Debris shall not accumulate. All debris will be deposited in a suitable container on a daily basis and shall be emptied on a regular schedule. The location of the container shall be coordinated with the Building Manager.
12. Safety procedures: Attention is directed to federal, state, and local laws, rules and regulations concerning construction safety and health standards. The construction company awarded this project shall ensure all working surroundings and conditions are sanitary, and are not hazardous or dangerous to the health or safety of the work crews or building occupants. Precaution shall be exercised at all times for the protection of persons and property. It is mandatory that the safety provisions of applicable local laws, OSHA regulations and building and construction codes, be observed for all contractors and antenna riggers.
13. The General Contractor must coordinate all roof related work with the Landlord's pre-approved roofer. The General Contractor must confirm the compatibility of all materials and ensure that all existing roof warranties, if any, remain in effect.

SECTION 01613 - DELIVERY, STORAGE AND HANDLING:

1. The Contractor shall be responsible for all procedures and scheduling associated with hoisting, staging, and erecting of materials and equipment to and/or upon the site.
2. All elements of the existing site, i.e. structures, site plantings, etc. shall be protected as necessary from said actions. This work must be done in a safe, secure nondestructive manner for protecting personnel and property.

SECTION 01740 WARRANTIES AND BONDS:

1. The Contractor shall guarantee all labor and materials used in this project for a minimum period of one (1) year commencing from the date of final acceptance by the client. The Contractor is not required to guarantee material supplied by the Owner.
2. Final date of acceptance is deemed as the date that all required state and federal approval have been obtained including, but not limited to:
   A. Final inspection
   B. Certificate of Occupancy
3. Any deficiencies that come evident during this one (1) year period shall be corrected by the Contractor at the Contractor's expense.

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0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK
STEPHEN A. BRAY
086064
LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
GENERAL NOTES
1 OF 2

SHEET NUMBER: C01
REV.: 5

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DIVISION 4 - MASONRY

SECTION 04520 - MASONRY RESTORATION - TUCK POINTING:

1. This section specifies requirements for the cleaning, restoration of mortar joints, replacement of masonry, and masonry repair. All work shall be completed in accordance with these specifications in addition to:
   A. ASTM International:
      - ASTM C91 standard specification for masonry cement.
      - ASTM C144 standard specification for aggregate for masonry mortar.
      - ASTM C150 standard specification for Portland cement.
      - ASTM C207 standard specification for hydrated lime for masonry purposes.
      - ASTM C270 standard specification for mortar for unit masonry.
      - ASTM C476 standard specification for grout for masonry.
      - ASTM C780 standard test method for pre construction and construction evaluation of mortars for plain and reinforced unit masonry.
      - ASTM C979 standard specification for pigments for integrally colored concrete.
      - ASTM C1329 standard specification for mortar cement.
      - ASTM C1384 standard specification for admixtures for masonry mortars.
      - ASTM E514 standard test method for water penetration and leakage through masonry.

   B. International Masonry Industry All-Weather Council (IMIAC):
      - Recommended practices and guide specification for cold weather masonry construction.
      - Recommended practices and guide specification for hot weather masonry construction.

   C. National Concrete Masonry Association (NCMA):
      - NCMA TEK BULLETIN #8-2A removal of stains from concrete masonry.
      - NCMA TEK BULLETIN #8-3A control and removal of efflorescence.

2. Material delivery, storage and handling shall comply with Division 1:
   A. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
   B. Storage and protection:
      - Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.
      - Store materials in a dry location, covered with a tarp or other suitable covering.

3. The Contractor shall install a mercury thermometer at the site to monitor external temperatures. The thermometer location should be continually monitored and under no circumstances should the positioning of a mercury thermometer be as such to allow sunlight to ever strike it.

4. The Contractor shall not perform work when the air temperature reaches 40° F on a falling thermometer, except when the contractor conform with the IMIAC "recommended practices and guide specification for cold weather masonry construction" as approved by the Engineer.

5. The Contractor shall protect all masonry work areas from direct sunlight when the air temperature reaches 99° F on a rising thermometer with less than 50% relative humidity.

6. Use mortar within two hours after mixing at temperatures above 50° F and for 2-1/2 hours at temperatures under 50° F.

7. Re-temper mortar to maintain workability.

8. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270 and C780 to provide uniformity of mix.

9. Do not use antifreeze compounds to lower the freezing point of mortar unless expressly approved by the engineer in writing.

10. If water is lost by evaporation, re-temper only within two hours of mixing.

11. Preparation:
    A. Establish lines, levels, and coursing. Protect from disturbance.
    B. Wet clay masonry units and all adjacent existing masonry prior to laying if the temperature is above 70° F to reduce excessive absorption of mortar moisture by the unit. Do not wet concrete masonry units.

12. Coursing:
    A. Place masonry to lines and levels indicated or to blend into the existing lines and levels of adjacent masonry.
    B. Maintain masonry joints to uniform width of 3/8". Make vertical and horizontal joints equal, of uniform thickness, tightly tucked.
    C. Lay concrete masonry units in running bond. Course one block unit and one mortar joint to equal 8". Form concave mortar joints on exposed work and flush joints on work to receive subsequent wall coating.
    D. Lay clay brick and concrete brick in a bond pattern in accordance with the drawings. If the drawings do not stipulate a particular bonding pattern the bond pattern shall match and be keyed into the existing. All mortar joints shall concave and shall not protrude past the edges of masonry units. Bonding pattern is generic. Brick work shown shall conform with existing pattern and shall have full penetration bonding courses at 24" max horizontally and vertically. These can either be through masonry bonding or reinforcement.

13. Tolerances:
    A. Variation from unit to adjacent unit: 1/32" maximum unless existing conditions do not permit.
    B. Variation from plane of wall: 1/4" in 10' and 1/2" in 20' or more, unless existing conditions do not permit.
    C. Variation from level coursing: 1/8" in 3'; 1/4" in 10'; 1/2" maximum unless existing conditions do not permit.
    D. Variation of joint thickness: 1/8" in 3'.
    E. Maximum variation from cross sectional thickness of walls: plus or minus 1/4".

14. Do not permit mortar to drop or accumulate into cavity air space or to plug weep holes.

15. Cleaning:
    A. Remove excess mortar and smears.
    B. Replace defective mortar. Match adjacent work.
    C. Clean soiled surfaces with a non-acidic solution which will not harm masonry or adjacent materials. Consult masonry manufacturer for acceptable cleaners. Leave surfaces thoroughly clean and free of all mortar and other soiling.
    D. Use non-metallic tools in cleaning operations.
    E. During work progress and at the completion of work, clean wall, sill, ledge and other surfaces with stiff nylon bristle brushes and water to leave all surfaces clean and free of mortar daubs. Do not use metal scrapers or brushes.

16. Contractor bid inclusion - Area of masonry repair:
    A. During the contractors "BID-WALK" the Contractor shall review all existing masonry locations which are to accommodate attachments. The Contractor understands that in many cases they will be engaged to perform services on aged buildings and weathered masonry. The Contractor shall ensure that they have the skilled masonry staff to review, evaluate and repair or will be engaging such staff as a contracted third party. The Contractor shall evaluate those areas giving full consideration to their proposed method of working procedures to evaluate whether the existing masonry is satisfactory, requires repointing, or requires re-building. In many instances, the masonry being attached to is old and can often become loose due to the vibration of construction activities which increases the area of repair needed from that previously assessed by the engineer. In addition, if the masonry is concealed, a probe might have been completed to aid with estimating the condition of the existing masonry. Parapet probes are limited to small areas and are intended to give an initial idea of conditions, however, these areas often need to be extended due to construction activities after further exposure of the parapet masonry conditions, therefore, the Contractor needs to take this into account as detailed below within their bid.
    B. The Contractor shall include within their tendered bid price to repoint both sides of all accessible masonry within a 5'-0" minimum radius from any proposed attachment into the masonry or any upgrade of an existing attachment. For example, for a 3ft high parapet with a structural attachment length of 12ft, representing a sector length or length of equipment platform, the overall area for repointing would be (5ft+12ft + 5ft) x 3ft = 66sq.ft on one or both sides of the accessible section of masonry.
    C. The Contractor shall include within their tendered bid price for the complete rebuild of masonry to the full depth of existing construction within a 5'-0" minimum radius of any beam pocket or masonry encased attachment including down to roof level.
    D. Where solid masonry is not found, the Contractor shall include within their tendered bid price for the complete rebuild of masonry wall to the full depth of existing construction, or as found to be required per existing field conditions.
    E. The Contractor shall include within their tendered bid price to repoint all masonry within 2'-6" minimum below any newly constructed wall, or as noted by engineer on the drawings.
    F. The Contractor shall include within their tendered bid price to grout solid any CMU wall minimum 3 courses below and 5'-0" in each direction from any attachment points.
    G. All rebuilt masonry shall conform with the existing masonry with regard to color, texture, and bond pattern.
    H. The Contractor shall apply ultra clear Pro-Seal Weather Master in accordance with the manufacturers' instructions (or approved equivalent).
       - Pro-Seal Weather Master shall be applied to all surfaces affected by the proposed installation within a radius of 2'-6" from any attachment point. For all epoxy anchors attachments, the Contractor shall locate the anchors, set the anchors and apply the coating prior to setting any attachment steel against the brickwork surface.
       - Pro-Seal Weather Master shall be applied to all re-build sections of brickwork and to all faces. Pro-Seal Weather Master shall be applied to the top of all brickwork surfaces prior to the installation of any coping.
       - The Contractor shall provide photographic evidence that Pro-Seal Weather Master has been applied at all required locations. Photographs shall include the product label and application at all locations. Following the application of Pro-Seal, the Contractor shall apply silicon sealant around all interfaces of masonry and steel.

17. Masonry units shall conform to ASTM C62 and shall have a compressive strength no less than 4500 psi. Mortar shall be type N, unless otherwise specifically noted on within the drawings, and shall have a compressive strength no less than 1800 psi.

18. Following the "BID WALK" the Contractor shall notify the Engineer in writing as to the extent of any loose or recessed mortar encountered within 10'-0" from the proposed attachment point to enable the Engineer to inspect the areas and advise repair prior to finalizing bids and commencing construction. Existing conditions may have changed since the drawings were produced and the site BID WALK date.

19. All areas of brick repair shall be photographed before, during and upon completion of construction. The Contractor shall label and date each photograph and submit to the owner and engineer as per the schedule below:
    A. Bid walk photographs of all equipment masonry attachment locations.
    B. Areas of brickwork showing the depth of removed mortar prior to repointing.
    C. Finished areas of repointing.
    D. Areas of brickwork prior to removal.
    E. Progress photographs of all rebuilt masonry.
    F. Progress photos of all grouted CMU blocks.
    G. Areas of brick following removal, cleaning and preparation prior to re-building. Photographs should clearly indicate the existing bonding pattern and display how the new masonry will "KEY" and bond into the existing to maintain structural integrity.

20. As a minimum and unless specified otherwise, all brickwork penetrations shall be faced with 4" minimum thickness of matching brickwork, tied to existing. At least one metal tie "Z" should be used for each 3 sq. ft. of wall surface. Ties in alternate courses should be staggered. The distance between adjacent ties should not exceed 24" vertically nor 24" horizontally. Ties shall not be less than 3/16" diameter.

21. Water shall be clean and potable.

22. Defective joints. "DEFECTIVE JOINTS" shall mean joints which have eroded 1/8" or more, or have loose, powdered or broken mortar. Joints with hairline cracks (1/64") that are otherwise sound shall not be considered defective.

23. Joint preparation. Defective mortar joints shall be raked using a tuck point rake with a working tip no greater than 5/16" to expose unweathered mortar. The minimum depth for repointing shall be 1/4". Reveals with square backs. Furrowed or shallow joints are prohibited. Brush, vacuum, air jet or water stream joints to remove all loose debris.

24. Dampen surfaces prior to tuck pointing. Apply pointing mortar by means of a trowel narrower than the mortar joints to be filled. Spread mortar into joint in layers, firmly pressing to form a completely filled fully packed joint without voids. Joint tooling - when mortar is thumbprint hard, tool to match original appearance of adjacent joints. Brush excess mortar from edge of joint.

25. The Contractor is responsible for the compliance with all items above in Division 4 Masonry. Failure for the Contractor to notify the engineer, provide sufficient funding within their tendered bid price to the client in accordance with these requirements, or to provide sufficient progress photographs does not remove the Contractor's liability for full compliance, and the Contractor shall make good all masonry areas as directed by the Engineer during or at any time post construction completion for repair or rebuilding at their own cost. By bidding and performing the construction services as depicted on these drawings, the contractor agrees to these terms in perpetuity.

DIVISION 5 - METALS
SECTION 05120 - STRUCTURAL STEEL

1. Codes and specifications:
   A. The fabrication/erection shall conform to the requirements of the following codes and specifications, latest edition, unless otherwise noted:
      - The local building code.
      - AISC 360 specification for structural steel buildings.
      - ASTM A992 structural steel (for all W sections only).
      - ASTM A36 structural steel (all other sections).
      - ASTM A53, type E, grade B, electric resistance welded steel pipe.
      - ASTM 123 zinc (hot-dip galvanized) coatings on iron and steel products.
      - ASTM 153 zinc coated (hot-dip) iron and steel hardware.
      - AWS D1.1 structural welding code.
      - EIA/TIA-222 structural standards for steel antenna towers and antenna supporting structures.

2. Design parameters:
   A. The structural steel antenna mounting frames are designed to provide support for antennas and all hardware and accessories associated with antennas.

3. Fabrication and installation requirements:
   A. The antenna supports, antennas and mounting hardware shall be constructed plumb, level and true.
   B. All structural elements and fasteners shall be galvanized in accordance with ASTM A123 and A153.
   C. Welds should be shop made wherever possible, conforming to AISC specification and AWS requirements. All welds are to be of the size and type indicated. Contractor shall employ a licensed welder and shall provide the engineer with their name and a copy of their license prior to commencing any field welding.
   D. Contractor shall provide fire watch during all welding operations, brazing and soldering and other work requiring the use of an open flame. Two (2) hand held 30 lb. fire extinguishers and adequate water supply shall be maintained on site. Fire watch plan shall be submitted to the client for approval prior to welding.
   E. All bolted connections shall be A325 high strength bolts 5/8" diameter minimum size unless otherwise noted. Bolts shall be supplied with flat washers. Bolts shall be tightened in accordance with the AISC snug tight condition, unless otherwise noted.
   F. Protective galvanized coatings which were damaged or removed during erection or transportation shall be restored by painting with zinc-rich primer.
   G. All threaded rods shall be 1/2" diameter A36 steel unless otherwise noted.
   H. Temporary structures for staging and construction shall be capable of with standing forces specified by the local building code current edition.

4. Inspections:
   A. All structural steel antenna frames, and connections shall be inspected prior to installation of antennas.
   B. All antenna cable trays, supports, channels, and clamps shall be inspected prior to installation of antenna cables.
   C. Coordinate all inspections with the Client's Construction Manager.

Structural Steel Notes:

1. All work shall be done in accordance with all applicable federal, state and local codes and ordinances.
2. For material specifications, see general notes.
3. All connections of structural steel members shall be made using specified welds with welding electrodes E-70xx or specified high strength bolts to be ASTM A325.
4. All steel exposed to moisture, shall be hot dipped galvanized after fabrication per ASTM A-123. All damaged surfaces, welded areas and authorized non-galvanized members or parts (existing or new) shall be painted with 2 coats of ZRC cold galvanizing compound manufactured by ZRC Chemical Products Co. Quincy, MA or use thermal spraying with Plattzinc 85/15 as manufactured by Platt Brothers & Company Waterbury,CT.
5. All shop and field welding shall be done by welders qualified as described in the "American Welding Society's Standard Qualification Procedure" to perform the type of work required.
6. All pipe sizes are nominal diameter.
7. Contractor shall measure and verify all existing conditions and measurements in field. Any unusual conditions shall be brought to the attention of the engineer prior to the purchase, fabrication and erection of any material.
8. Incorrectly fabricated, damaged, otherwise misfitting, or non-conforming materials and conditions shall be reported to the owner, engineer, and construction manager prior to any remedial or corrective action. All actions shall require approval from the owner.
9. Contractor shall promptly remove any & all debris from site.
10. All steel to be erected plumb and level.
11. Where detailed grating support angles run the full length of the main beam.

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REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

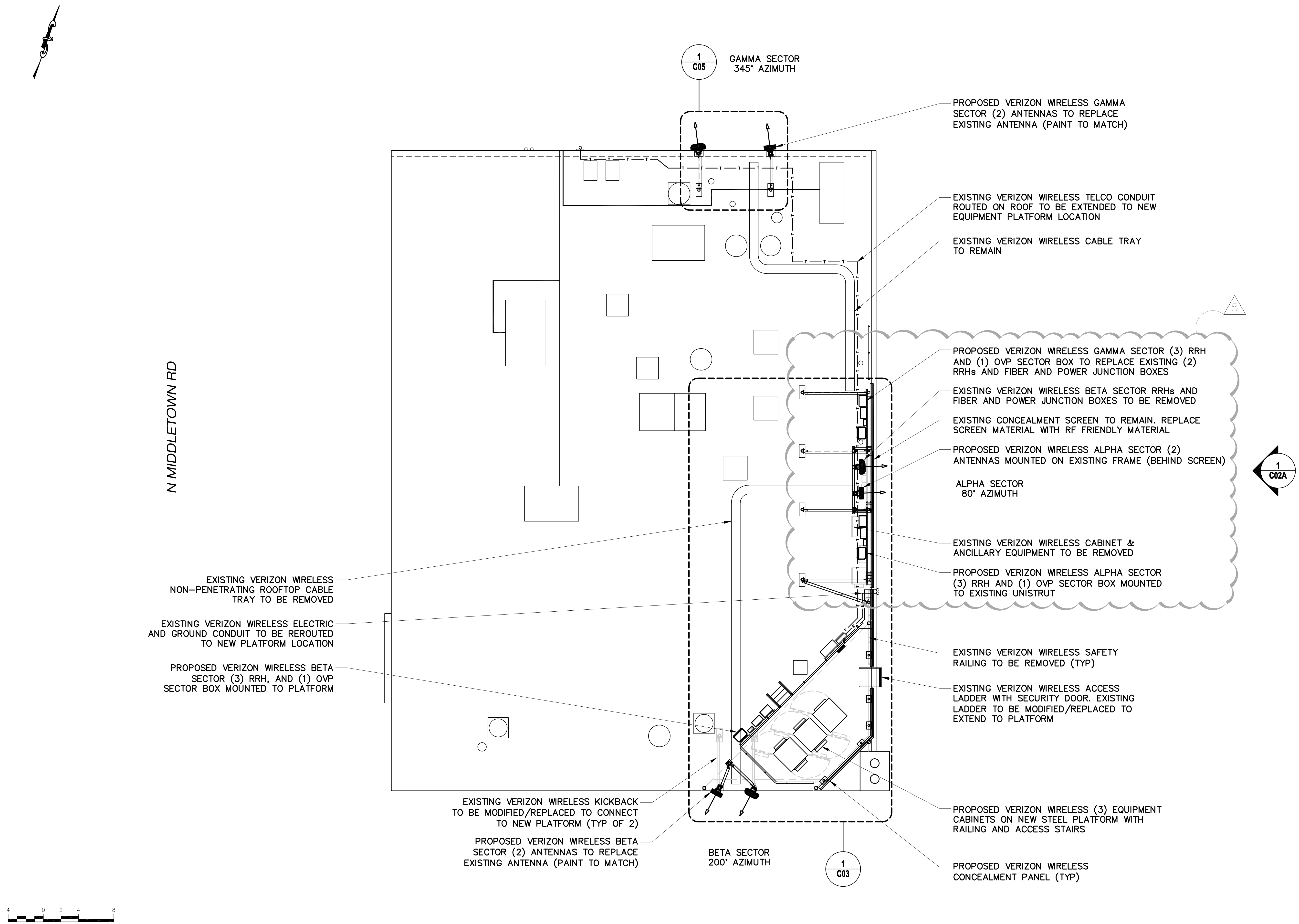
PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
GENERAL NOTES
2 OF 2

SHEET NUMBER: C01A
REV.: 5

K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_Construction\321.0635.001_CAD\321.0635.001 C01A.dwg, 9/17/2024 4:09:36 PM, CCretu


1
C05
GAMMA SECTOR
345° AZIMUTH
PROPOSED VERIZON WIRELESS GAMMA SECTOR (2) ANTENNAS TO REPLACE EXISTING ANTENNA (PAINT TO MATCH)
EXISTING VERIZON WIRELESS TELCO CONDUIT ROUTED ON ROOF TO BE EXTENDED TO NEW EQUIPMENT PLATFORM LOCATION
EXISTING VERIZON WIRELESS CABLE TRAY TO REMAIN
5
PROPOSED VERIZON WIRELESS GAMMA SECTOR (3) RRH AND (1) OVP SECTOR BOX TO REPLACE EXISTING (2) RRHs AND FIBER AND POWER JUNCTION BOXES
EXISTING VERIZON WIRELESS BETA SECTOR RRHs AND FIBER AND POWER JUNCTION BOXES TO BE REMOVED
EXISTING CONCEALMENT SCREEN TO REMAIN. REPLACE SCREEN MATERIAL WITH RF FRIENDLY MATERIAL
PROPOSED VERIZON WIRELESS ALPHA SECTOR (2) ANTENNAS MOUNTED ON EXISTING FRAME (BEHIND SCREEN)
ALPHA SECTOR
80° AZIMUTH
1
C02A
EXISTING VERIZON WIRELESS CABINET & ANCILLARY EQUIPMENT TO BE REMOVED
PROPOSED VERIZON WIRELESS ALPHA SECTOR (3) RRH AND (1) OVP SECTOR BOX MOUNTED TO EXISTING UNISTRUT
EXISTING VERIZON WIRELESS SAFETY RAILING TO BE REMOVED (TYP)
EXISTING VERIZON WIRELESS ACCESS LADDER WITH SECURITY DOOR. EXISTING LADDER TO BE MODIFIED/REPLACED TO EXTEND TO PLATFORM
PROPOSED VERIZON WIRELESS (3) EQUIPMENT CABINETS ON NEW STEEL PLATFORM WITH RAILING AND ACCESS STAIRS
PROPOSED VERIZON WIRELESS CONCEALMENT PANEL (TYP)
N MIDDLETOWN RD
EXISTING VERIZON WIRELESS NON-PENETRATING ROOFTOP CABLE TRAY TO BE REMOVED
EXISTING VERIZON WIRELESS ELECTRIC AND GROUND CONDUIT TO BE REROUTED TO NEW PLATFORM LOCATION
PROPOSED VERIZON WIRELESS BETA SECTOR (3) RRH, AND (1) OVP SECTOR BOX MOUNTED TO PLATFORM
EXISTING VERIZON WIRELESS KICKBACK TO BE MODIFIED/REPLACED TO CONNECT TO NEW PLATFORM (TYP OF 2)
PROPOSED VERIZON WIRELESS BETA SECTOR (2) ANTENNAS TO REPLACE EXISTING ANTENNA (PAINT TO MATCH)
BETA SECTOR
200° AZIMUTH
1
C03
4 0 2 4 8
(IN FEET)

1	ROOF PLAN
11x17 SCALE: 3/32" = 1'-0"	24x36 SCALE: 3/16" = 1'-0"

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REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
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2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK · STEPHEN A BRAY · LICENSED PROFESSIONAL ENGINEER · 086064

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
ROOF PLAN

SHEET NUMBER:	REV.:
C02	5

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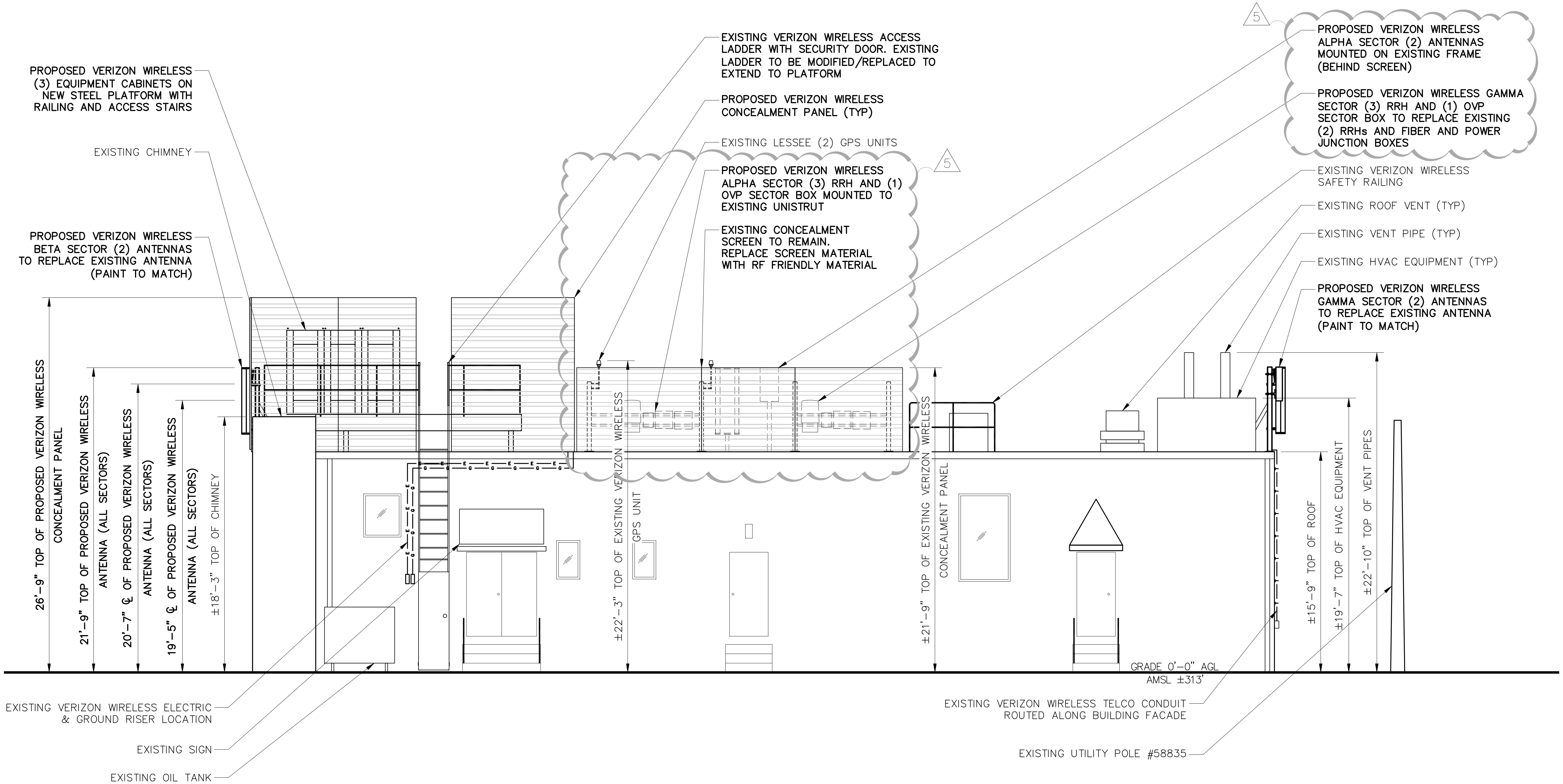

1	EAST ELEVATION
11x17 SCALE: 1/8" = 1'-0"	24x36 SCALE: 1/4" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
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Stephen A. Bray
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321.0635.001

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38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

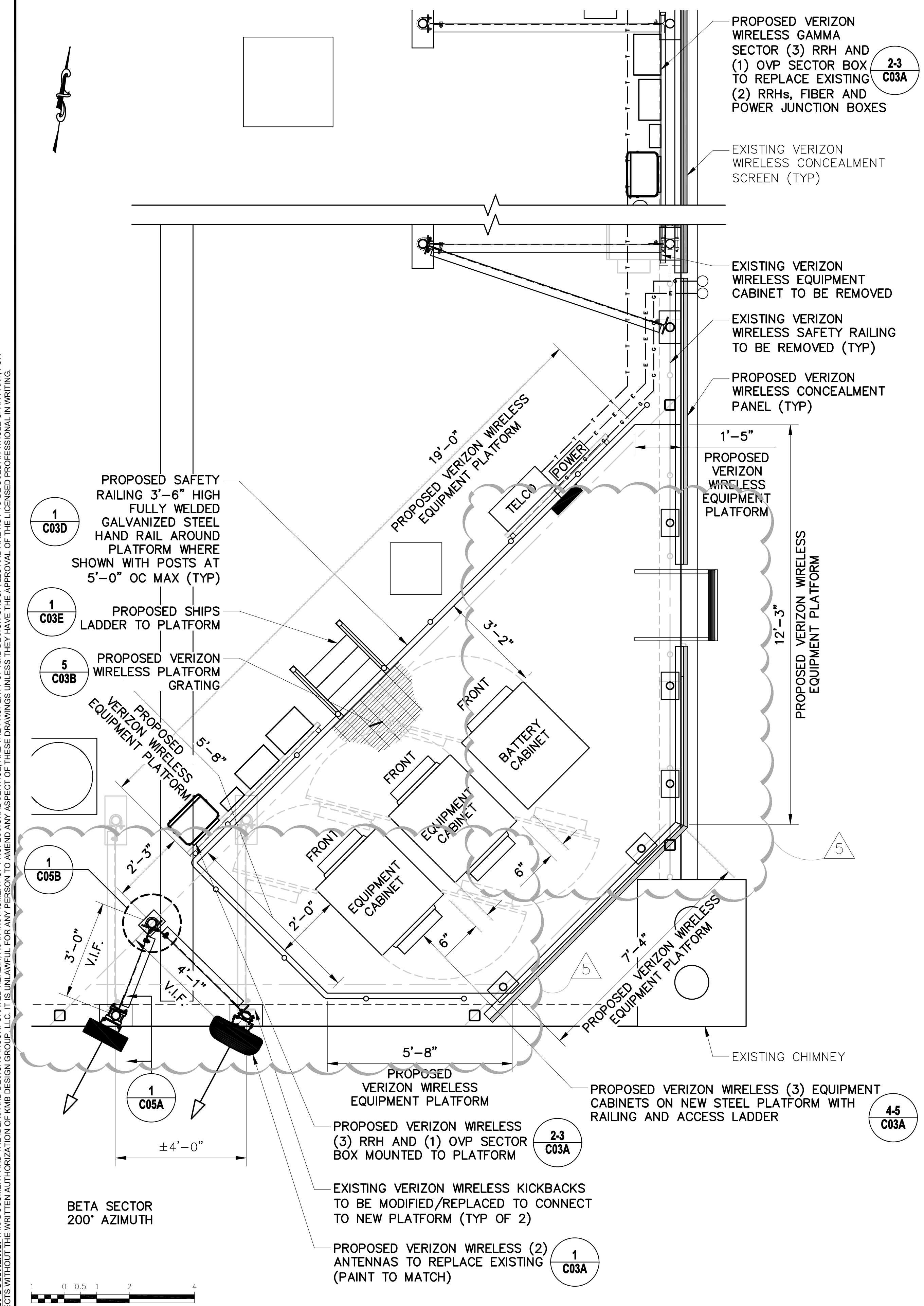
PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
ELEVATION

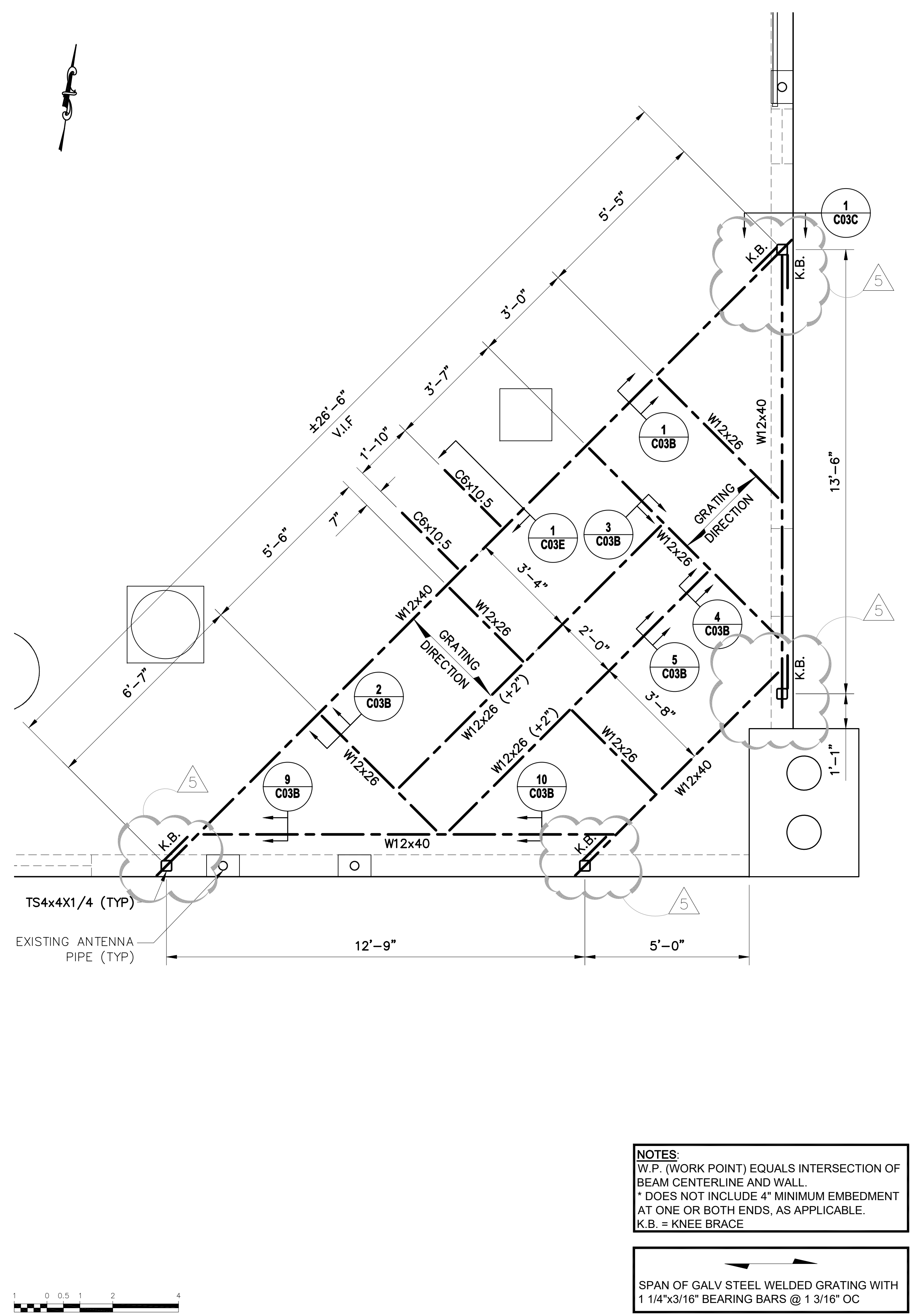
SHEET NUMBER: C02A
REV.: 5

K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_CAD\321.0635.001_Construction\321.0635.001 C02A.dwg, 9/17/2024 4:09:53 PM, CCretu



1 EQUIPMENT PLAN

11x17 SCALE: 1/4" = 1'-0" | 24x36 SCALE: 1/2" = 1'-0"



NOTES:
W.P. (WORK POINT) EQUALS INTERSECTION OF BEAM CENTERLINE AND WALL.
* DOES NOT INCLUDE 4" MINIMUM EMBEDMENT AT ONE OR BOTH ENDS, AS APPLICABLE.
K.B. = KNEE BRACE

SPAN OF GALV STEEL WELDED GRATING WITH 1 1/4"x3/16" BEARING BARS @ 1 3/16" OC

2 STEEL FRAMING PLAN

11x17 SCALE: 1/4" = 1'-0" | 24x36 SCALE: 1/2" = 1'-0"

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REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
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PROFESSIONAL ENGINEER
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NY LICENSE: 086064
9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
EQUIPMENT, STEEL FRAMING & ANTENNA PLANS (BETA SECTOR)

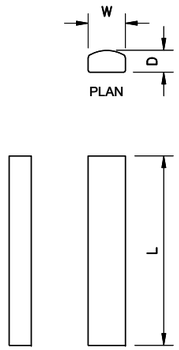
SHEET NUMBER:
C03

REV.:
5

K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_CAD\321.0635.001_Construction\321.0635.001_L-Sub6\321.0635.001 C03.dwg, 9/17/2024 4:10:01 PM, CCretu

MANUF.: JMA
MODEL: MX16FRO445
LENGTH: 56.9"
WIDTH: 20.0"
DEPTH: 8.0"
WEIGHT: 51.7 lbs
AREA: 7.9 SF

C-BAND 64T64R ANTENNA/RADIO
MANUF.: SAMSUNG
MODEL: MT6413-77A
LENGTH: 28.9"
WIDTH: 15.8"
DEPTH: 5.5"
WEIGHT: 57.3 lbs
AREA: 3.2 SF



NOTES:
1. SELECTED EQUIPMENT MAY VARY BASED ON PRODUCT AVAILABILITY AT TIME OF INSTALLATION.

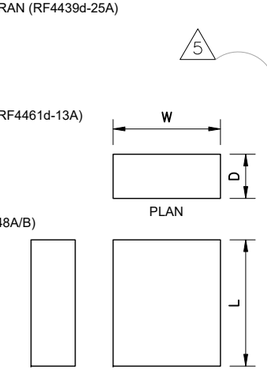
1 PANEL ANTENNA

SCALE: NTS

MANUFACTURER: SAMSUNG
MODEL: B2/B66A RRH ORAN (RF4439d-25A)
LENGTH: 15.0"
WIDTH: 15.0"
DEPTH: 10.0"
WEIGHT: 74.7 lbs

MANUFACTURER: SAMSUNG
MODEL: ORAN 700/850 (RF4461d-13A)
LENGTH: 15.0"
WIDTH: 15.0"
DEPTH: 10.2"
WEIGHT: 79.1 lbs

MANUFACTURER: SAMSUNG
MODEL: CBRS (RT4423-48A/B)
LENGTH: 11.8"
WIDTH: 8.7"
DEPTH: 4.2"
WEIGHT: 18.7 lbs

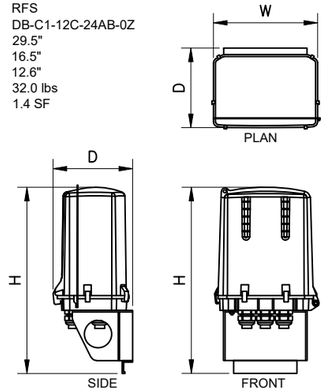


NOTES:
1. SELECTED EQUIPMENT MAY VARY BASED ON PRODUCT AVAILABILITY AT TIME OF INSTALLATION.

2 REMOTE RADIO HEAD (RRH)

SCALE: NTS

SECTOR MODEL
MANUFACTURER: RFS
MODEL #: DB-C1-12C-24AB-0Z
HEIGHT: 29.5"
WIDTH: 16.5"
DEPTH: 12.6"
WEIGHT: 32.0 lbs
AREA: 1.4 SF

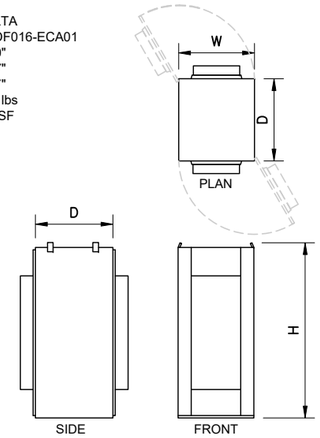


3 DISTRIBUTION BOX

SCALE: NTS

MANUFACTURER: DELTA
MODEL #: ESOF016-ECA01
HEIGHT: 72.0"
WIDTH: 31.7"
DEPTH: 37.7"
WEIGHT: 880 lbs
AREA: 7.7 SF

NOTES:
1. WEIGHT DOES NOT INCLUDE CUSTOMER EQUIPMENT OR BATTERIES.
2. INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
3. SELECTED EQUIPMENT MAY VARY BASED ON PRODUCT AVAILABILITY AT TIME OF INSTALLATION.

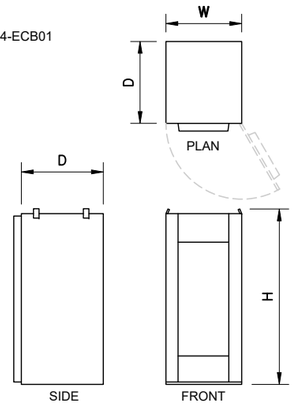


4 EQUIPMENT CABINET

SCALE: NTS

MANUFACTURER: DELTA
MODEL #: ESOF024-ECB01
HEIGHT: 72.0"
WIDTH: 32.0"
DEPTH: 34.6"
WEIGHT: 690 lbs
AREA: 7.7 SF

NOTES:
1. WEIGHT DOES NOT INCLUDE CUSTOMER EQUIPMENT OR BATTERIES.
2. INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
3. SELECTED EQUIPMENT MAY VARY BASED ON PRODUCT AVAILABILITY AT TIME OF INSTALLATION.



5 BATTERY CABINET

SCALE: NTS

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
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1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB DESIGN GROUP

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK
STEPHEN A BRAY
086064
LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064
9/17/24

PROJECT NUMBER:
321.0635.001

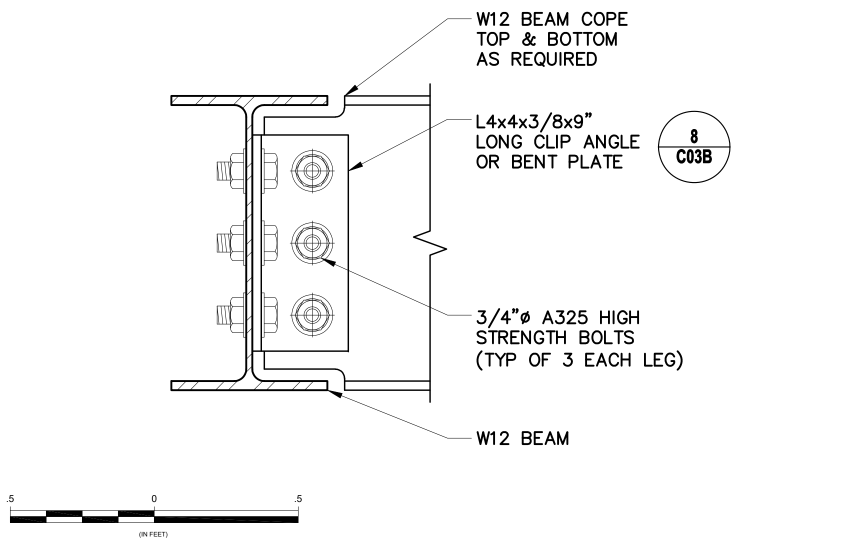
SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

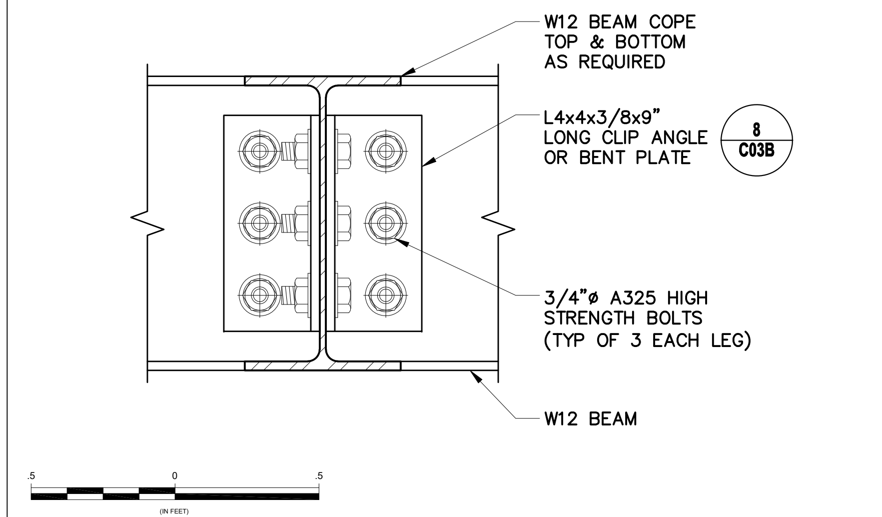
DESIGN TYPE:
ROOFTOP

SHEET TITLE:
EQUIPMENT & ANTENNA SPECIFICATIONS

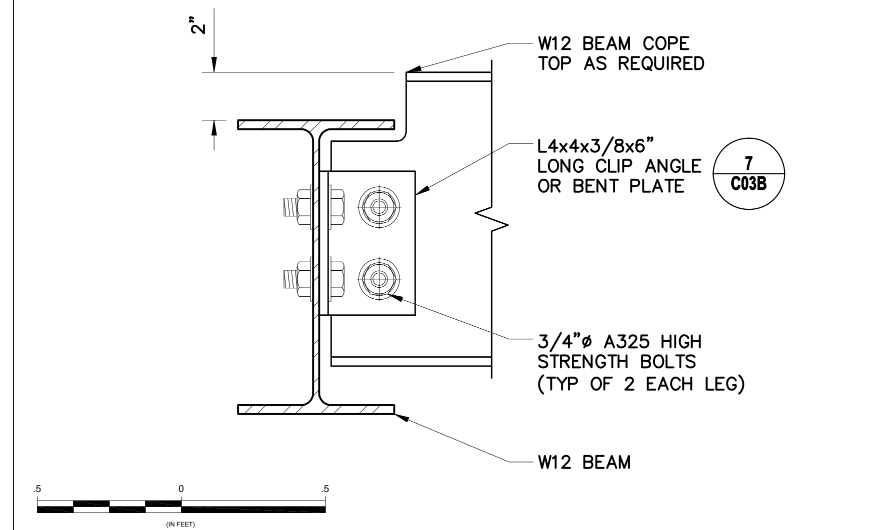
SHEET NUMBER: C03A
REV.: 5



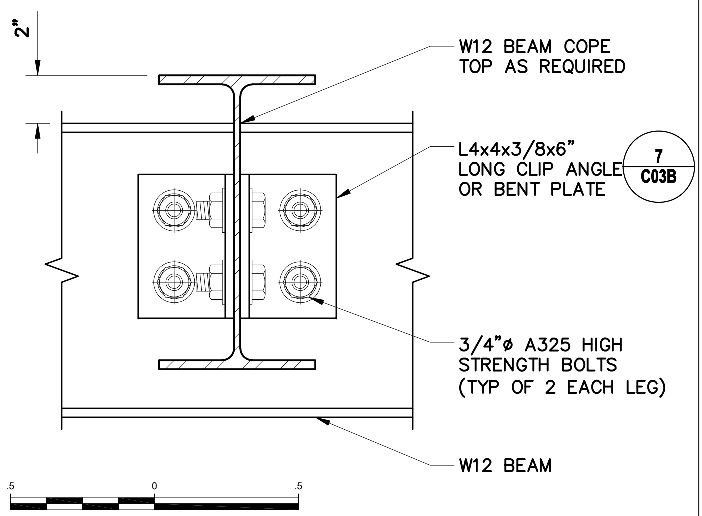
1	BEAM CONNECTION DETAIL
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



2	BEAM CONNECTION DETAIL
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



3	BEAM CONNECTION DETAIL
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



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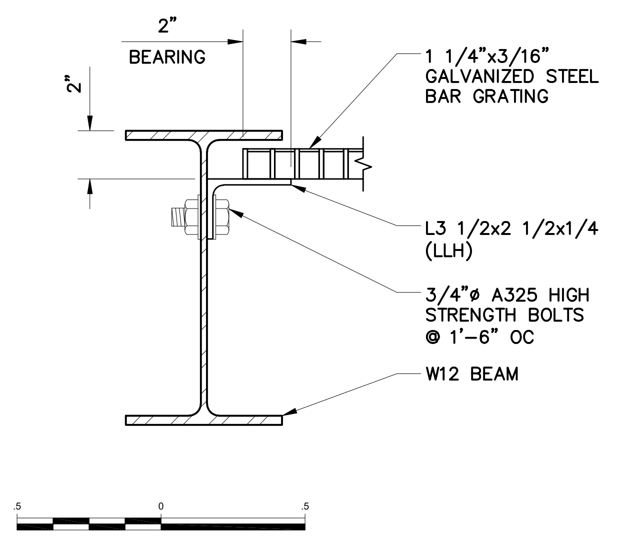
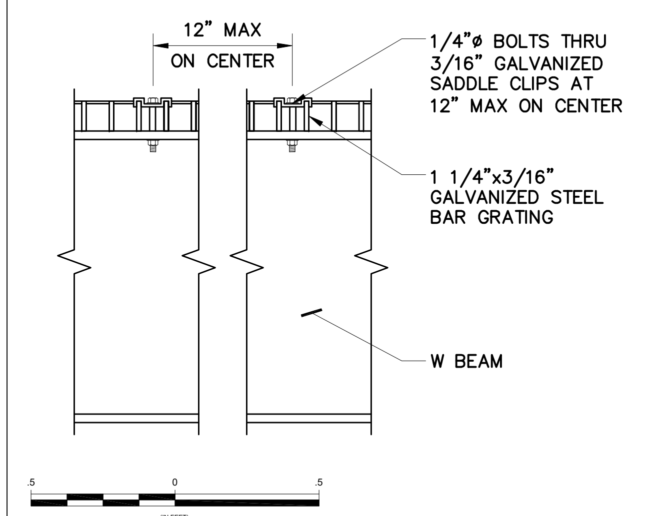
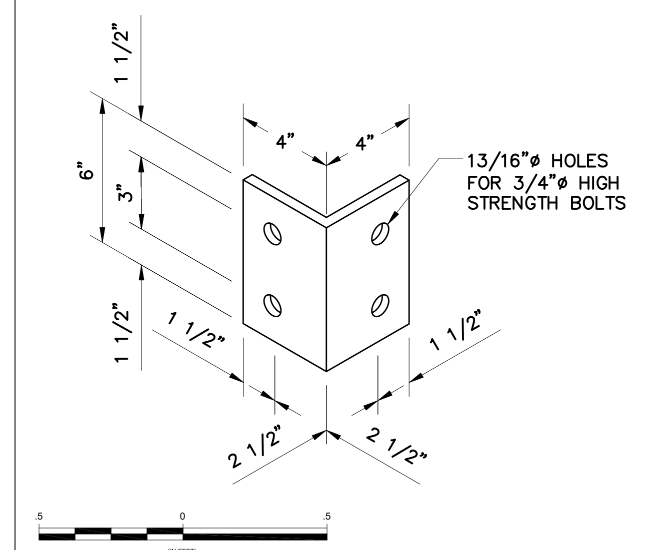


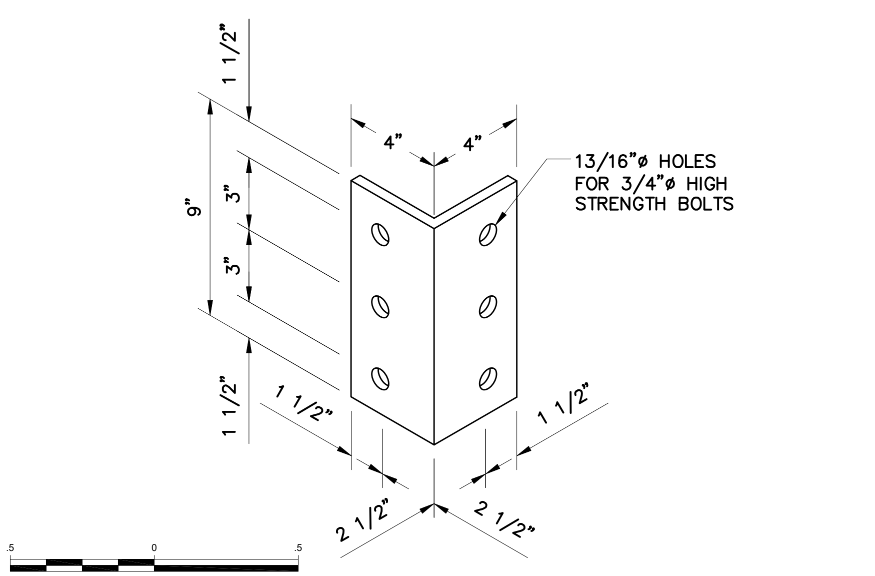
5	BEAM CONNECTION DETAIL
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



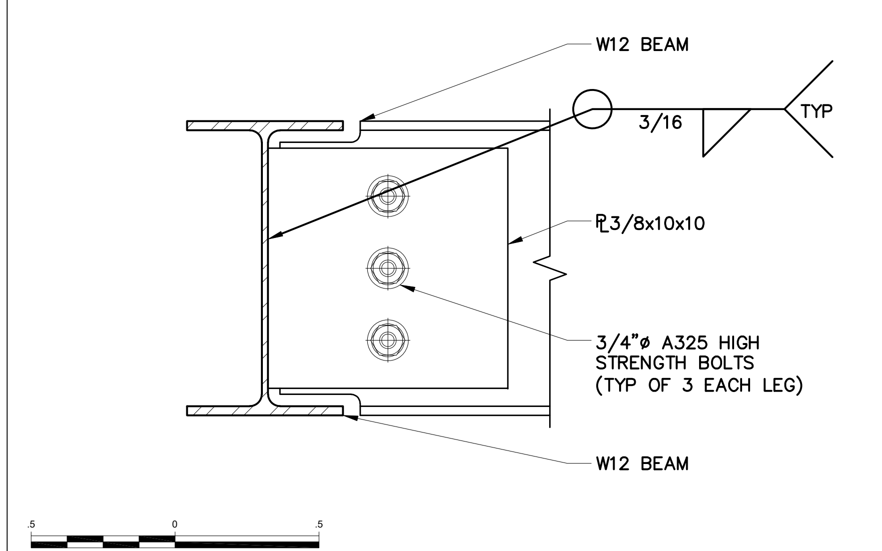
6	SADDLE CLIP DETAIL
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



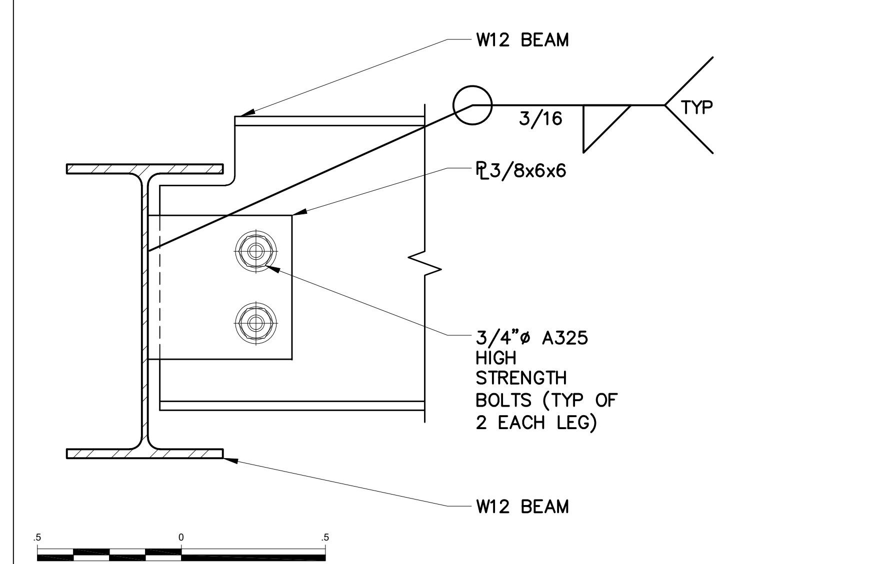
7	CLIP ANGLE OR BENT PLATE DETAIL
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



8	CLIP ANGLE OR BENT PLATE DETAIL
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



9	BEAM CONNECTION DETAIL
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



10	BEAM CONNECTION DETAIL
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
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2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064
9/17/24

PROJECT NUMBER:
321.0635.001

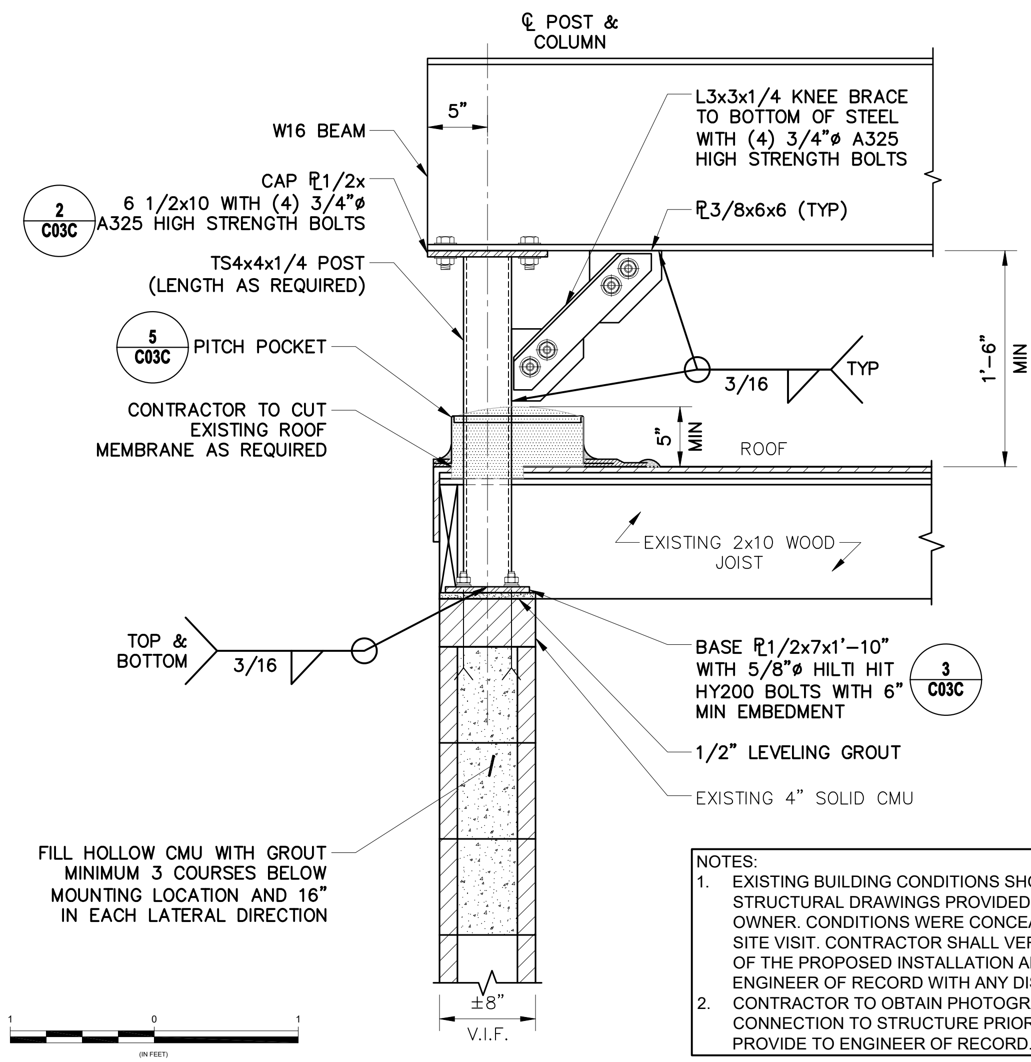
SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
STRUCTURAL DETAILS

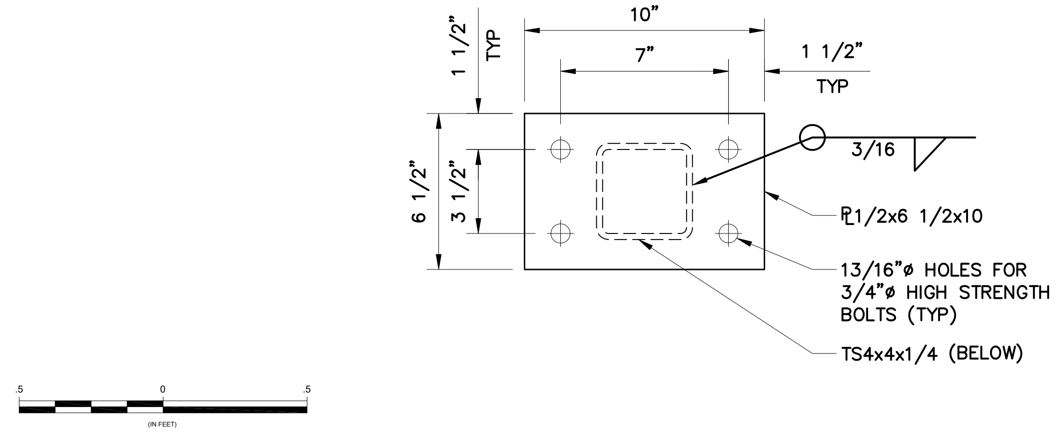
SHEET NUMBER: C03B
REV.: 5



NOTES:
1. EXISTING BUILDING CONDITIONS SHOWN BASED ON STRUCTURAL DRAWINGS PROVIDED BY BUILDING OWNER. CONDITIONS WERE CONCEALED AT TIME OF SITE VISIT. CONTRACTOR SHALL VERIFY THE FEASIBILITY OF THE PROPOSED INSTALLATION AND CONTACT ENGINEER OF RECORD WITH ANY DISCREPANCIES.
2. CONTRACTOR TO OBTAIN PHOTOGRAPHS OF CONNECTION TO STRUCTURE PRIOR TO SEALING AND PROVIDE TO ENGINEER OF RECORD.

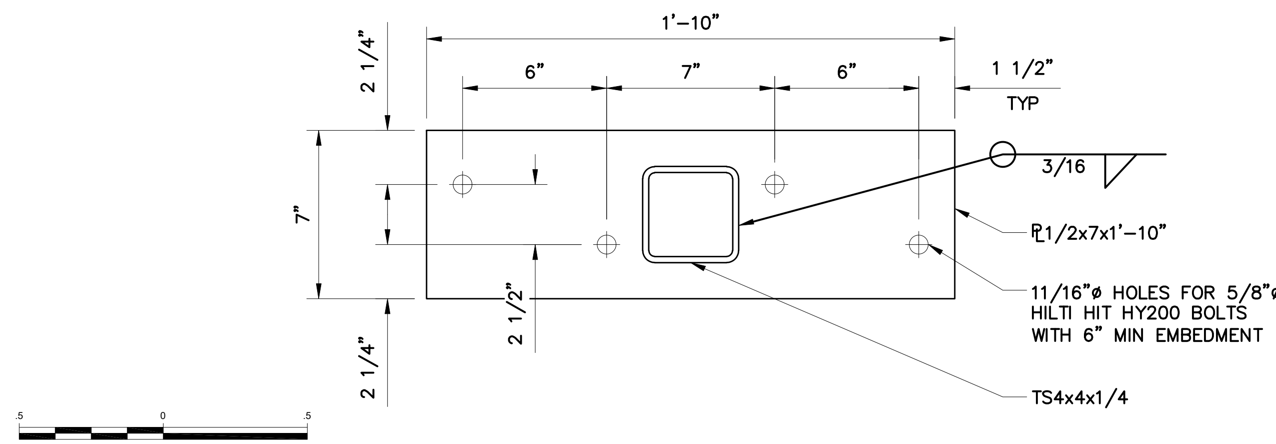
1 BEAM SUPPORT SECTION

11x17 SCALE: 3/4" = 1'-0" | 24x36 SCALE: 1 1/2" = 1'-0"



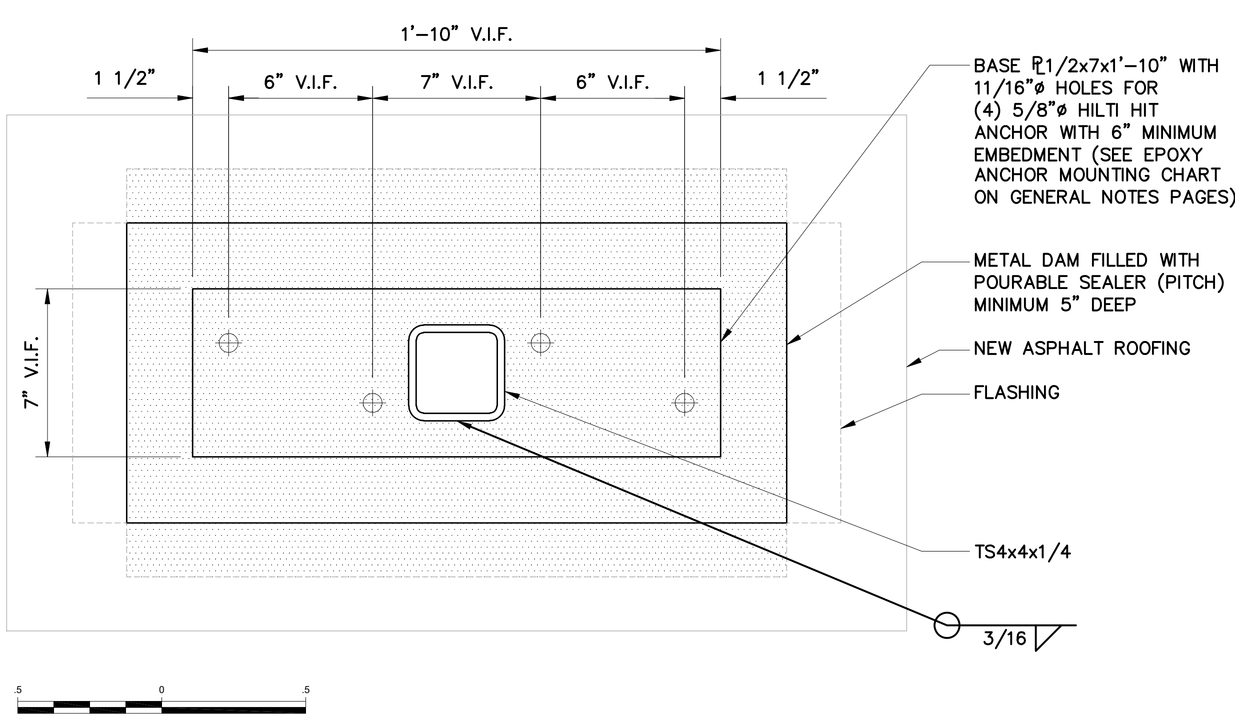
2 CAP PLATE DETAIL

11x17 SCALE: 1 1/2" = 1'-0" | 24x36 SCALE: 3" = 1'-0"



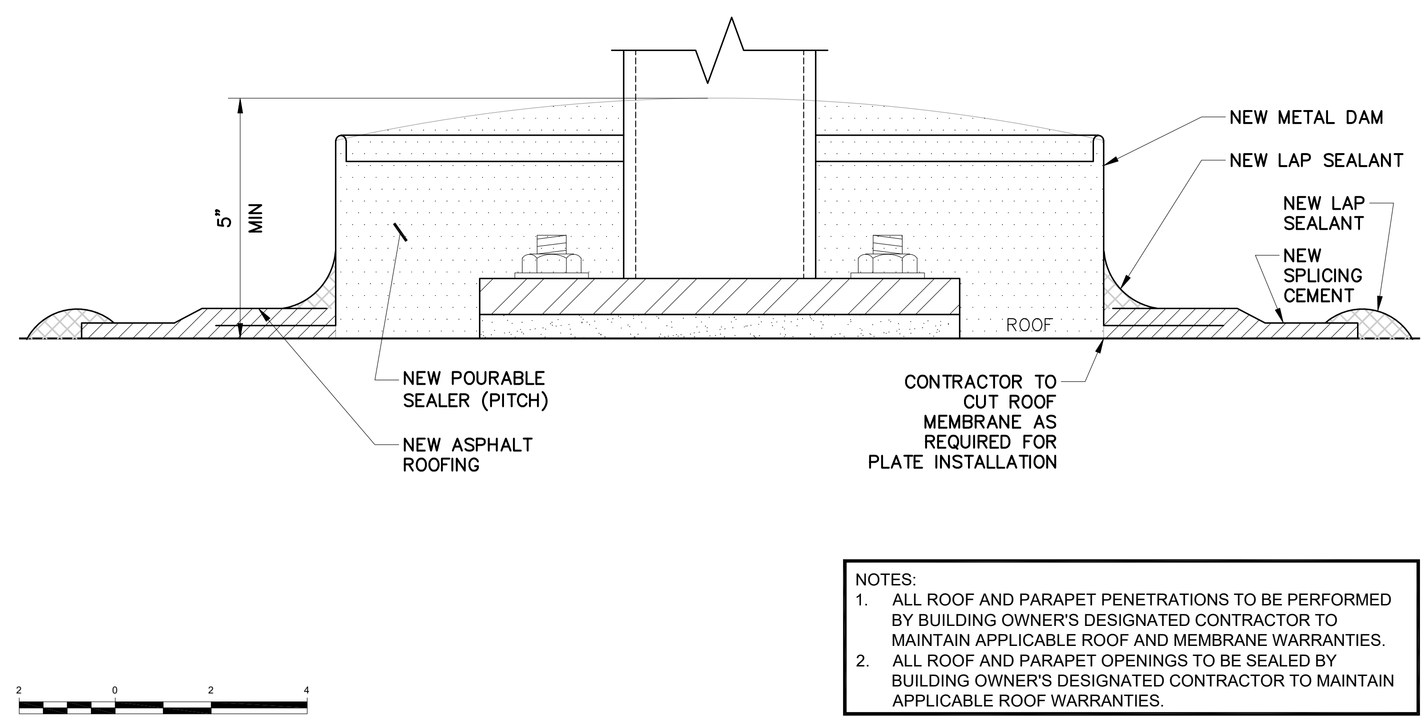
3 BASE PLATE DETAIL

11x17 SCALE: 1 1/2" = 1'-0" | 24x36 SCALE: 3" = 1'-0"



4 PITCH POCKET PLAN DETAIL

11x17 SCALE: 1 1/2" = 1'-0" | 24x36 SCALE: 3" = 1'-0"



NOTES:
1. ALL ROOF AND PARAPET PENETRATIONS TO BE PERFORMED BY BUILDING OWNER'S DESIGNATED CONTRACTOR TO MAINTAIN APPLICABLE ROOF AND MEMBRANE WARRANTIES.
2. ALL ROOF AND PARAPET OPENINGS TO BE SEALED BY BUILDING OWNER'S DESIGNATED CONTRACTOR TO MAINTAIN APPLICABLE ROOF WARRANTIES.

5 TYPICAL PITCH POCKET DETAIL

11x17 SCALE: 3" = 1'-0" | 24x36 SCALE: 6" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK · STEPHEN A. BRAY · 086064 · LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER: **321.0635.001**

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

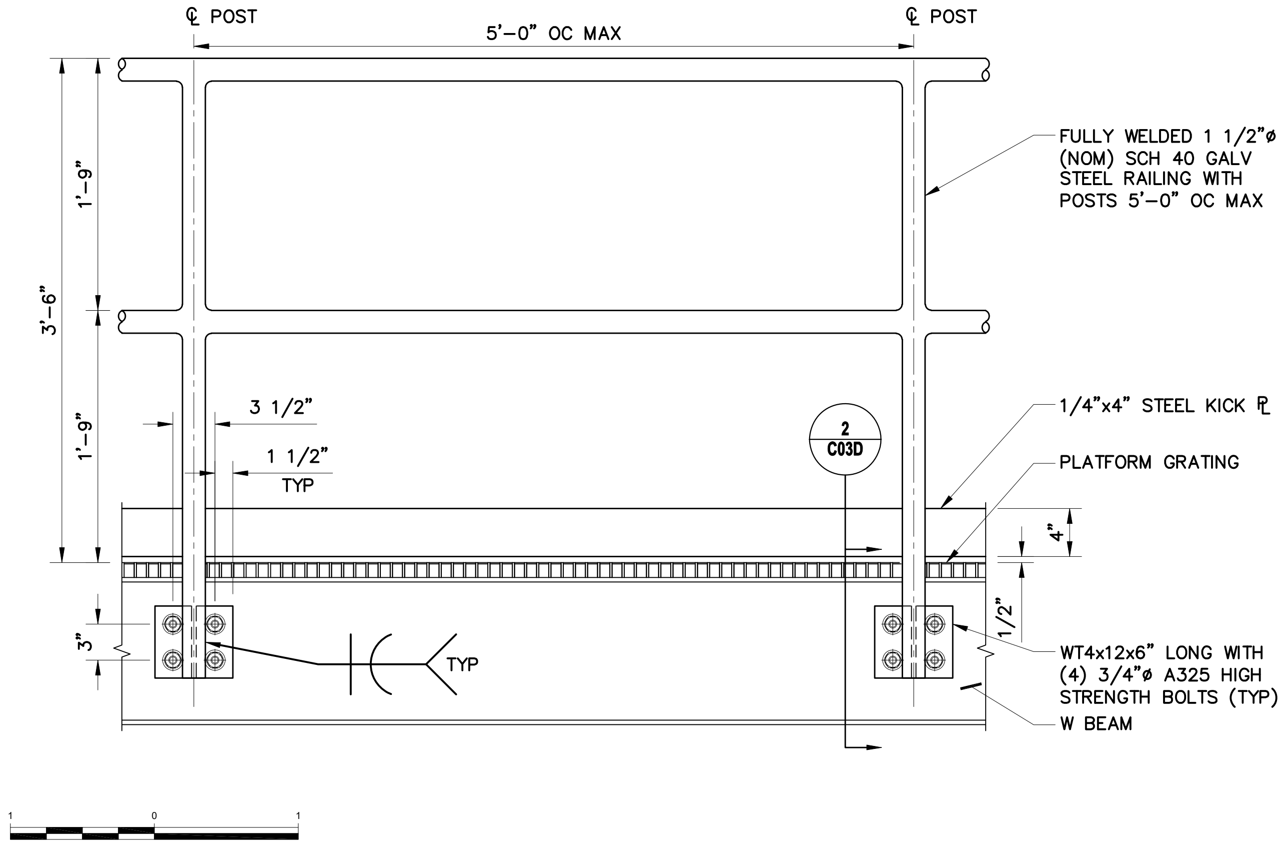
PEARL RIVER 1_RSC

DESIGN TYPE: ROOFTOP

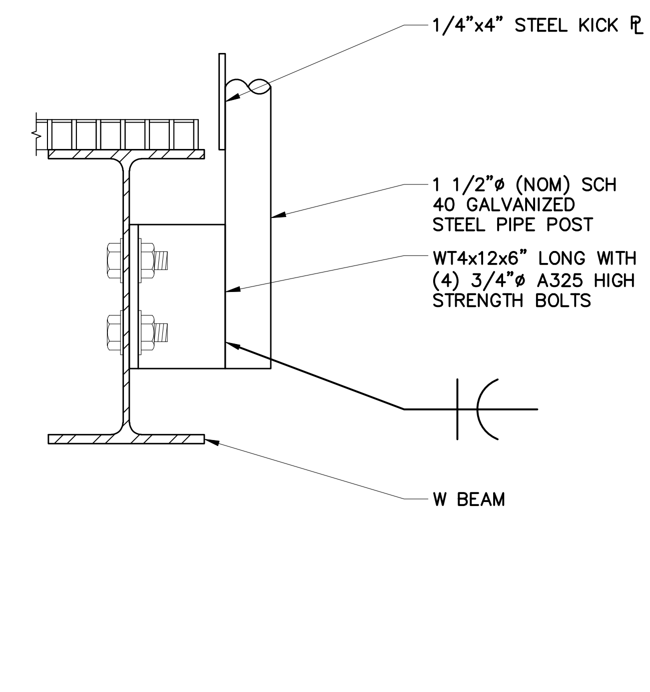
SHEET TITLE: STRUCTURAL DETAILS

SHEET NUMBER: **C03C** REV.: **5**

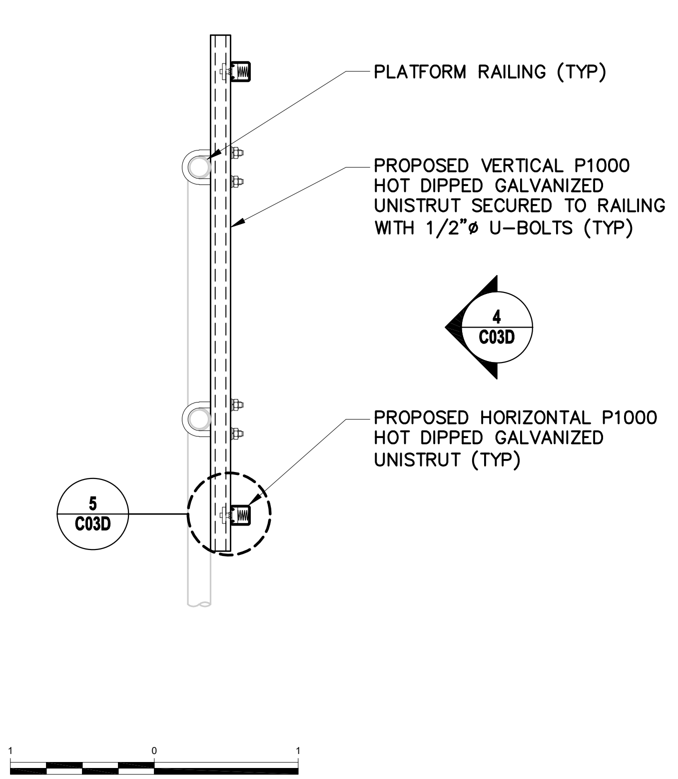
K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub\321.0635.001_CAD\321.0635.001_Construction\321.0635.001 C03C.dwg, 9/17/2024 4:10:28 PM, CCretu



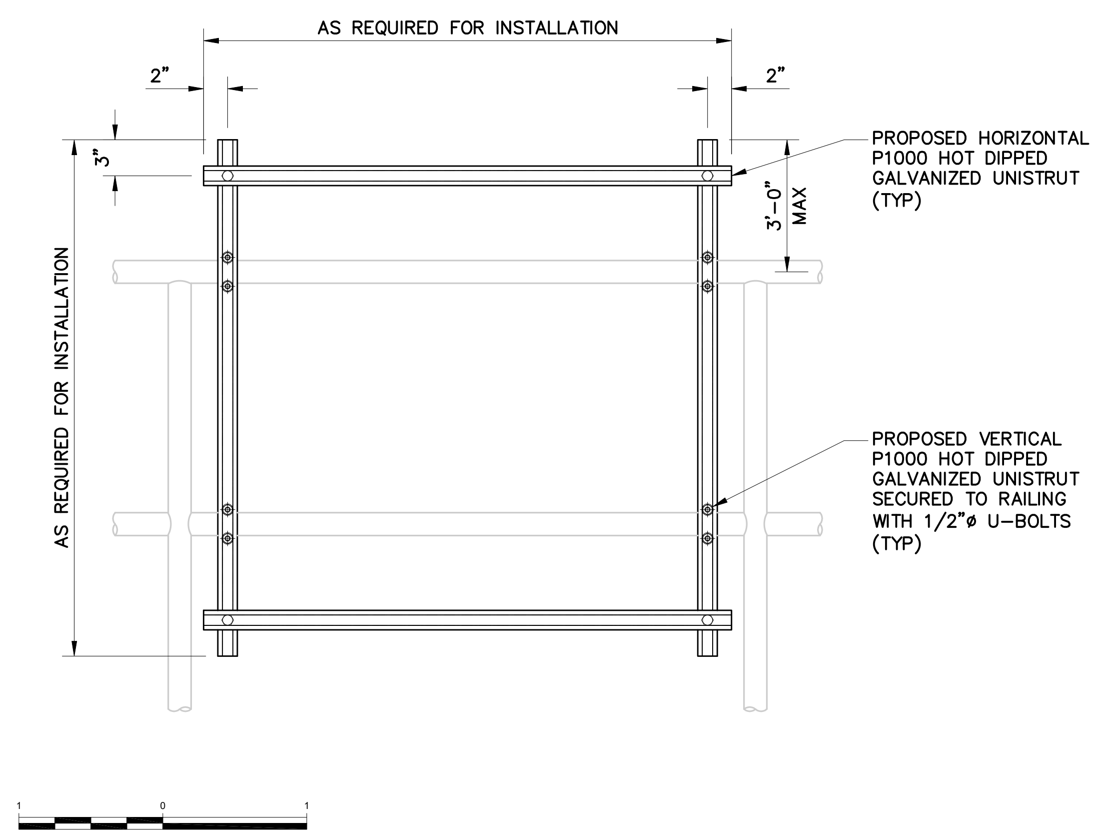
1	TYPICAL PLATFORM RAILING DETAIL
11x17 SCALE: 3/4" = 1'-0"	24x36 SCALE: 1 1/2" = 1'-0"



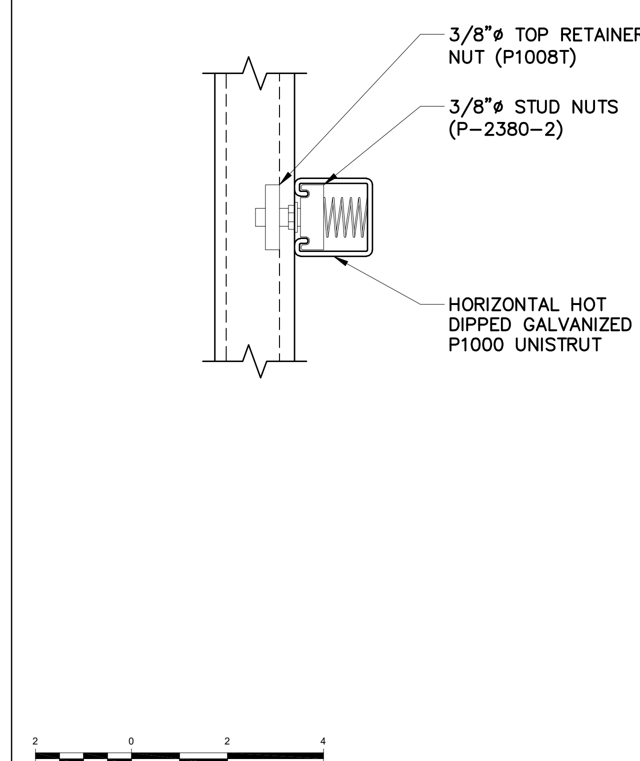
2	TYPICAL PLATFORM RAILING POST CONNECTION
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



3	UNISTRUT MOUNT SECTION
11x17 SCALE: 3/4" = 1'-0"	24x36 SCALE: 1 1/2" = 1'-0"



4	UNISTRUT MOUNT ELEVATION
11x17 SCALE: 3/4" = 1'-0"	24x36 SCALE: 1 1/2" = 1'-0"



5	UNISTRUT CONNECTION DETAIL
11x17 SCALE: 3" = 1'-0"	24x36 SCALE: 6" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK
STEPHEN A. BRAY
086064
LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

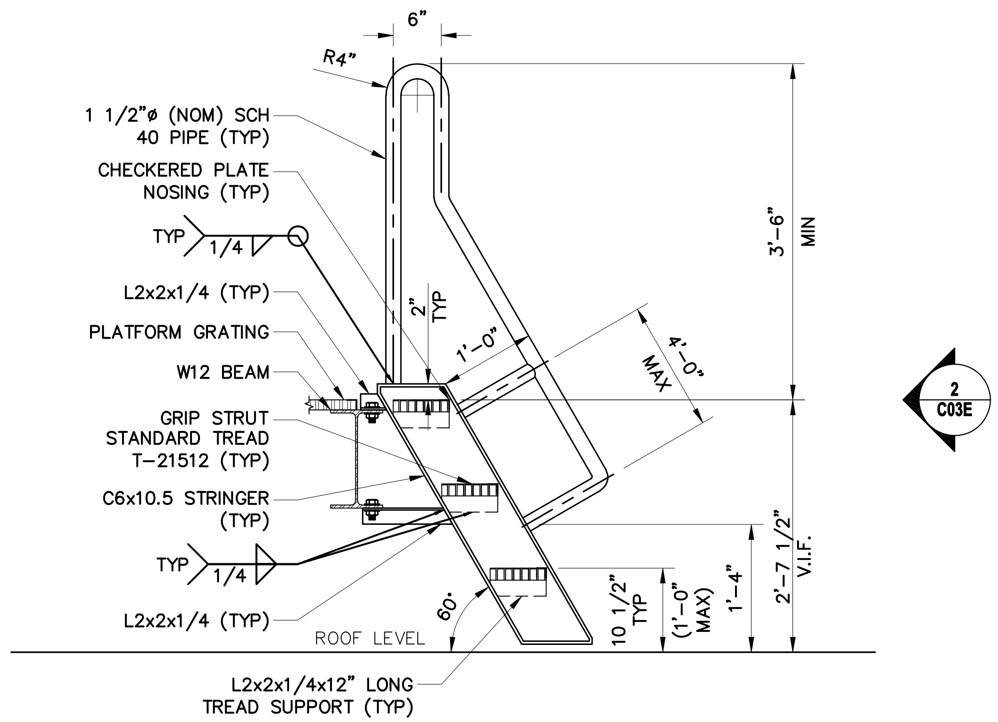
PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

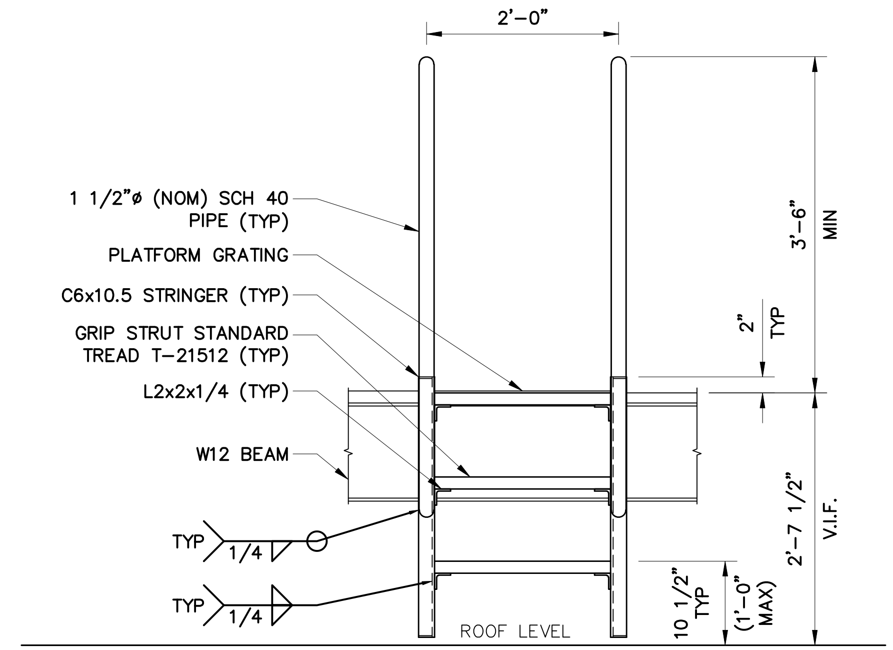
SHEET TITLE:
RAILING & UNISTRUT FRAME DETAILS

SHEET NUMBER: C03D
REV.: 5

K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_Construction\321.0635.001_CAD\321.0635.001 C03D.dwg, 9/17/2024 4:10:36 PM, CCretu



1	SHIPS LADDER SECTION
11x17 SCALE: 1/2" = 1'-0"	24x36 SCALE: 1" = 1'-0"



2	SHIPS LADDER ELEVATION
11x17 SCALE: 1/2" = 1'-0"	24x36 SCALE: 1" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK
STEPHEN A BRAY
086064
LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

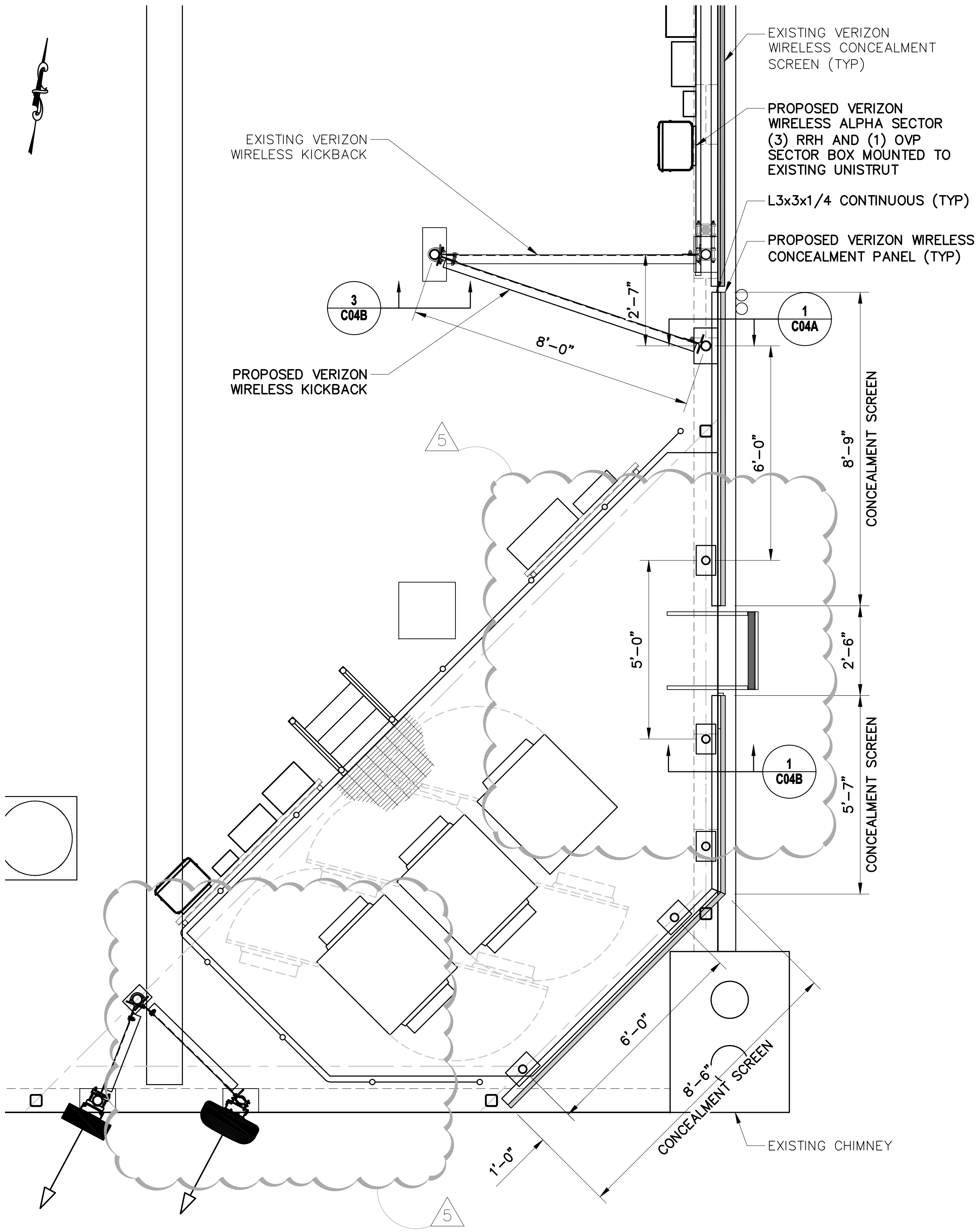
PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
SHIPS LADDER DETAILS

SHEET NUMBER: C03E
REV.: 5

K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_CAD\321.0635.001_Construction\321.0635.001 C03E.dwg, 9/17/2024 4:10:43 PM, CCretu



1	CONCEALMENT SCREEN PLAN
11x17 SCALE: 1/4" = 1'-0"	24x36 SCALE: 1/2" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK
STEPHEN A BRAY
086064
LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064
9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

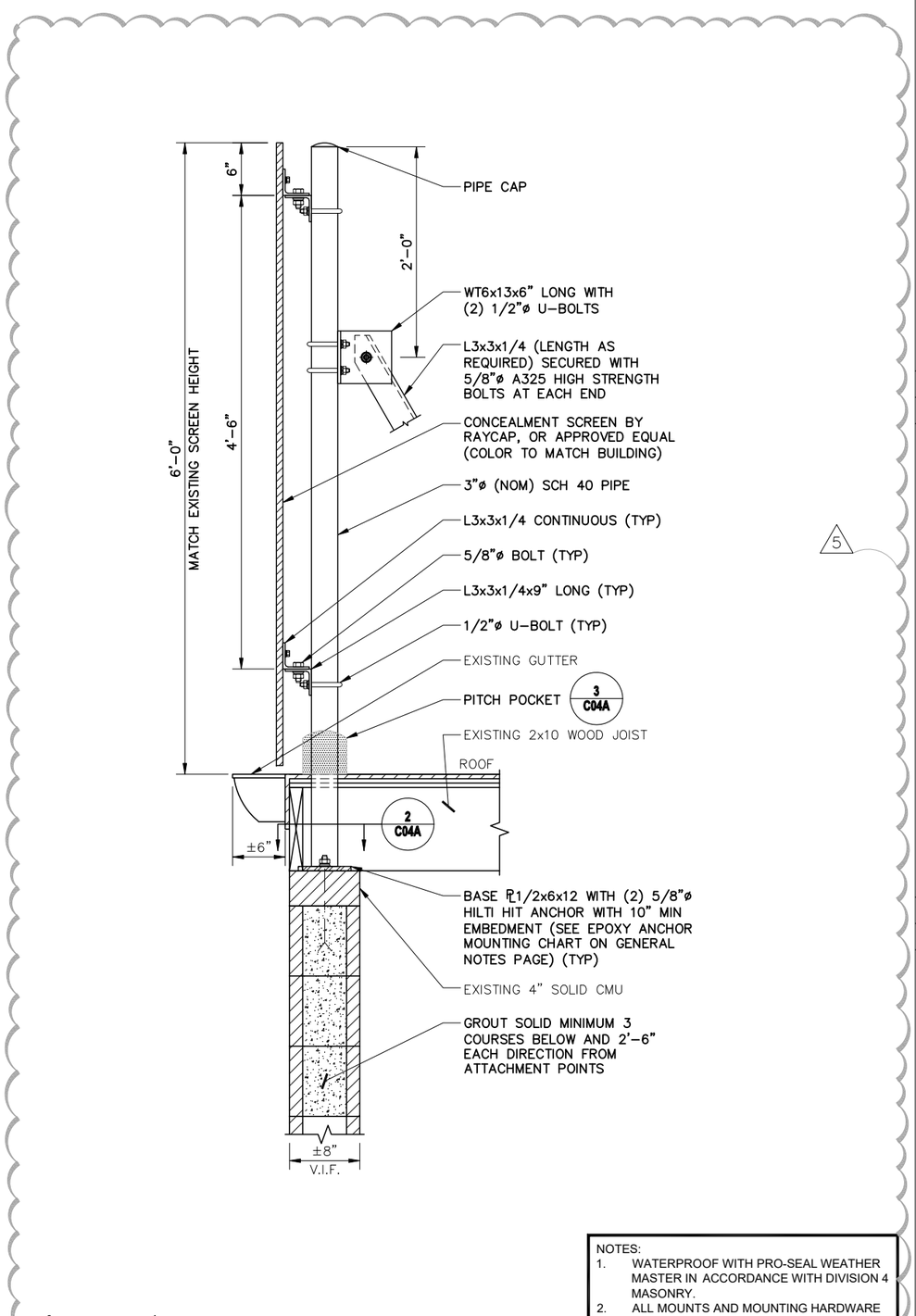
PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
CONCEALMENT SCREEN PLAN

SHEET NUMBER:
C04

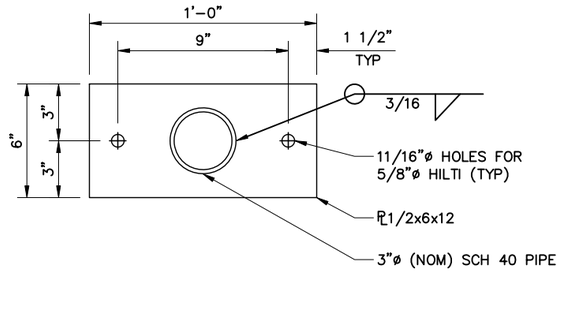
REV.:
5



NOTES:
1. WATERPROOF WITH PRO-SEAL WEATHER MASTER IN ACCORDANCE WITH DIVISION 4 MASONRY.
2. ALL MOUNTS AND MOUNTING HARDWARE SHALL BE PAINTED TO MATCH.

1 CONCEALMENT MOUNT SECTION

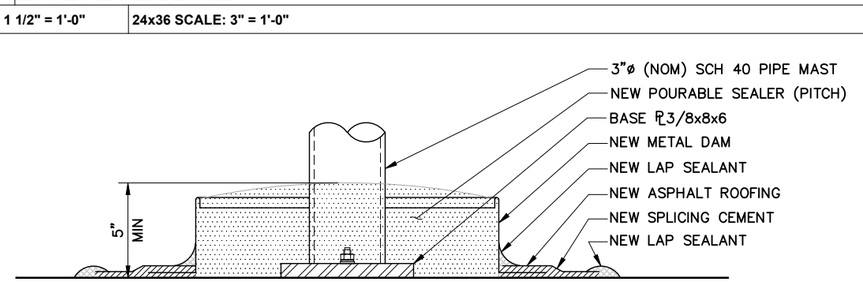
11x17 SCALE: 3/4" = 1'-0" | 24x36 SCALE: 1 1/2" = 1'-0"



.5 0 .5
(IN FEET)

2 BASE PLATE DETAIL

11x17 SCALE: 1 1/2" = 1'-0" | 24x36 SCALE: 3" = 1'-0"



NOTES:
1. ALL ROOF AND PARAPET PENETRATIONS TO BE PERFORMED BY BUILDING OWNER'S DESIGNATED CONTRACTOR TO MAINTAIN APPLICABLE ROOF AND MEMBRANE WARRANTIES.
2. CONTRACTOR TO CUT ROOF MEMBRANE & ROOF DECK AS REQUIRED FOR PLATE INSTALLATION & WATERPROOF SEAL OPENING. STAINLESS STEEL PITCH POCKET (SIZE AS REQUIRED) TO BE INSTALLED.
3. EXISTING CONDITIONS AT ROOF WERE CONCEALED AT TIME OF SITE VISIT. CONTRACTOR TO OPEN ROOF AS REQUIRED TO VERIFY THE FEASIBILITY OF THE PROPOSED INSTALLATION AND CONTACT ENGINEER IF CONDITIONS DIFFER FROM PROPOSED ATTACHMENT DETAIL. NO STEEL FABRICATION TO BE DONE PRIOR TO FIELD VERIFICATION.
4. CONTRACTOR TO OBTAIN PHOTOGRAPHS OF INSTALLED CONDITIONS PRIOR TO SEALING. REFER TO "CONCEALED CONDITIONS" NOTES UNDER GENERAL NOTES FOR FURTHER INFORMATION.

.5 0 .5
(IN FEET)

3 PITCH POCKET DETAIL

11x17 SCALE: 1 1 /2" = 1'-0" | 24x36 SCALE: 3" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK · STEPHEN A BRAY · 086064 · LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

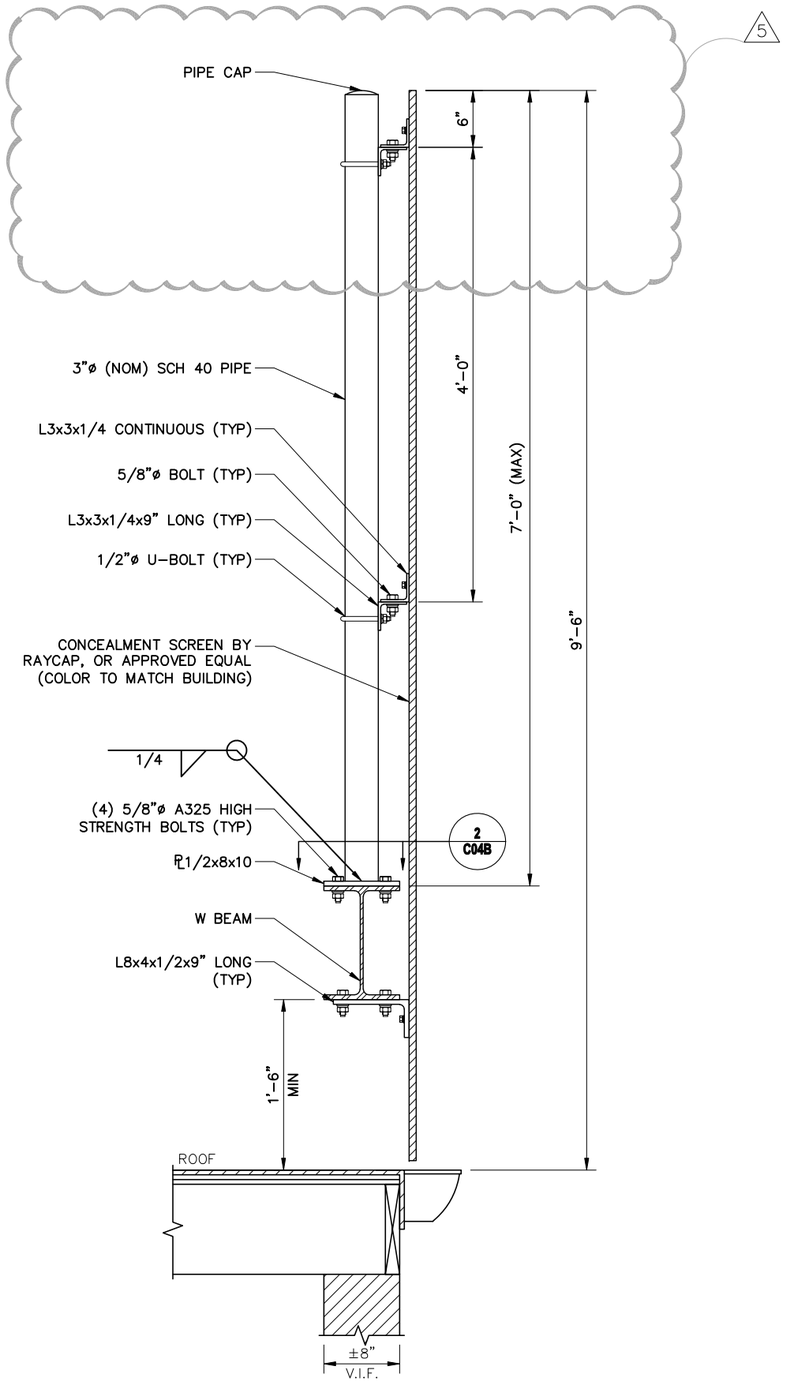
PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
CONCEALMENT SCREEN DETAILS

SHEET NUMBER: C04A

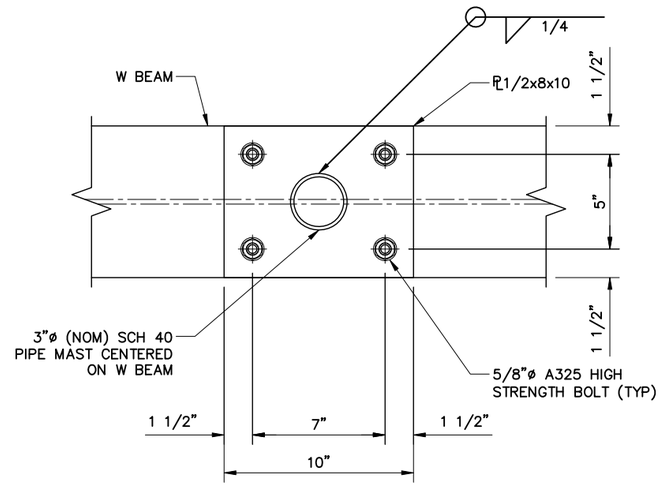
REV.: 5



1 0 1
(IN FEET)

1 CONCEALMENT MOUNT SECTION

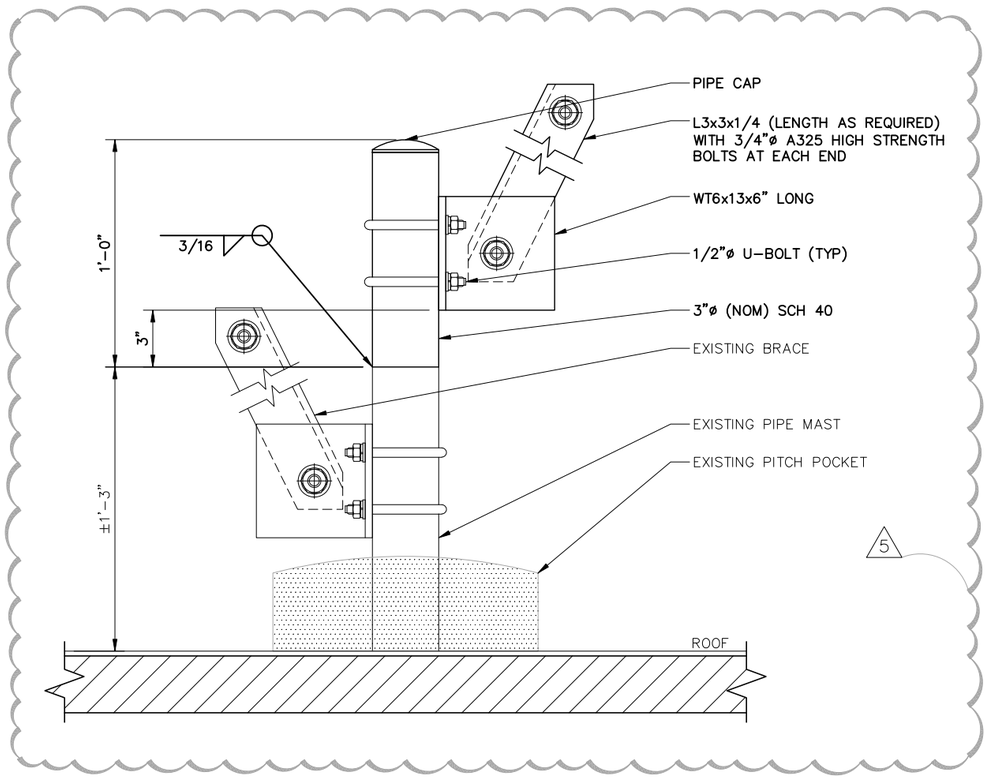
11x17 SCALE: 3/4" = 1'-0" | 24x36 SCALE: 1 1/2" = 1'-0"



.5 0 .5
(IN FEET)

2 BASE PLATE DETAIL

11x17 SCALE: 1 1/2" = 1'-0" | 24x36 SCALE: 3" = 1'-0"



.5 0 .5
(IN FEET)

3 CONCEALMENT SCREEN KICKBACK CONNECTION SECTION

11x17 SCALE: 1 1/2" = 1'-0" | 24x36 SCALE: 3" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK · STEPHEN A BRAY · 086064 · LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER: **321.0635.001**

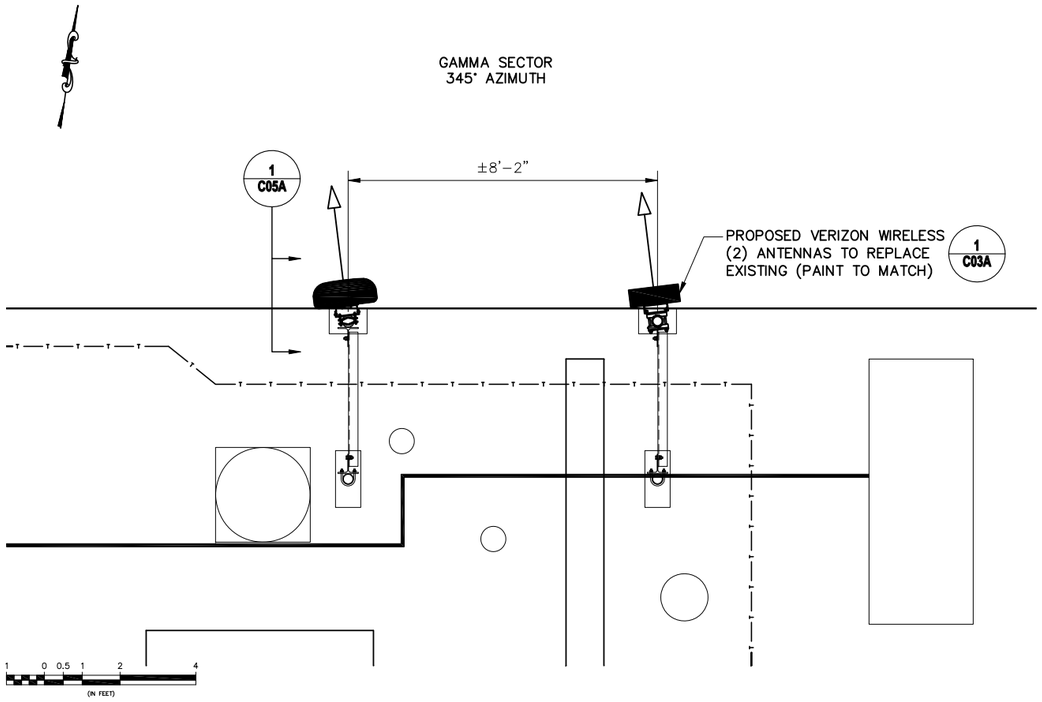
SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

DESIGN TYPE: ROOFTOP

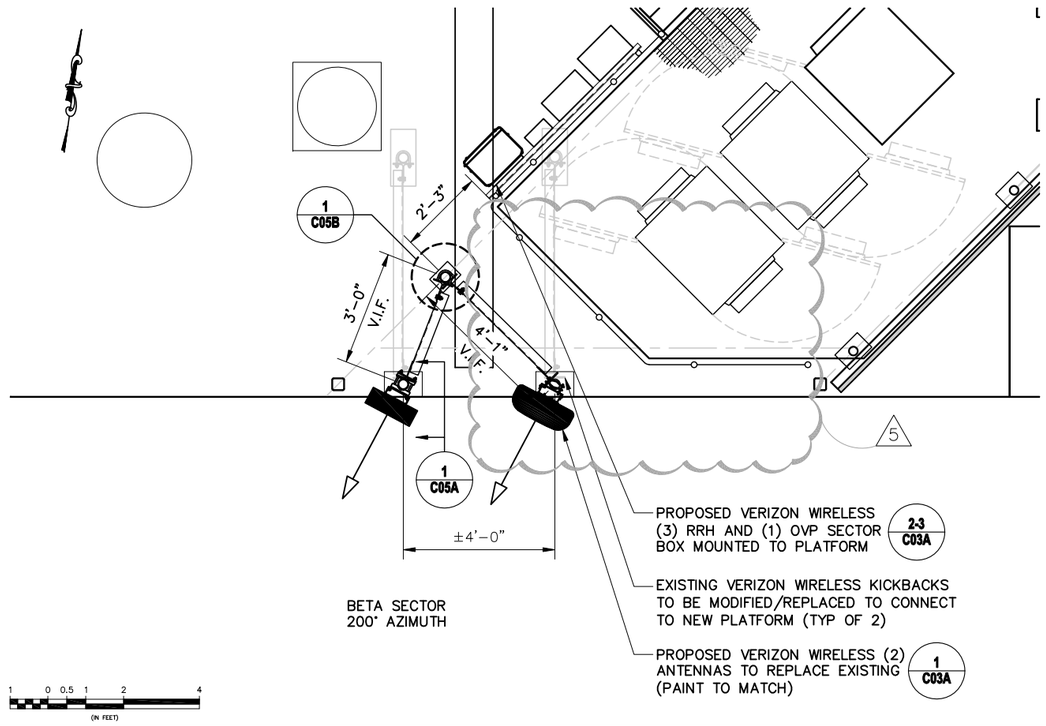
SHEET TITLE: CONCEALMENT SCREEN DETAILS

SHEET NUMBER: C04B | REV.: 5



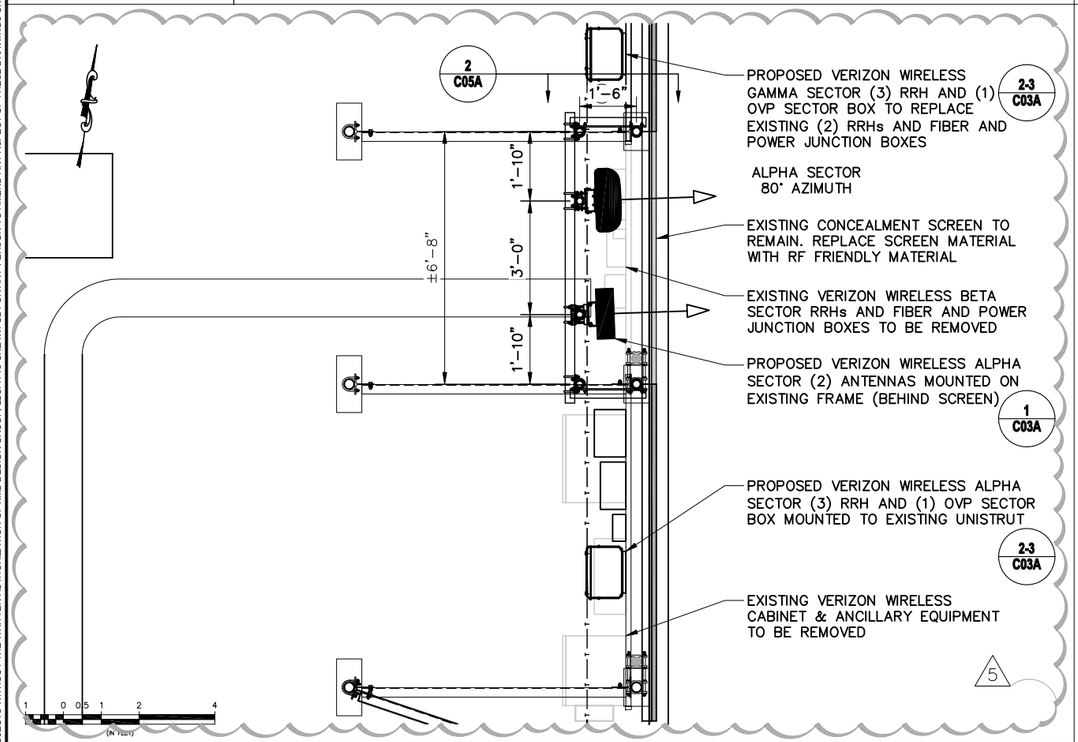
1 ANTENNA PLAN (GAMMA SECTOR)

11x17 SCALE: 1/4" = 1'-0" | 24x36 SCALE: 1/2" = 1'-0"



2 ANTENNA PLAN (BETA SECTOR)

11x17 SCALE: 1/4" = 1'-0" | 24x36 SCALE: 1/2" = 1'-0"



3 ANTENNA PLAN (GAMMA SECTOR)

11x17 SCALE: 1/4" = 1'-0" | 24x36 SCALE: 1/2" = 1'-0"

NOTES:
1. CONTRACTOR SHALL REFER TO GENERAL NOTES DIVISION 4 - MASONRY, GIVING SPECIAL ATTENTION TO NOTES 16 AND 25 FOR INCLUSION IN THEIR BID.

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK · STEPHEN A BRAY · 086064 · LICENSED PROFESSIONAL ENGINEER

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

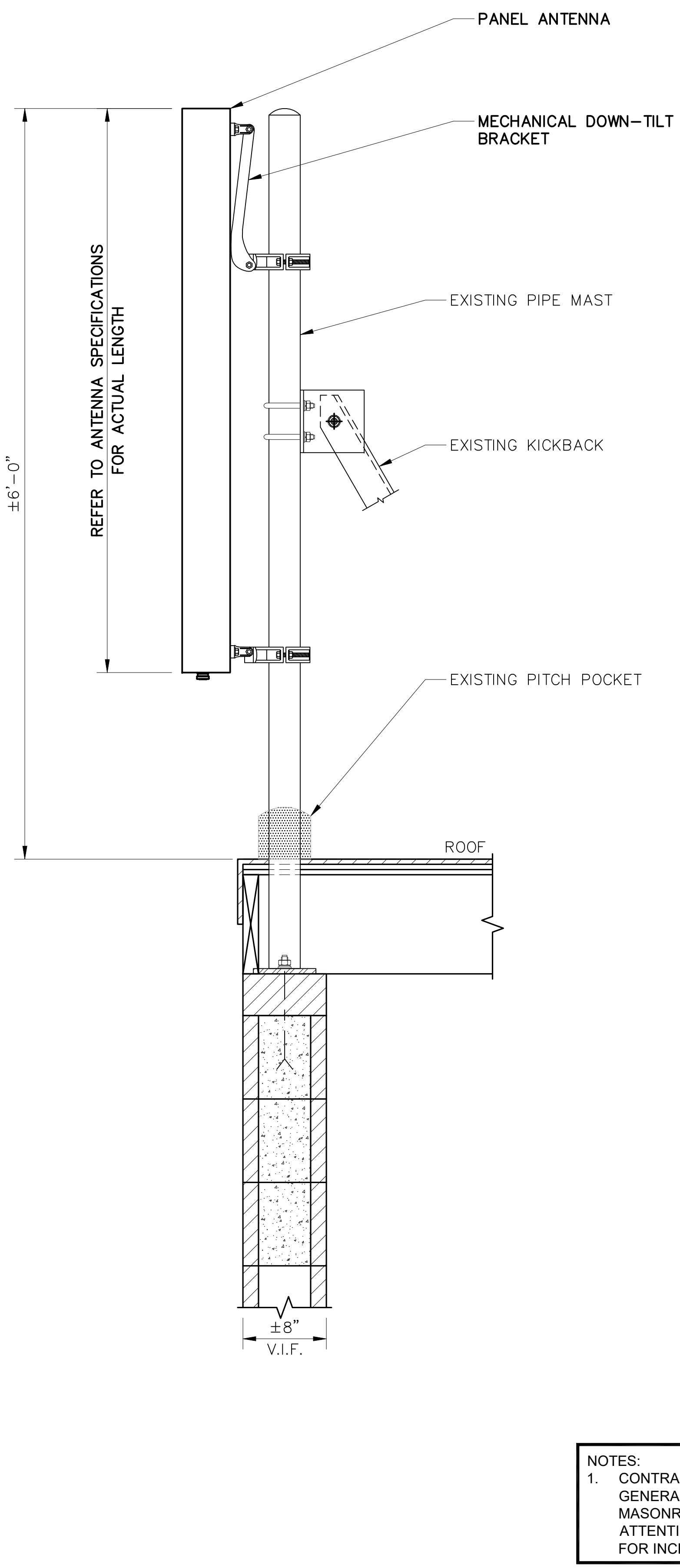
PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
ANTENNA PLAN

SHEET NUMBER: C05 | REV.: 5

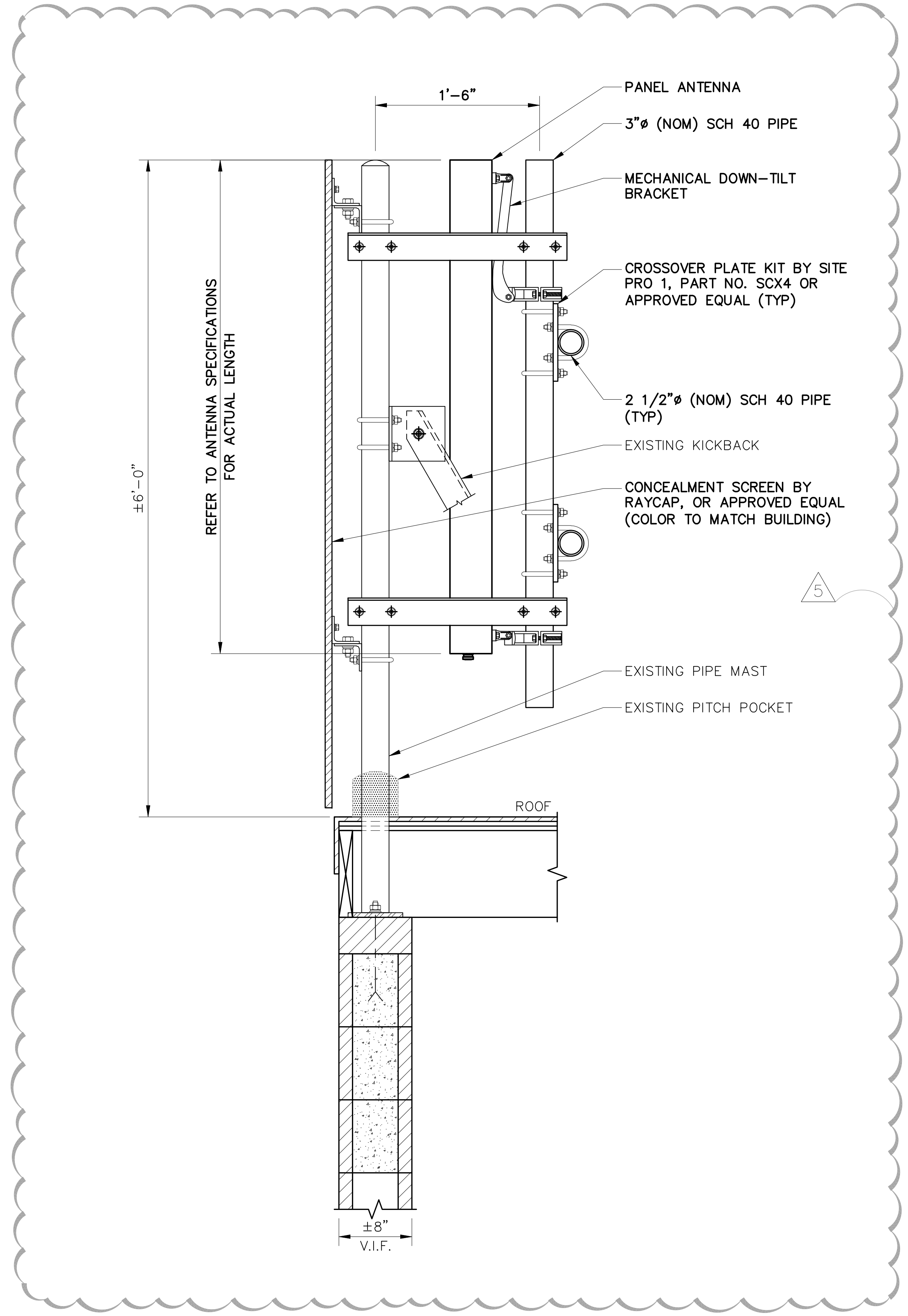
K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_CAD\321.0635.001_Construction\321.0635.001.C05.dwg, 9/17/2024 4:11:18 PM, CCretu



NOTES:
1. CONTRACTOR SHALL REFER TO GENERAL NOTES DIVISION 4 - MASONRY, GIVING SPECIAL ATTENTION TO NOTES 16 AND 25 FOR INCLUSION IN THEIR BID.

1 ANTENNA MOUNT SECTION (BETA & GAMMA SECTORS)

11x17 SCALE: 3/4" = 1'-0" | 24x36 SCALE: 1 1/2" = 1'-0"



2 ANTENNA MOUNT SECTION (ALPHA SECTOR)

11x17 SCALE: 3/4" = 1'-0" | 24x36 SCALE: 1 1/2" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK · STEPHEN A. BRAY · LICENSED PROFESSIONAL ENGINEER · 086064

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

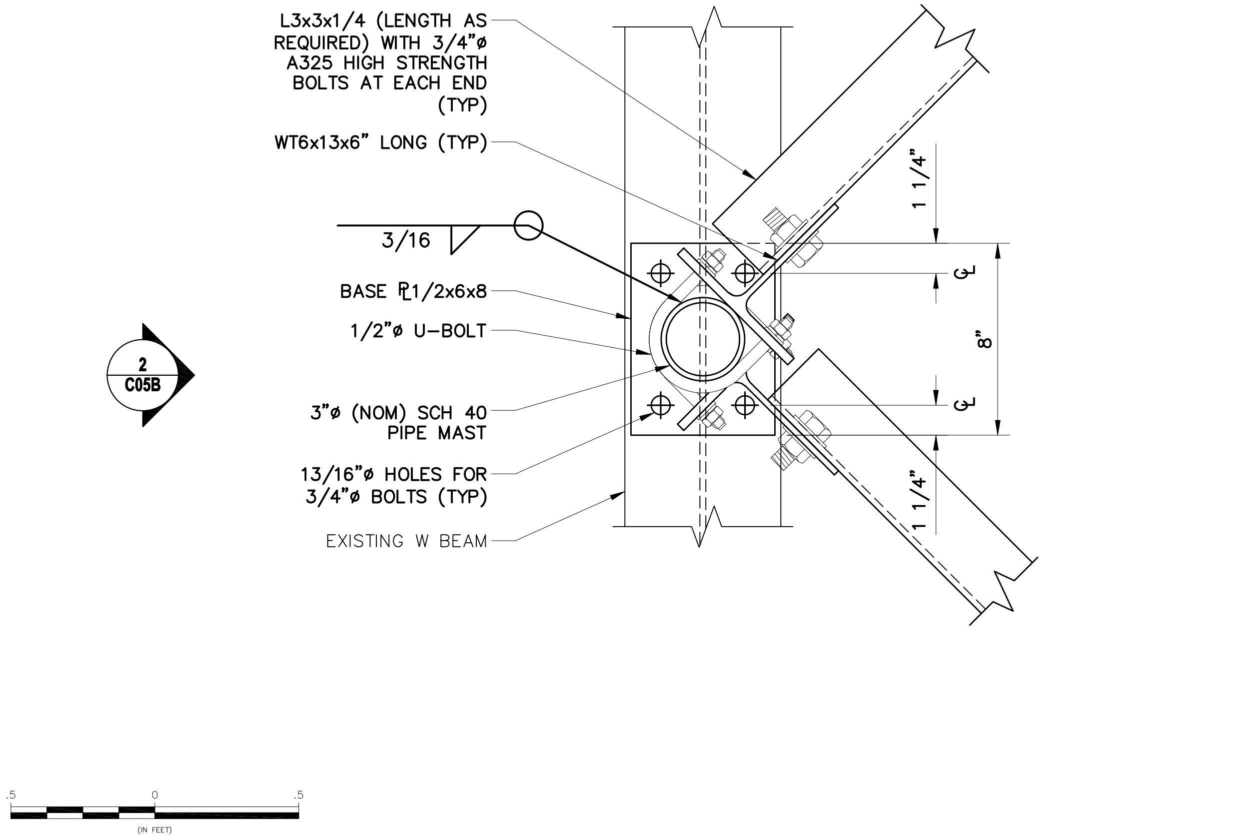
PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

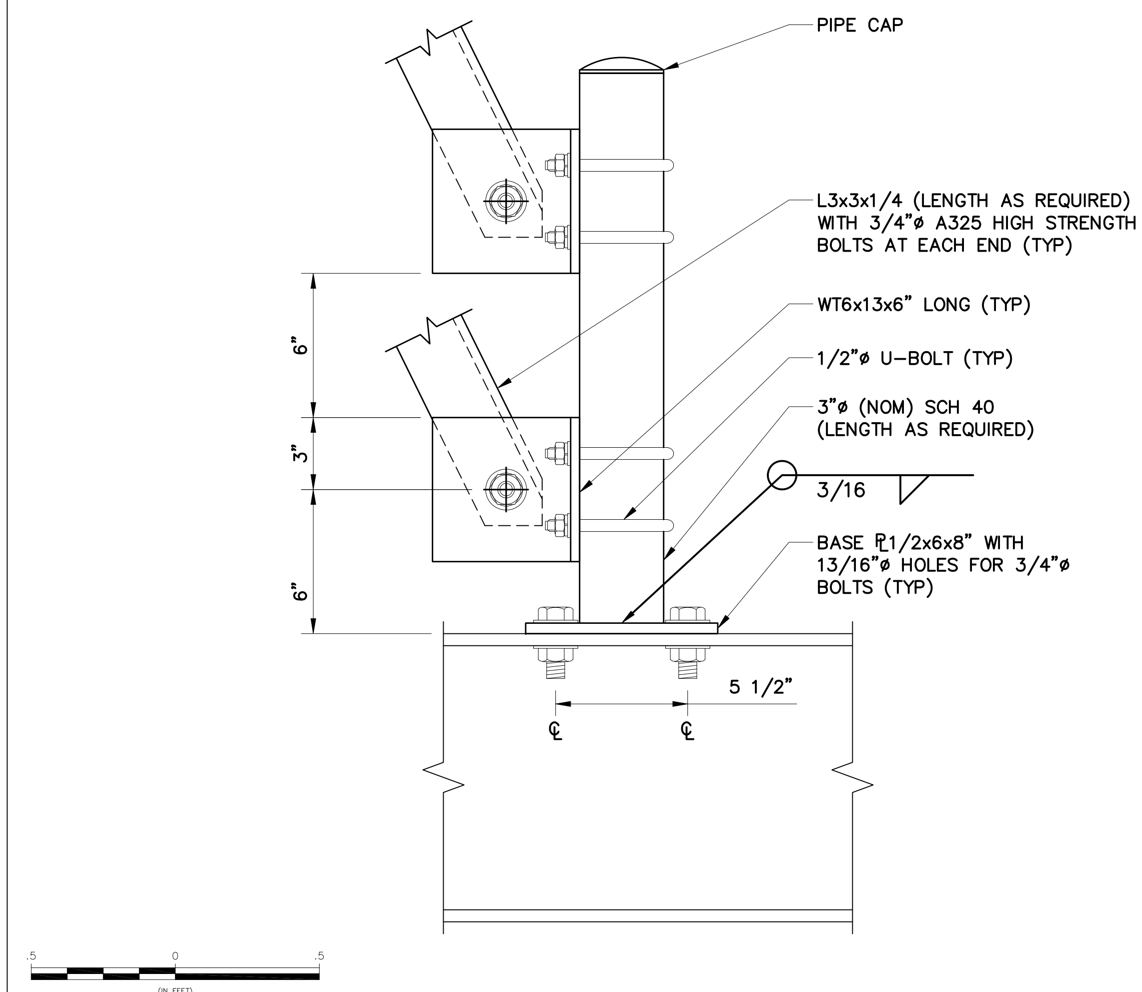
SHEET TITLE:
ANTENNA MOUNT DETAILS (ALL SECTORS)

SHEET NUMBER: C05A
REV.: 5

K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_CAD\321.0635.001_Construction\321.0635.001-C05A.dwg, 9/17/2024 4:11:26 PM, CCretu



1	ANTENNA KICKBACK CONNECTION SECTION
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"



2	ANTENNA KICKBACK CONNECTION SECTION
11x17 SCALE: 1 1/2" = 1'-0"	24x36 SCALE: 3" = 1'-0"

verizon

REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
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2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK
STEPHEN A BRAY
LICENSED PROFESSIONAL ENGINEER
086064

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
ANTENNA KICKBACK DETAILS
(BETA SECTOR)

SHEET NUMBER:	REV.:
C05B	5

K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_CAD\321.0635.001_Construction\321.0635.001_C05B.dwg, 9/17/2024 4:11:34 PM, CCretu

ANTENNA											
SECTOR	TYPE	STATUS	MODEL	SPECIFICATIONS				QUANTITY	AZIMUTH (DEGREES)	DT VARIABLE (DEGREES)	DT MECH (DEGREES)
				LENGTH (IN)	WIDTH (IN)	DEPTH (IN)	AREA (SF)				
ALPHA	700/850/AWS/PCS/CBRS	PROPOSED	MX16FRO445	56.9	20.0	8.0	7.9	1	80	2/2/0/0/4	0
	LSUB6	PROPOSED	MT6413-77A	28.9	15.8	5.5	3.2	1	80	1	0
BETA	700/850/AWS/PCS/CBRS	REPLACE	MX16FRO445	56.9	20.0	8.0	7.9	1	200	2/2/0/0/4	0
	LSUB6	REPLACE	MT6413-77A	28.9	15.8	5.5	3.2	1	200	1	0
GAMMA	700/850/AWS/PCS/CBRS	REPLACE	MX16FRO445	56.9	20.0	8.0	7.9	1	345	2/2/0/0/4	0
	LSUB6	REPLACE	MT6413-77A	28.9	15.8	5.5	3.2	1	345	1	0

5

COLOR CODES								
SECTOR	BASE COLOR	700 LTE	AWS LTE	PCS LTE	850 LTE	850 1X	PCS 1X	GPS
SECTOR 1 (ALPHA)	WHITE	RED	YELLOW	LIGHT BLUE	PINK	GRAY	PURPLE	BROWN
SECTOR 2 (BETA)	BLUE	RED	YELLOW	LIGHT BLUE	PINK	GRAY	PURPLE	
SECTOR 3 (GAMMA)	GREEN	RED	YELLOW	LIGHT BLUE	PINK	GRAY	PURPLE	
SECTOR 4 (DELTA)	WHITE/WHITE	RED	YELLOW	LIGHT BLUE	PINK	GRAY	PURPLE	
SECTOR 5 (EPSILON)	BLUE/BLUE	RED	YELLOW	LIGHT BLUE	PINK	GRAY	PURPLE	
SECTOR 6 (ZETA)	GREEN/GREEN	RED	YELLOW	LIGHT BLUE	PINK	GRAY	PURPLE	

NOTES:
1. INFORMATION SHOWN BASED ON RF DESIGN SHEET DATED 07-17-24.
2. CONTRACTOR SHALL PROVIDE MECHANICAL DOWNTILT BRACKETS.
3. VERIFY CABLE LENGTHS IN FIELD AND COORDINATE WITH VERIZON WIRELESS PRIOR TO ORDERING.
4. VERIFY CABLE MANUFACTURER AND DIAMETER WITH VERIZON WIRELESS PRIOR TO ORDERING.
5. CONTRACTOR SHALL CONFIRM GPS ANTENNA MODEL AND CABLE WITH VERIZON WIRELESS.
6. VERIFY MAKES AND MODEL NUMBERS WITH VERIZON WIRELESS RF-ENGINEER AND PROVIDE 1/2"ø HELIAX ANTENNA JUMPERS OF APPROPRIATE LENGTHS AT THE EQUIPMENT AND ANTENNAS.
7. CONTRACTOR TO OBTAIN LATEST EME REPORT AND PROVIDE AND INSTALL ALL REQUIRED RF SAFETY SIGNAGE AND/OR BARRICADE MATERIALS AS PER REPORT AND VERIZON WIRELESS REQUIREMENTS.
8. CONTRACTOR TO PROVIDE AND INSTALL DUMMY RRH AS REQUIRED. DUMMY RRH VENDOR: HONEYWARE, INC. 201-997-5900

1 **ANTENNA & CABLE SCHEDULE**

verizon

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ROCKLAND COUNTY

PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
ANTENNA & CABLE SCHEDULE

SHEET NUMBER: C06
REV.: 5

K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_CAD\321.0635.001_Construction\321.0635.001 C07.dwg, 9/17/2024 4:11:40 PM, CCretu

CHEMICAL COATINGS

SHERWIN-WILLIAMS.

POLANE®S PLUS POLYURETHANE ENAMEL

BLACK	F63B21
ORANGE	F63E23
CLEAR	F63F24
GREEN	F63G26
BLUE	F63L27
MAGENTA	F63R20
RED OXIDE	F63R28
BRIGHT RED	F63R29
BLENDING WHITE	F63W25
YELLOW OXIDE	F63Y23
YELLOW (RED SHADE)	F63Y24
CATALYST	V66V55

DESCRIPTION

POLANE®S PLUS POLYURETHANE ENAMEL IS A LOW GLOSS, TWO COMPONENT, ACRYLIC POLYURETHANE PROVIDING HIGH VOLUME SOLIDS, 2.8 LB/GAL VOC COMPLIANCE*, AND EXCELLENT EXTERIOR DURABILITY. ITS HARDNESS, CHEMICAL RESISTANCE AND DURABILITY MAKE IT AN IDEAL COATING FOR EXTERIOR BUILDING PRODUCTS, EXTRUSIONS, FARM AND CONSTRUCTION EQUIPMENT, MACHINERY, TRANSFORMERS, TRANSPORTATION, COMMUNICATION EQUIPMENT, AND A BROAD ARRAY OF PLASTIC AND METAL APPLICATIONS.

ADVANTAGES:
- COMPLIES WITH 2.8 VOC* EPA SOLVENT EMISSION REGULATIONS
- EXCELLENT COLOR AND GLOSS RETENTION FOR EXTERIOR APPLICATIONS
- EXCELLENT PHYSICAL AND CHEMICAL PERFORMANCE PROPERTIES
- EXCELLENT APPEARANCE OVER MANY TYPES OF METAL AND PLASTIC SUBSTRATES
- LOWER ENERGY CURE SYSTEM–AIR DRY OR FORCE DRY
- HIGH SOLIDS–HIGH SPREADING RATE
- FULL COLOR RANGE THROUGH MONOCHROMATIC INTERMIX SYSTEM
- EXCELLENT HARDNESS, MAR RESISTANCE AND ABRASION RESISTANCE
- TEXTURABLE
- APPLY BY CONVENTIONAL, AIRLESS, AIR–ASSISTED AIRLESS, HVLP, OR ELECTROSTATIC SPRAY
- INTERMIXABLE WITH POLANE HS PLUS POLYURETHANE TO PROVIDE FULL GLOSS RANGE
- NON–PHOTOCHEMICALLY REACTIVE
- GOOD GLOSS CONSISTENCY OVER HUMIDITY AND CURE EXTREMES
- MEETS THE PERFORMANCE REQUIREMENTS OF AAMA 2603–98 FOR EXTRUDED ALUMINUM
- MEETS THE COATING PERFORMANCE REQUIREMENTS OF THE ANSI SPECIFICATION FOR PAD MOUNTED TRANSFORMERS

*VOC COMPLIANCE LIMITS VARY FROM STATE TO STATE; PLEASE CONSULT LOCAL AIR QUALITY RULES AND REGULATIONS.

CHARACTERISTICS

GLOSS: 25–30 UNITS
VOLUME SOLIDS: 59±2% CATALYZED AND REDUCED, MAY VARY BY COLOR
VISCOSITY:
18–25 SECONDS #3 ZAHN CUP CATALYZED AND REDUCED
RECOMMENDED FILM THICKNESS:
MILS WET 3.1–3.3
MILS DRY 1.8–2.0
SPREADING RATE (NO APPLICATION LOSS) @
1.8–2.0 MIL DFT: 472–525 SQ FT/GAL

AIR DRYING (1.8 MILS DFT: 77°F, 50% RH):

TO TOUCH:	20–25 MINUTES
TO HANDLE:	4–8 HOURS
TACK FREE:	45–90 MINUTES
TO RECOAT:	15–30 MINUTES
FORCE DRY:	30–60 MINUTES AT 140–180°F

CURING TEMPERATURE MUST NOT EXCEED THE HEAT DISTORTION TEMPERATURE OF THE SUBSTRATE.

MIXING RATIO:
6 PARTS — POLANE S PLUS
1 PART — CATALYST V66V55
0.175 PART (2½%)MAK R6K30

POT LIFE: 2 HOURS

ACCELERATED DRYING:
ADD ¼ OUNCE OF POLANE ACCELERATOR, V66VB11 PER GALLON OF POLANE S PLUS. POT LIFE IS REDUCED TO 1 HOUR.

TO TOUCH:	15–20 MINUTES
TO HANDLE:	2–4 HOURS
TACK FREE:	30–60 MINUTES
TO RECOAT:	15–30 MINUTES
FORCE DRY:	30 MINUTES AT 140–180°F

FLASH POINT: 103°F SETA FLASH
PACKAGE LIFE: 2 YEARS, UNOPENED

AIR QUALITY DATA:
NON–PHOTOCHEMICALLY REACTIVE
VOLATILE ORGANIC COMPOUNDS (VOC) CATALYZED AND REDUCED AS ABOVE, 2.8 LB/GAL, 336 G/L

AN ENVIRONMENTAL DATA SHEET IS AVAILABLE FROM YOUR LOCAL SHERWIN–WILLIAMS FACILITY.

SPECIFICATIONS

GENERAL: SUBSTRATE SHOULD BE FREE OF GREASE, OIL, DIRT, FINGERPRINTS, DRAWING COMPOUNDS, ANY CONTAMINATION, AND SURFACE PASSIVATION TREATMENTS TO ENSURE OPTIMUM ADHESION AND COATING PERFORMANCE PROPERTIES. CONSULT METAL PREPARATION BROCHURE CC–T1 FOR ADDITIONAL DETAILS.

ALUMINUM OR GALVANIZED STEEL: PRIME WITH INDUSTRIAL WASH PRIMER, P60G2, OR KEM AQUA® WASH PRIMER, E61G520, FOLLOWED BY POLANE® PLUS SEALER, E65A71 OR 2.8 VOC CATALYZED EPOXY PRIMER, E61A280.

PLASTIC: DUE TO THE DIVERSE NATURE OF PLASTIC SUBSTRATES, A COATING OR COATING SYSTEM MUST BE TESTED FOR ACCEPTABLE ADHESION TO THE SUBSTRATE PRIOR TO USE IN PRODUCTION. REGROUND AND RECYCLED PLASTICS ALONG WITH VARIOUS FIRE RETARDANTS, FLOWING AGENTS, MOLD RELEASE AGENTS, AND FOAMING/BLOWING AGENTS WILL AFFECT COATING ADHESION. A FILLER OR PRIMER/BARRIER COAT MAY BE REQUIRED. PLEASE CONSULT YOUR SHERWIN–WILLIAMS CHEMICAL COATING SALES REPRESENTATIVE FOR SYSTEM RECOMMENDATIONS.

STEEL OR IRON: REMOVE RUST, MILL SCALE, AND OXIDATION PRODUCTS. FOR BEST RESULTS, TREAT THE SURFACE WITH A PROPRIETARY SURFACE CHEMICAL TREATMENT OF ZINC OR IRON PHOSPHATE TO IMPROVE CORROSION PROTECTION. FOR BEST CORROSION RESISTANCE, PRIME UNTREATED STEEL WITH 2.8 VOC CATALYZED EPOXY PRIMER, E61A280.

CAST IRON: FILL WITH POLANE® 2.8 PLUS SPRAYFIL, D61H75 AND SAND, SEAL WITH POLANE® PLUS SEALER, E65A71

TESTING: DUE TO THE WIDE VARIETY OF SUBSTRATES, SURFACE PREPARATION METHODS, AND ENVIRONMENTS, THE CUSTOMER SHOULD TEST THE COMPLETE SYSTEM FOR ADHESION AND COMPATIBILITY PRIOR TO FULL SCALE APPLICATION.

APPLICATION
TYPICAL SETUPS

NOTE: MAXIMUM TOTAL REDUCTION IS 2.5% BY VOLUME TO MAINTAIN 2.8 VOC.

CONVENTIONAL SPRAY:
AIR PRESSURE 40–50 psi
FLUID PRESSURE 5–10 psi
TIP .047"

AIRLESS SPRAY:
PRESSURE 2000–2800 psi
TIP .011–.013"

AIR ASSISTED AIRLESS:
AIR PRESSURE 10–30 psi
FLUID PRESSURE 1500–2100 psi
TIP .011–.013"

ELECTROSTATIC SPRAY:
CONDUCTIVITY IS 1.0–1.5 MEGOHMS RESISTANCE, WHICH IS SUITABLE FOR ALL HAND–HELD ELECTROSTATIC SPRAY SETUPS.

HVLP:
ATOMIZING AIR PRESSURE
AT THE CAP 8–10 psi
FLUID PRESSURE 5–10 psi
TIP .055"

DIPPING, BRUSHING OR FLOW COAT APPLICATION IS NOT RECOMMENDED.

CLEANUP:
CLEAN TOOLS/EQUIPMENT IMMEDIATELY AFTER USE WITH REDUCER R7K95 MAK. POLANE REDUCERS, MEK, OR MIBK MAY ALSO BE USED BUT ARE NOT HAPS COMPLIANT. FOLLOW MANUFACTURER'S SAFETY RECOMMENDATIONS WHEN USING ANY SOLVENT.

PERFORMANCE TESTS
SUBSTRATE–BONDERITE 1000 STEEL PANELS F63W25 CATALYZED AND REDUCED, 1.8 MILS DFT, 30 MINUTES AT 180°F, 14 DAYS AIR CURED

SALT SPRAY TEST	150 HOURS
HUMIDITY 100°F, 100% RH	500 HOURS
CONICAL MANDREL	PASSES
IMPACT RESISTANCE, DIRECT	60 IN LB
IMPACT RESISTANCE, REVERSE	10 IN LB
PENCIL HARDNESS	H
TABER ABRASION CS 17 WHEEL, 1000 g, 1000 CYCLES	<100 mg
WATER IMMERSION NO BLISTERING OR LOSS OF ADHESION	24 HOURS
ADHESION, CROSSHATCH	EXCELLENT
MEK, 100 DOUBLE RUBS	SLIGHT BURNISH
QUV, 1220 HOURS, 95% GLOSS, 0.7DE	MAXIMUM

CHEMICAL RESISTANCE

LUBRICATING & CUTTING OILS	EXCELLENT
HYDRAULIC FLUIDS	EXCELLENT

SPECIFICATIONS

PRODUCT LIMITATIONS:
- POLANE® S PLUS COATING MUST BE CATALYZED WITH V66V55. DO NOT VARY CATALYST RATIO. MAINTAIN AN EXACT RATIO. THE CATALYST RATIO HAS BEEN ESTABLISHED FOR OPTIMUM HARDNESS, FLEXIBILITY, GLOSS, CHEMICAL AND SOLVENT RESISTANCE. DO NOT USE POLANE® INTERIOR CATALYST V66V27 OR V66V44. IT GIVES A BRITTLE FILM AND VERY SHORT POT LIFE.
- DO NOT BLEND WITH ANY POLYURETHANE OTHER THAN POLANE® HS PLUS. NO OTHER CATALYSTS, COLORANTS OR REDUCERS ARE RECOMMENDED BECAUSE FOREIGN MATERIALS SUCH AS ALCOHOLS AND GLYCOLS DESTROY PERFORMANCE PROPERTIES. LACQUER THINNERS AND ALCOHOL CONTAINING SOLVENT BLENDS SHOULD NOT BE USED WITH POLANE® ENAMELS.
- F63E23 AND F63Y24 HAVE LIMITED HIDING AND SHOULD BE USED WITH OTHER COLORS. F63G26, F63L27, F63R20 AND F63R29 HAVE HIGH TINTING STRENGTH BUT LACK HIDING AND MUST BE MIXED WITH OTHER COLORS. ORGANIC MONOCHROMATICS SHOULD NOT BE USED BY THEMSELVES.
- POLANE® S PLUS COATINGS ARE NOT RECOMMENDED FOR EXTERIOR USE ON WOOD.
- DO NOT SPRAY HOT. HEAT SHORTENS POTLIFE. DO NOT PUMP CATALYZED MATERIALS FROM DRUMS INTO CIRCULATING SYSTEM. FRICTION HEAT DEVELOPED BY PUMPS AND CIRCULATION WILL SHORTEN POTLIFE.
- PROTECT POLANE® ENAMELS, CATALYSTS AND REDUCER FROM MOISTURE AS WATER AFFECTS POTLIFE AND PROPERTIES. STORE INDOORS.
- DO NOT PACKAGE POLANE® COATED PRODUCTS IN AIRTIGHT PLASTIC BAGS UNLESS COMPLETELY CURED. SINCE POLANE® ENAMELS CONTINUE TO CURE FOR SEVERAL WEEKS, THE BUILDUP OF ORGANIC SOLVENTS AND REACTION BY–PRODUCTS COULD CAUSE IMPROPER CURE AND ADHESION FAILURE IN USE.
- A PRIMER IS ALWAYS RECOMMENDED FOR EXTERIOR APPLICATION ON STEEL.
- DO NOT EXCEED 2.5 MIL DRY FILM WITH AIRLESS OR AIR ASSISTED AIRLESS EQUIPMENT DUE TO SAGGING TENDENCIES.
- USE POLANE® HS PLUS SILVER F63S65 FOR METALLIC COLORS IN THIS QUALITY. F63S65 DOES NOT OFFER THE SAME COLOR AND GLOSS RETENTION AS OTHER COLORS BECAUSE OF THE WEATHERING EFFECT OF ALUMINUM PIGMENT. DO NOT USE FOR APPLICATIONS REQUIRING LONG–TERM COLOR AND GLOSS RETENTION.
- USE MEK AS A REDUCER FOR SILVER F63S65 RATHER THAN MAK. THE FASTER EVAPORATION OF MEK HELPS THE METALLIC PIGMENT ORIENTATION.
- THE CLEAR F63F24 IS INTENDED FOR CUSTOM COLOR INTERMIXING AND SHOULD NOT BE USED AS A CLEAR COAT BECAUSE OF ITS POTENTIAL FOR YELLOWING.

CAUTIONS

THOROUGHLY REVIEW PRODUCT LABEL FOR SAFETY AND CAUTIONS PRIOR TO USING THIS PRODUCT. A MATERIAL SAFETY DATA SHEET IS AVAILABLE FROM YOUR LOCAL SHERWIN–WILLIAMS FACILITY. PLEASE DIRECT ANY QUESTIONS OR COMMENTS TO YOUR LOCAL SHERWIN–WILLIAMS FACILITY.

LABEL CAUTIONS

SEE CONTENTS STATEMENT ON LABEL.
CONTENTS ARE **COMBUSTIBLE**. KEEP AWAY FROM HEAT AND OPEN FLAME.

VAPOR HARMFUL: USE ONLY WITH ADEQUATE VENTILATION. THIS PRODUCT MUST BE USED WITH AN APPROPRIATE CATALYST. FOLLOW THE RESPIRATOR REQUIREMENT AND INSTRUCTIONS ON THE CATALYST.
AVOID CONTACT WITH EYES AND SKIN. WASH HANDS AFTER USING. KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT TRANSFER CONTENTS TO OTHER CONTAINERS FOR STORAGE.

FIRST AID: IF **INHALED:** IF AFFECTED, REMOVE FROM EXPOSURE. RESTORE BREATHING. KEEP WARM AND QUIET. IF ON **SKIN:** WASH AFFECTED AREA THOROUGHLY WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDER BEFORE RE–USE. IF IN **EYES:** FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES. GET MEDICAL ATTENTION. IF **SWALLOWED:** CALL POISON CONTROL CENTER, HOSPITAL EMERGENCY ROOM, OR PHYSICIAN IMMEDIATELY.

SPILL AND WASTE: REMOVE ALL SOURCES OF IGNITION. VENTILATE AND REMOVE WITH INERT ABSORBENT. INCINERATE IN APPROVED FACILITY. DO NOT INCINERATE CLOSED CONTAINER. DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATION REGARDING POLLUTION.

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE.
CONTAINS SOLVENTS WHICH CAN CAUSE PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS CAN BE HARMFUL OR FATAL.
THIS PRODUCT MUST BE MIXED WITH OTHER COMPONENTS BEFORE USE. BEFORE OPENING THE PACKAGES, **READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.**
WARNING: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.
DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.
FOR INDUSTRIAL USE ONLY.
SEE MATERIAL SAFETY DATA SHEET.
21638–061404.

CATALYST **CONTAINS ISOCYANATES.** PEOPLE WHO HAVE CHRONIC (LONG–TERM) LUNG OR BREATHING PROBLEMS OR HAVE HAD A REACTION TO ISOCYANATES, MUST NOT BE IN THE AREA WHERE THIS PRODUCT IS BEING APPLIED. WHERE OVERSPRAY IS PRESENT, A POSITIVE PRESSURE AIR–SUPPLIED RESPIRATOR SHOULD BE WORN. IF UNAVAILABLE, A PROPERLY FITTED ORGANIC VAPOR/PARTICULATE RESPIRATOR MAY BE EFFECTIVE. CONSULT CATALYST MSDS AND PRODUCT LABEL FOR COMPLETE HANDLING INSTRUCTIONS.

NOTE: PRODUCT DATA SHEETS ARE PERIODICALLY UPDATED TO REFLECT NEW INFORMATION RELATING TO THE PRODUCT. IT IS IMPORTANT THAT THE CUSTOMER OBTAIN THE MOST RECENT PRODUCT DATA SHEET FOR THE PRODUCT BEING USED. THE INFORMATION, RATING, AND OPINIONS STATED HERE PERTAIN TO THE MATERIAL CURRENTLY OFFERED AND REPRESENT THE RESULTS OF TESTS BELIEVED TO BE RELIABLE. HOWEVER, DUE TO VARIATIONS IN CUSTOMER HANDLING AND METHODS OF APPLICATION WHICH ARE NOT KNOWN OR UNDER OUR CONTROL, THE SHERWIN–WILLIAMS COMPANY CANNOT MAKE ANY WARRANTIES AS TO THE END RESULT.

1 **ANTENNA PAINT SPECIFICATIONS**

verizon

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PROFESSIONAL ENGINEER
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321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
ANTENNA PAINT SPECIFICATIONS

SHEET NUMBER: C07
REV.: 5

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ELECTRICAL LEGEND

LIGHTING FIXTURES	
	1' X 4' SURFACE MOUNTED FLOURESCENT FIXTURE WITH WRAP AROUND ACRYLIC PRISMATIC LENS. LITHONIA PART NO. LB-332-120-SS81/3-NYC. LAMPS: (3) F32T8/35K
	50 WATT H.P.S. EXTERIOR WALL MOUNTED FIXTURE W/ PHOTOCELL. MOUNT 6'6" A.F.G. TO BOTTOM. HUBBELL NO. NRG-301-120-PC
POWER	
	HOMERUN TO DESIGNATED PANEL. CROSS LINES INDICATE NUMBER OF CONDUCTORS WHEN MORE THAN TWO (GROUND NOT INCLUDED) NUMBER DENOTES CIRCUIT
T	TRANSFORMER
WIRING DEVICES	
	DUPLEX RECEPTACLE, 20 AMP, 125 V, LEVITON NO. 5262-I MOUNT 1'6" A.F.F. TO CENTER
	DOUBLE DUPLEX RECEPTACLE, (2) 20 AMP, 125 V, LEVITON NO. 5262-I MOUNT 1'6" A.F.F. TO CENTER
GFI	20 AMP, 125 V, DUPLEX RECEPTACLE W/ GROUND FAULT INTERRUPTER LEVITON NO. 6599 W/ LOCKING COVER 5977
S1	SINGLE POLE, 20 AMP TOGGLE SWITCH LEVITON NO. CSB 1-20. MOUNT 4'-0" A.F.F. TO TOP.
S2	TWO-POLE, 20 AMP TOGGLE SWITCH LEVITON NO. CSB 2-20. MOUNT 4'-0" A.F.F. TO TOP.
S3	3-WAY, 20 AMP TOGGLE SWITCH LEVITON NO. CSB 3-20. MOUNT 4'-0" A.F.F. TO TOP.
AUXILIARY SYSTEMS	
I	CEILING-MOUNTED IONIZATION SMOKE DETECTOR
P	CEILING MOUNTED PHOTOELECTRIC SMOKE DETECTOR
EXIT	SELF-CONTAINED COMBINATION EMERGENCY LED LIGHT W/ (2) LAMPHEADS. DUAL-LITE NO.: LTSRW
F	FIRE ALARM PULL STATION. MOUNT 48" A.F.F. TO TOP.
F	FIRE ALARM HORN / STROBE. MOUNT 80" A.F.F. TO TOP.

EQUIPMENT	
	DISCONNECT SWITCH 30 = AMP RATING NF = NON-FUSED
	PULLBOX
	PANELBOARD
	MOTOR-OPERATED DAMPER
	MOTOR
GROUNDING	
	#2 SOLID TINNED COPPER UNLESS OTHERWISE NOTIFIED
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION, DOUBLE-CRIMP "C" TYPE
	MASTER GROUND BAR
	INSULATED GROUND BAR
	UNINSULATED GROUND BAR
	5/8" x 10' COPPER CLAD GROUND ROD

GENERAL SPECIFICATIONS:

1. ALL WORK SHOULD BE DONE IN A NEAT WORKMANLIKE MANNER, LEFT CLEAN AND FREE FROM DEFECTS, AND COMPLETELY OPERABLE. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AS SCHEDULED ON THE DRAWINGS. ALL MATERIALS SHALL BE NEW AND ALL WORK AND MATERIALS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.
2. ALL WORK SHALL BE CAREFULLY COORDINATED WITH THE LANDLORD AND ALL TRADES INVOLVED, AND THE CONTRACTOR SHALL PROVIDE PROPER CONNECTIONS, FITTINGS, VALVES, PIPING, ETC. FOR ALL EQUIPMENT FURNISHED BY CARRIER OR OTHER TRADES INVOLVED IN THIS CONTRACT.
3. CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY CONFLICT DISCOVERED BEFORE PERFORMING ANY WORK RELATED TO SUCH CONFLICT.
4. PROVIDE ALL REQUIRED TEMPORARY UTILITIES AND PAY ALL ASSOCIATED FEES AND OPERATING COSTS.
5. THE GENERAL CONTRACTORS SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED FOR THEIR RESPECTIVE WORK, INCLUDING STRUCTURALLY FRAMED OPENINGS SHALL BE CUT AND FRAMED BY THE GENERAL CONTRACTOR. ALL HOLES IN MASONRY FLOORS AND WALLS SHALL BE CORE DRILLED.

GROUNDING NOTES:

1. ALL GROUNDING CONDUCTORS SHALL BE #2 SOLID TINNED COPPER, UNLESS OTHERWISE NOTED.
2. ALL EXTERIOR CONNECTIONS TO GROUND CONDUCTOR SHALL BE EXOTHERMICALLY WELDED (CADWELD).
3. ALL CONNECTIONS BELOW GRADE SHALL BE EXOTHERMICALLY WELDED (CADWELD).
4. CONNECTIONS TO GROUND BARS SHALL BE MADE UTILIZING TWO-HOLE LONG BARREL TYPE STAINLESS STEEL BOLTS, NUTS, AND LOCKWASHERS.
5. CONNECTIONS TO EQUIPMENT AND ENCLOSURES SHALL BE MADE UTILIZING TWO-HOLE GROUND LUGS WITH AN ANTI-OXIDENT COMPOUND.
6. THE GROUNDING SYSTEM SHALL BE TESTED UPON INSTALLATION. THE MAXIMUM RESISTANCE TO GROUND SHALL NOT EXCEED 5 OHMS.
7. WHERE GROUNDING CONNECTIONS ARE MADE TO PAINTED METAL. SURFACES SHALL BE SCRAPED CLEAN TO BEAR METAL TO INSURE PROPER CONTACT. SURFACES SHALL BE RESTORED TO MATCH ORIGINAL FINISHES.
8. ALL BENDS IN GROUNDING CONDUCTORS SHALL NOT BE LESS THAN A 12" RADIUS.
9. BOND ALL METALLIC RACEWAYS, EQUIPMENT ENCLOSURES, AND BOXES.
10. ALL BONDING CONDUCTORS SHALL BE #6 AWG. STRANDED INSULATED COPPER.
11. CABLE TO CABLE CONNECTIONS SHALL BE EXOTHERMICALLY WELDED (CADWELD).
12. CABLE TO STEEL CONNECTIONS SHALL BE EXOTHERMICALLY WELDED (CADWELD), UNLESS OTHERWISE NOTED.
13. USE OF NINETY DEGREE BENDS SHALL BE AVOIDED. BENDS SHALL BE FORTY FIVE DEGREES WHERE POSSIBLE.
14. BOND ALL SERVICE RACEWAYS, EQUIPMENT ENCLOSURES, METER FITTINGS, BOXES, AND METALLIC RACEWAYS IN ACCORDANCE WITH SECTION 250-71 OF THE NATIONAL ELECTRIC CODE.

THE CONTRACTOR IS REQUIRED TO CONTACT AND MEET WITH THE UTILITY COMPANIES PRIOR TO STARTING CONSTRUCTION. THIS IS NECESSARY TO VERIFY THAT FOLLOWING UTILITY POINTS HAVE REMAINED CONSISTENT WITH THE CONTRACTOR DOCUMENTS:

* TELEPHONE DEMARCATION POINT
* ELECTRICAL SERVICE TAP POINT
* NEW UTILITY METER LOCATION

ALL HIGH VOLTAGE WIRING CONDUITS ALONG ROOF SHALL BE COLOR CODED RED. ALL LOW VOLTAGE WIRING CONDUITS ALONG ROOF SHALL BE COLOR CODED ORANGE, AND ALL BARE ANTENNA CABLES SHALL BE COLOR CODED ORANGE WITH CONTINUOUS, DURABLE AND WEATHERPROOF REFLECTIVE OR LUMINESCENT MARKING AS PER SECTION 504.4.2 OF NYC FIRE CODE.

ELECTRICAL SPECIFICATIONS:

1. GENERAL:
   A. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, TRANSPORTATION EQUIPMENT, SERVICES AND FACILITIES REQUIRED FOR THE COMPLETE, PROPER AND SUBSTANTIAL INSTALLATION OF ALL ELECTRICAL WORK. ALL FIXTURES, DEVICES, AND EQUIPMENT SHOWN, NOTED OR REQUIRED ON THESE DRAWINGS, AND/OR CONTAINED HEREIN SHALL BE CONNECTED FROM THE SOURCE OF ELECTRIC POWER TO THE FINAL CONNECTION, TESTED AND MADE READY FOR SATISFACTORY OPERATION.
   B. ALL CONTROL WIRING SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR. OTHER CONTRACTORS SHALL PROVIDE STARTERS, ETC. FOR ALL EQUIPMENT THEY FURNISH, UNLESS SPECIFICALLY INDICATED ON THE ELECTRICAL DRAWINGS.
   C. UNLESS OTHERWISE INDICATED, THE ARRANGEMENT, POSITION, CONNECTIONS, ETC. SHOWN ON THE DRAWINGS SHALL BE TAKEN DIAGRAMMATIC. THE RIGHT IS RESERVED BY THE ENGINEER TO MAKE MINOR CHANGES IN LOCATIONS AND ARRANGEMENTS WHEN REQUIRED BY JOB DEVELOPMENT WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR.
   D. REFER TO THE GENERAL SPECIFICATION, THIS SHEET.
   E. ALL WORK SHALL CONFORM TO THE ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE AND LOCAL, STATE AND APPLICABLE CODES.
   F. PROVIDE AS-BUILT DRAWINGS TO OWNER AT CONCLUSION OF PROJECT.
   G. OBTAIN ALL PERMITS AND APPROVALS FROM AUTHORITIES HAVING JURISDICTION AND PAYING ALL FEES REQUIRED.
   H. WHEN A UTILITY COMPANY METER IS SPECIFIED, THE CONTRACTOR SHALL OBTAIN ALL ASSOCIATED CUT-IN CARDS, INSPECTIONS, ETC., NECESSARY TO HAVE THE METER SET. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MEET WITH UTILITY COMPANY PRIOR TO CONSTRUCTION TO VERIFY SOURCE OF ELECTRIC SERVICE, TAP AND METER LOCATION.
   I. GROUND RING DEPTH SHALL BE 30 INCHES MINIMUM BELOW FINISHED GRADE, OR 6 INCHES BELOW FROST LINE, WHICHEVER IS THE GREATER DISTANCE.
2. IDENTIFICATION:
   A. PROVIDE TYPEWRITTEN DIRECTORIES FOR PANELS, INDICATING USE OF EACH BRANCH CIRCUIT AND DESIGNATING SPARE CIRCUITS. HANDWRITTEN DIRECTORIES ARE NOT ACCEPTABLE.
   B. LABEL ALL CONDUITS AND WIRES WITH THEIR ASSOCIATED CONDUIT AND CIRCUIT/TERMINAL NUMBERS. MARKERS TO BE AS MANUFACTURED BY SETON NAMEPLATE CORP., OR EQUAL.
   C. ALL PANELBOARDS, SWITCHES AND OTHER EQUIPMENT ENCLOSURES SHALL BEAR ENGRAVED NAMEPLATES AS MANUFACTURED BY SETON NAMEPLATE CORP., OR EQUAL LETTERING TO BE 1/2 INCH HIGH WHITE LETTERS ON BLACK BACKGROUND UNLESS NOTED OTHERWISE.
3. RACEWAYS:
   A. MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS OTHERWISE NOTED ON THE DRAWINGS.
   B. EXPOSED RACEWAYS SHALL BE RUN TRUE, PLUMB, AND PARALLEL OR PERPENDICULAR TO BUILDING LINES.
   C. CONDUIT SUPPORTS SHALL BE SPACED AT A MAXIMUM DISTANCE OF 10 FEET APART.
4. WIRING METHODS:
   A. SINGLE CONDUCTOR CABLES SHALL BE USED FOR FEEDERS AND BRANCH CIRCUIT WIRING. MINIMUM SIZE WIRE SHALL BE #12 AWG UNLESS OTHERWISE INDICATED AND SHALL BE SIZED TO CONFORM TO NORMAL NEC VOLTAGE DROPS. WIRE SIZES #10AWG AND SMALLER SHALL BE SOLID, #8 AWG AND LARGER SHALL BE STRANDED. ALL CONDUCTORS SHALL BE COPPER.
   B. CONDUCTORS SHALL BE CONTINUOUS FROM ORIGIN TO PANEL OR EQUIPMENT WITHOUT SPLICES. WHERE TAP SPLICES ARE NECESSARY AND APPROVED, THEY SHALL BE MADE WITH SUITABLE CONNECTORS IN JUNCTION BOXES.
   C. PHASE CONDUCTORS SHALL BE IDENTIFIED WITH THE FOLLOWING COLOR CODED TAPE AT BOTH ENDS:

	120/208 VOLTS	277/480 VOLTS
PHASE A	BLACK	BROWN
PHASE B	RED	ORANGE
PHASE C	BLUE	YELLOW
NEUTRAL	WHITE	WHITE W/ GREY STRIPE
GROUND	GREEN	GREEN

   D. PROVIDE FIRESTOPPING AROUND ALL CONDUITS AT WALL AND FLOOR PENETRATIONS.
   E. SEAL ALL EXTERIOR WALL PENETRATIONS AS REQUIRED.
   F. THE CONTRACTOR SHALL CONCEAL ALL CONDUIT ROUTING PASSING THROUGH FINISHED AREAS.CONDUIT ROUTING THROUGH UNFINISHED AREAS SHALL BE SUPPORTED AS SPECIFIED IN DRAWINGS. UNLESS CLEARLY SPECIFIED, NO CONDUITS SHALL BE ROUTED ON EXTERIOR SURFACE OF BUILDING.
   G. UNDERGROUND CONDUITS SHALL BE A MINIMUM OF 24" BELOW FINISHED GRADE. ALL UNDERGROUND WORK SHALL BE DOCUMENTED BY PHOTOGRAPH BEFORE ANY BACKFILL IS BEGUN. PHOTOS WILL BE REQUIRED AT TIME PUNCHLIST IS PERFORMED. FEEDERS SHALL BE INDIVIDUAL CONDUCTORS IN SCHEDULE 40 PVC, DIRECT BURIAL CONDUIT. WHEN BURIED CONDUITS ARE SUBJECT TO VEHICULAR TRAFFIC, CONDUITS SHALL BE ENCASED IN CONCRETE. ALL SWEEPS BELOW GRADE SHALL BE SCHEDULE 80 PVC.
   H. ALL FEEDERS RUN INDOORS SHALL CONSIST OF EMT WITH INDIVIDUAL CONDUCTORS. FLEXIBLE METALLIC CONDUIT (MC) SHALL BE USED WHERE STRUCTURAL MEMBER PROHIBIT CONDUIT. MC MAY ALSO BE UTILIZED FOR LIGHTING WHIPS, BRANCH CIRCUITS AND OTHER MISCELLANEOUS APPLICATIONS PERMITTED BY CODE.
   I. ALL FEEDERS IN "DAMP" OR "WET" LOCATIONS SHALL CONSIST OF INDIVIDUAL CONDUCTOR IN RIGID GALVANIZED STEEL OR RIGID ALUMINUM CONDUIT. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE UTILIZED WHEN CONNECTING TO EQUIPMENT CABINETS AND VIBRATING EQUIPMENT. THE MAXIMUM LENGTH FOR FLEXIBLE CONDUIT SHALL BE 6'-0".
5. WIRING DEVICES:
   A. SWITCHES, RECEPTACLES AND OTHER WIRING DEVICES SHALL BE SPECIFICATION GRADE OF TYPE, SIZE AND RATING INDICATED ON THE DRAWINGS.
6. DISCONNECT SWITCHES:
   A. SWITCHES SHALL BE QUICK-MAKE, QUICK-BREAK NEMA 1 FOR INDOOR USE AND NEMA 3R FOR OUTDOOR USE AS MANUFACTURED BY GENERAL ELECTRIC, SQUARE D OR EQUAL. ELECTRICAL CONTRACTOR TO PROVIDE ALL SAFETY DISCONNECTS.
7. SPECIAL REQUIREMENTS:
   A. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL POWER AND CONTROL WIRING FOR EQUIPMENT FURNISHED UNDER HVAC, PLUMBING AND GENERAL TRADE SECTIONS.
   B. ALL WORK REQUIRING AN OUTAGE OR INTERRUPTION OF SERVICE (POWER, TELEPHONE) SHALL BE SCHEDULED ONLY AT SUCH TIME PERMITTED BY OWNER.
   C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING THE PROJECT WITH THE ADVISORY BOARD OF THE CITY OF NEW YORK (IF REQUIRED) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARATION OF NECESSARY DRAWINGS, FORMS AND ALL ASSOCIATED FEES.
8. LIGHTING FIXTURES AND LAMPS:
   A. LIGHTING FIXTURES SHALL BE FURNISHED COMPLETE WITH NECESSARY HARDWARE AND LAMPS.
9. PANELBOARDS:
   A. PANELS SHALL BE BOLTED- ON MOLDED CASE CIRCUIT BREAKER TYPE WITH DOORS AND LOCKS.
   B. ALL CONDUCTOR TERMINALS SHALL BE U.L. LISTED FOR MINIMUM OF 75° C.
10. TRANSFORMERS:
   A. TRANSFORMERS SHALL BE DRY TYPE WITH AVERAGE TEMPERATURE RISE NOT TO EXCEED 150° C (115° C) (80° C).
   B. TRANSFORMERS SHALL BE AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC OR SIEMENS.
   C. TRANSFORMER TO BE INSTALLED WITH A NEMA 3R WEATHERSHIELD.

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REV.	DATE	REVISION DESCRIPTION	DRAWN BY	CHKD. BY
5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
4	04-21-23	REVISED PER CLIENT COMMENTS	CCR	RJM
3	01-24-22	ISSUED FOR PERMIT FILING	JLS	RJM
2	01-20-22	REVISED PER ATTORNEY COMMENTS	TWS	JRB
1	01-10-22	REVISED PER CLIENT COMMENTS	DBS	JRB
0	12-29-21	INITIAL SUBMISSION NOT FOR CONSTRUCTION	COS	JRB

KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784

STATE OF NEW YORK · STEPHEN A. BRAY · LICENSED PROFESSIONAL ENGINEER · 086064

Stephen A. Bray
PROFESSIONAL ENGINEER
EXPIRATION DATE: 06/30/25
NY LICENSE: 086064 9/17/24

PROJECT NUMBER:
321.0635.001

SITE INFORMATION:
38 N MIDDLETON ROAD
PEARL RIVER, NY 10965
ROCKLAND COUNTY

PEARL RIVER 1_RSC

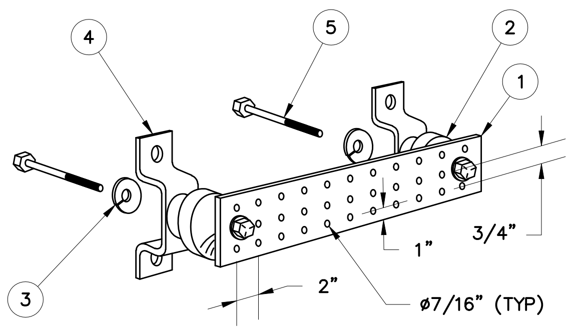
DESIGN TYPE:
ROOFTOP

SHEET TITLE:
GENERAL INFORMATION

SHEET NUMBER: E01

REV.: 5

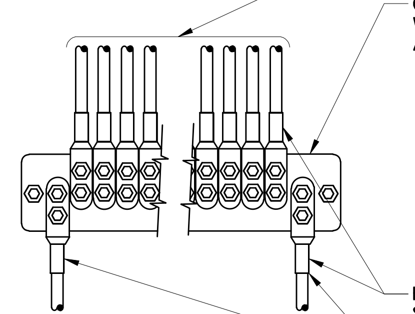
K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_Construction\321.0635.001_CAD\321.0635.001 E01.dwg, 9/17/2024 4:11:49 PM, CCretu



1. GALVANIZED STEEL GROUND BAR, 1/4" x 4" x 20", HAGER PART NO TGBI–14420C OR A.L.T. PART NO. 382227. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061–4.
3. 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015–8.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A–6056.
5. 5/8–11 X 1" H.H.C.S.BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012–1

1 GROUND BAR DETAIL

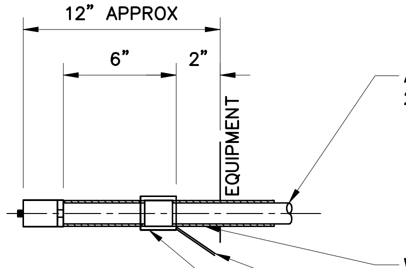
SCALE: NTS



NOTE:
CONTRACTOR TO UTILIZE KOPR–SHIELD (THOMAS & BETTS) ON ALL LUG CONNECTIONS

2 GROUND LUG TO GROUND BAR CONNECTION DETAIL

SCALE: NTS

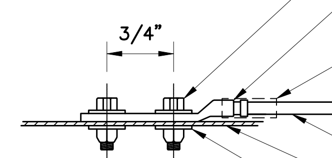


NOTE:
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

3 CABLE GROUND KIT CONNECTION DETAIL

SCALE: NTS

GROUNDING NOTES; #2 STRANDED GREEN JACKET ON NEW PROPOSED EQUIPMENT.
LUGS: NON INSPECTION WINDOW ON OUTDOOR LUGS. INSPECTION WINDOW LUGS WITH CLEAR HEAT SHRINK FOR INDOOR LUG

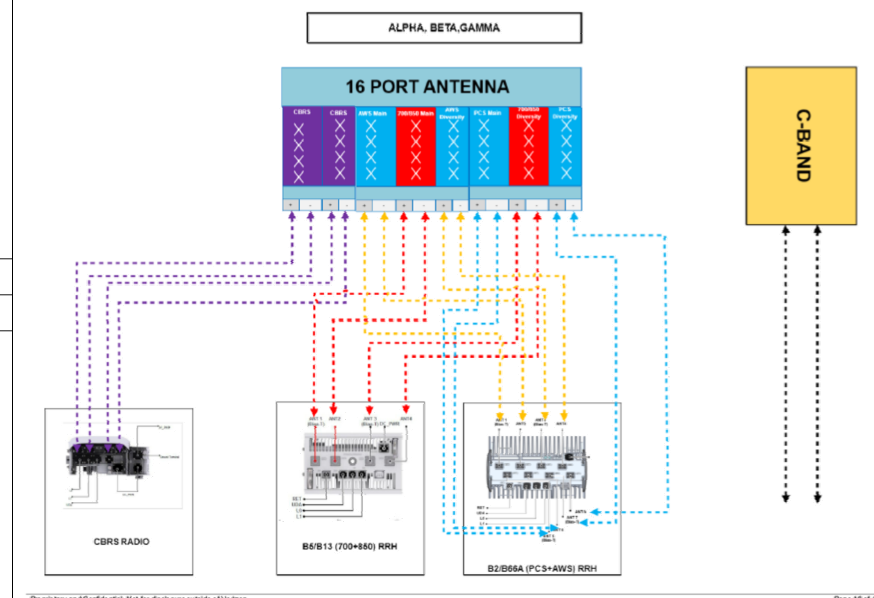


TABLE

WIRE SIZE	LUG #	BOLT SIZE
#4/0	53212	1/2" – 20 NC x 1/2" S.S. BOLT & NUT W/ LOCK WASHERS
#2	53207	1/4" – 20 NC x 1/2" S.S. BOLT & NUT W/ LOCK WASHERS
#6	53205	

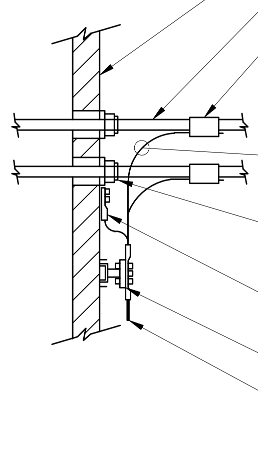
4 GROUND LUG CONNECTION DETAIL

SCALE: NTS



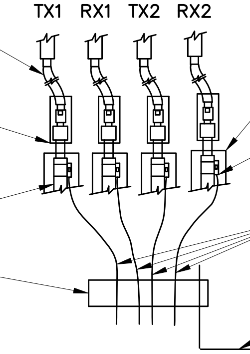
7 RF PLUMBING DIAGRAM

SCALE: NTS



5 CABLE GROUNDING DETAIL

SCALE: NTS



NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO–PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.
3. ATTACH "DO NOT DISCONNECT" LABELS TO GROUND BARS. CAN USE BRASS TAG "DO NOT DISCONNECT" AT EACH COAX GROUND POINT OR BACK–A–LITE PLATE ON GROUND BAR.

6 GROUND BAR TO GROUND WIRE CONNECTION DETAIL

SCALE: NTS

verizon

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5	09-17-24	POST APPROVAL AMENDMENT	CCR	JRB
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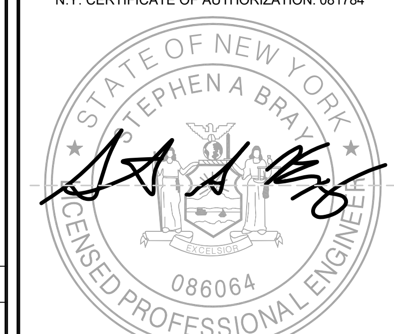
KMB

N.Y. CERTIFICATE OF AUTHORIZATION: 081784



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PEARL RIVER 1_RSC

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER: E02

REV.: 5

K:\321_Verizon\321.0635_Pearl River 1_SC_38 North Middletown Road\321.0635.001_L-Sub6\321.0635.001_Construction\321.0635.001_CAD\321.0635.001 E02.dwg, 9/17/2024 4:11:56 PM, CCretu