

**AGENDA PACKET**

**DECEMBER 20, 2022 MEETING**

	<b><u>CAL#</u></b>	<b><u>PAGE</u></b>
<b><u>AGENDA</u></b>		<b>3</b>
<b><u>MCARTHUR AND SALAZAR RESIDENCE, 40 OLD POND ROAD, SOUTH SALEM</u></b>	<b>Cal# 91-19WP</b>	<b>Cal# 10-19SW</b>
Extension Request Email, dated November 17, 2022		<b>5</b>
<b><u>MERCEDES BENZ OF GOLDENS BRIDGE, 321 MAIN STREET, GOLDENS BRIDGE</u></b>	<b>Cal #10-17PB</b>	<b>Cal #19-22SW</b>
Extension Request Email, dated November 17, 2022		<b>6</b>
Stormwater application, dated November 29, 2022		<b>8</b>
<b><u>WACCABUC COUNTRY CLUB WASH FACILITY, 90 MEAD STREET, WACCABUC</u></b>	<b>Cal #08-18WP</b>	<b>Cal #81-18WP</b>
Extension Request Email, dated November 17, 2022	<b>Cal #10-18SW</b>	<b>11</b>
Planning Board Resolution, dated June 18, 2019		<b>13</b>
<b><u>WACCABUC COUNTRY CLUB SNACK BAR, 18 PERCH BAY ROAD &amp; 0 TARRY-A-BIT, WACCABUC</u></b>	<b>Cal #06-22PB</b>	<b>Cal #05-22WP</b>
No new materials.	<b>Cal #03-22SW</b>	<b>-</b>
<b><u>TILLMON RESIDENCE, 22 QUINCY COURT, GOLDENS BRIDGE</u></b>	<b>Cal #17-22PB</b>	
Kellard Sessions memo, dated December 16, 2022		<b>23</b>
Planning Board application, dated November 17, 2022		<b>25</b>
<b><u>ATC AT LEON LEVY PRESERVE</u></b>		
Kellard Sessions memo, dated December 16, 2022		<b>38</b>
Planning Board application, dated November 15, 2022		<b>41</b>
<b><u>MAPLE TREE FARM, 400 SMITH RIDGE ROAD, SOUTH SALEM</u></b>	<b>Cal #01-21WV</b>	<b>Cal #34-22WP</b>
No new materials.		<b>-</b>

<b><u>MORRISSEY RESIDENCE, 10 HOYT STREET, SOUTH SALEM</u></b>	<b>Cal #39-22WP</b>	
Kellard Sessions memo, dated December 16, 2022		<b>123</b>
CAC memo, dated December 8, 2022		<b>127</b>
Wetland application, dated October 26, 2022		<b>128</b>
Stormwater Management Report; Alan Pilch, P.E.; dated October 12, 2022		<b>143</b>
<b><u>MANDIA RESIDENCES, 65 OLD BEDFORD ROAD, GOLDENS BRIDGE</u></b>	<b>Cal #02-20PB</b>	<b>Cal #04-20SW</b>
Extension Request Email, dated November 17, 2022		<b>193</b>
<b>Ridgefield, CT Planning and Zoning Commission</b> - to amend its Town Code §2.2 (inclusionary zoning definitions) and §8.8 (parking regulations in the central business district).	<b>-</b>	<b>194</b>

**TOWN OF LEWISBORO**  
**Westchester County, New York**



**Planning Board**  
**79 Bouton Road**  
**South Salem, New York 10590**

**Tel: (914) 763-5592**  
**Fax: (914) 875-9148**  
**Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)**

**AGENDA**

**Tuesday, December 20, 2022**

**Courtroom at 79 Bouton Road**

Meeting will start at 7:30 p.m. and end at or before 11:00 p.m.

**I. EXTENSION OF TIME REQUESTS**

**Cal #91-19WP, Cal# 10-19SW**

**McArthur and Salazar Residence, 40 Old Pond Road, South Salem, NY 10590, Sheet 33C, Block 11155, Lots 16, 17 & 44 (William McArthur, owner of record) - Wetland Permit Approval and Stormwater Permit Approval in connection with the reconstruction of a lakeside residence and cottage; current expiration dates are November 17, 2022.**

**Cal #10-17PB, Cal #19-22SW**

**Mercedes Benz of Goldens Bridge, 321 Main Street, Goldens Bridge, NY 10526, Sheet 4E, Block 11135, Lots 1, 2, 3, 4, 5, 6, 7 & 9 and Sheet 4E, Block 11137, Lot 42 (Celebrity Westchester Realty, LLC., owner of record for the nine lots) – Site Development Plan Approval for additions to existing auto showroom and service buildings, additional parking spaces and construction of a parking garage; current expiration dates are December 19, 2022. Stormwater application was submitted also.**

**Cal #08-18PB, #81-18WP, #10-18SW**

**Waccabuc Country Club, 90 Mead Street, Waccabuc NY 10597, Sheet 22, Block 10802, Lots 61 & 37 (Waccabuc Country Club, owner of record) – Waiver of Site Development Plan Procedures Approval for a wash facility and bulk storage that includes an annual wetland monitoring report requirement which was due December 1, 2022.**

**II. PUBLIC HEARING, CONTINUED**

**Cal #06-22PB, Cal #05-22WP, Cal #03-22SW**

**Waccabuc Country Club Snack Bar, 18 Perch Bay Road, Waccabuc, NY 10597; Sheet 25A, Block 10813, Lot 1 & 0 Tarry-A-Bit Lane, Waccabuc, NY 10597; Sheet 25, Block 11155, Lot 148 (Waccabuc Country Club Co., owner of record for both lots) - Application for beachfront improvements including renovation of the boathouse, construction of a pavilion, replacement of the snack bar, and installation of accessible parking and walkways.**

**III. SITE DEVELOPMENT PLAN REVIEW**

**Cal #17-22PB**

**Tillmon Residence, 22 Quincy Court, Goldens Bridge, NY 10526, Sheet 7I, Block 11127, Lot 22 (Bernadette Tillmon, owner of record) – Application for the installation of solar panels.**

**IV. SPECIAL USE PERMIT**

**Cal #16-22PB**

**ATC Tower, 0 Route 35 (Leon Levy Preserve), South Salem, NY 10590; Sheet 40, Block 10263, Lot 62 (American Towers Inc., owner of record) - Application for a special use permit renewal.**

**V. WETLAND PERMIT REVIEW**

**Cal #34-22WP, Cal #01-21WV**

**Maple Tree Farm, 400 Smith Ridge Road, South Salem, NY 10590; Sheet 24, Block 9831, Lot 49B (Maple Tree Farm, LLC, owner of record) - Application for remediation of wetlands.**

**Cal #39-22WP**

**Morrissey Residence, 10 Hoyt Street, South Salem, NY 10590; Sheet 36C, Block 11172, Lot 5 (Susan Morrissey, owner of record) - Application for sunroom/porch, terrace, and walkway.**

**VI. DISCUSSION**

**Cal #02-20PB**

**Mandia Residences, 65 Old Bedford Road, Goldens Bridge, NY 10526 Sheet 4A, Block 11112, Lot 2 (Town of Lewisboro, owner of record) - Request for a partial release of the apartments' construction performance bond.**

**VII. CORRESPONDENCE**

**Ridgefield, CT Planning and Zoning Commission - to amend its Town Code §2.2 (inclusionary zoning definitions) and §8.8 (parking regulations in the central business district).**

**VIII. MINUTES OF November 15, 2022.**

**IX. NEXT MEETING DATE: January 17, 2023.**

**X. ADJOURN MEETING.**



## Ciorsdan Conran

---

**From:** Billy McArthur <billymcarthur@gmail.com>  
**Sent:** Thursday, November 17, 2022 10:45 AM  
**To:** Judson K. Siebert  
**Cc:** Alan Pilch; Jeri Barrett; Ciorsdan Conran; Jan Johannessen (jjohannessen@kelses.com); Gregory Folchetti  
**Subject:** Re: 40 Old Pond Road  
**Attachments:** Memo License Agreement WLT.pdf; Stormwater Control Facility Maintenance Agreement for 40 Old Pond Rd (4873-6860-1914.2).docx; 40 Old Pond Res.pdf

Dear Ciorsdan,

As discussed, I would like to formally request an extension to my wetland and stormwater permit approvals which expire today.

Please let me know if there is anything you need from me.

Many thanks for your support.

Billy McArthur  
(917) 628-6604

On Nov 16, 2022, at 1:48 PM, Billy McArthur <billymcarthur@gmail.com> wrote:

Thanks Judson, I have executed the maintenance agreement and easement. Will put the original in the planning board mailbox tonight

Billy McArthur  
(917) 628-6604

On Nov 15, 2022, at 4:31 PM, Judson K. Siebert <jsiebert@kblaw.com> wrote:

All,

I have attached the following:

1. A Memorandum confirming the 40 Old Pond Properties, LLC/WLT License Agreement complies with Condition # 4 of the PB approving Resolution with an accompanying copy of the Agreement (Ciorsdan, please retain in the application file).
2. A Stormwater Maintenance Agreement and Easement (as required under Condition #7 of the PB approving Resolution).

The Stormwater Agreement should be signed by 40 Old Pond Properties, LLC and an original provided to Town Attorney Greg Folchetti, Esq. (copied on this email). Greg will then obtain Town Board authorization for execution by the Town Supervisor and the Agreement will be returned for recording.

Please contact me with any questions.

## Ciorsdan Conran

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**From:** Sirignano Law Office <lawoffice@sirignano.us>  
**Sent:** Monday, November 21, 2022 2:39 PM  
**To:** Ciorsdan Conran  
**Cc:** Tom Maoli; Michael Ghabrial  
**Subject:** Re: MB of GB - Extension Request for Cal # 10-17PB

Ciorsdan,  
Tom Maoli thinks we should seek a 1-year extension just to be extra cautious.  
Therefore, I amend my earlier request to reflect a 1-year extension.  
Thanks,  
Michael

**Michael Fuller Sirignano**  
Attorney and Counselor at Law  
Old Post Road Professional Building  
892 Route 35, PO Box 784  
Cross River, NY 10518  
Telephone: (914) 763-5500  
Fax: (914) 763-9589

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**From:** Ciorsdan Conran <Planning@lewisborogov.onmicrosoft.com>  
**Date:** Monday, November 21, 2022 at 1:18 PM  
**To:** Sirignano Law Office <lawoffice@sirignano.us>  
**Subject:** RE: MB of GB - Extension Request for Cal # 10-17PB

Thank you Michael – I'll add this to the 12/20/22 PB agenda.

Have a wonderful Thanksgiving,

Ciorsdan

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**From:** Sirignano Law Office <lawoffice@sirignano.us>  
**Sent:** Monday, November 21, 2022 1:14 PM  
**To:** Ciorsdan Conran <Planning@lewisborogov.onmicrosoft.com>  
**Cc:** Drew Korn <dkorn@jmcpllc.com>; Tom Maoli <tmaoli@lexusofroute10.com>; Michael Ghabrial <mghabrial@lexusofroute10.com>; Judson K. Siebert <jsiebert@kblaw.com>  
**Subject:** MB of GB - Extension Request for Cal # 10-17PB

## Ciorsdan Conran

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**From:** Sirignano Law Office <lawoffice@sirignano.us>  
**Sent:** Monday, November 21, 2022 1:14 PM  
**To:** Ciorsdan Conran  
**Cc:** Drew Korn; Tom Maoli; Michael Ghabrial; Judson K. Siebert  
**Subject:** MB of GB - Extension Request for Cal # 10-17PB

Ciorsdan,

Request is hereby made for a 6 month extension of the Amended Site Development Plan Approval and Town Stormwater Permit which were originally granted on March 17, 2020.

I believe the only conditions yet to be satisfied before Building Permits can issue for the Project are Health Department approval of the well yield testing and the GBFD sign-off on the Water Storage Tank Agreement.

Please place this extension request on the Planning Board's next available Agenda.

Thank you,

Michael

**Michael Fuller Sirignano**  
Attorney and Counselor at Law  
Old Post Road Professional Building  
892 Route 35, PO Box 784  
Cross River, NY 10518  
Telephone: (914) 763-5500  
Fax: (914) 763-9589

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**From:** Michael Ghabrial <mghabrial@lexusofroute10.com>  
**Date:** Monday, November 21, 2022 at 10:53 AM  
**To:** Ciorsdan Conran <Planning@lewisborogov.onmicrosoft.com>  
**Cc:** Michael Sirignano <michael@sirignano.us>, Drew Korn <dkorn@jmcpllc.com>, Tom Maoli <tmaoli@lexusofroute10.com>  
**Subject:** Re: MB of GB - PB approvals expiring soon

Ciorsdan  
We will be filing for an extension thank you

Thank you,

Application No.: 19-22SW  
Fee: \$155 Date: 12/1/22

**TOWN OF LEWISBORO  
STORMWATER PERMIT APPLICATION**

79 Bouton Road, South Salem, NY 10590  
Phone: (914) 763-5592  
Fax: (914) 875-9148

Project Address: 321 Main Street, Goldens Bridge, NY 10526

Sheet: 4E Block: 11135/11137 Lot(s): 1,2,3,4,5,6,7,9 / 42

Project Description (describe overall project including all proposed land development activities):  
Addition to existing showroom and service buildings, parking lot expansion, parking garage attached to showroom expansion, utility and landscape improvements.

Owner's Name: Celebrity Westchester Realty, LLC Phone: (973) 463-3054

Owner's Address: 130 Route 10 West, Whippany, NJ 07981 Email: mghabrial@lexusofroute10.com

Applicant's Name (if different): \_\_\_\_\_ Phone: \_\_\_\_\_

Applicant's Address: \_\_\_\_\_ Email: \_\_\_\_\_

Agent's Name (if applicable): JMC, PLLC Phone: 914-273-5225

Agent's Address: 120 Bedford Road, Armonk, NY 10504 Email: sspina@jmcpllc.com

**TO BE COMPLETED BY OWNER/APPLICANT**

The approval authority is? (see §189-5 of the Town Code)

☐ Town Engineer and Stormwater Management Officer ☐ Planning Board

Is the project located within the NYCDEP Watershed? ☒ Yes ☐ No

Total area of proposed disturbance: ☐ 5,000 s.f. - < 1 acre ☒ ≥1 acre

Will the project require coverage under the NYSDEC General Permit for Stormwater Discharges from Construction Activity? ☒ Yes ☐ No ☐ Requires post-construction stormwater practice

Does the proposed action require any other permits/approvals from other agencies/departments? (Wetland Inspector, Planning Board, Town Board, Zoning Board of Appeals, Building Department, Town Highway, ACARC, NYSDEC, NYCDEP, WCDH, NYSDOT, etc): Identify all other permits/approvals required: Town Board, ACARC, NYSDOT, ZBA, NYSDEC, Building Dept., NYCDEP, Town Stormwater, Town Highway, WCDH

Note: The applicant, owner and/or agent is responsible for reviewing and complying with Chapter 189, "Stormwater Management and Erosion and Sediment Control," of the Town Code. This application must be submitted with all applicable plans, reports and documentation specified under §189-8, "SWPPP requirements," of the Town Code; all SWPPP's shall be prepared in conformance with Chapter 189 and shall be prepared by a qualified professional, as defined therein. The provision for obtaining a Town Stormwater Permit is in addition to the requirement of obtaining coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity, if applicable.

Owner Signature: \_\_\_\_\_

Date: 11/29/22

# TOWN OF LEWISBORO PLANNING BOARD

79 Bouton Road, South Salem, NY 10590

Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)

Tel: (914) 763-5592

Fax: (914) 875-9148

## Affidavit of Ownership

State of: New Jersey

County of: Morris

Thomas Maoli, being duly sworn, deposes and says that he/she  
resides at 475 Bernardsville Road, Mendham, NJ 07945

in the County of Morris, State of New Jersey

and that he/she is (check one) ☒ the owner, or \_\_\_\_\_ the \_\_\_\_\_  
of Celebrity Auto of Westchester d/b/a Mercedes Benz of Goldens Bridge <sup>Title</sup>  
Name of corporation, partnership, or other legal entity

which is the owner, in fee of all that certain log, piece or parcel of land situated, lying and being in the  
Town of Lewisboro, New York, aforesaid and know and designated on the Tax Map in the Town of  
Lewisboro as:

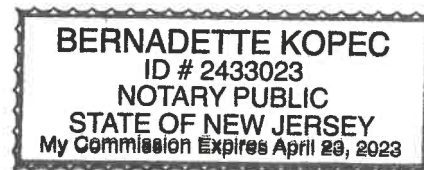
Block 11135 / 11137, Lot 1,2,3,4,5,6,7,9 / 42, on Sheet 004E

[Signature]  
Owner's Signature

Sworn to before me this

29<sup>th</sup> day of November, 2 022

[Signature]  
Notary Public - affix stamp



## TOWN OF LEWISBORO PLANNING BOARD

79 Bouton Road, South Salem, NY 10590  
Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)  
Tel: (914) 763-5592 Fax: (914) 875-9148

### Tax Payment Affidavit Requirement

*This form must accompany all applications to the Planning Board.*

*Under regulations adopted by the Town of Lewisboro, the Planning Board may not accept any application unless an affidavit from the Town of Lewisboro Receiver of Taxes is on file in the Planning Board office. The affidavit must show that all amounts due to the Town of Lewisboro as real estate taxes and special assessments on the total area encompassed by the application, together with all penalties and interest thereon, have been paid.*

*Under New York State law, the Westchester County Clerk may not accept any subdivision map for filing unless the same type of affidavit from the Town of Lewisboro Receiver of Taxes is submitted by the applicant at the time of filing.*

This form must be completed by the applicant and must accompany all applications to the Planning Board. Upon receipt, the Planning Board Secretary will send the form to the Receiver of Taxes for signature and notarization. If preferred, the applicant may directly obtain the signature of the Receiver of Taxes and notarization prior to submission.

#### To Be Completed by Applicant (Please type or print)

Celebrity Motor Car, LLC

Name of Applicant

Mercedes Benz of Goldens Bridge

Project Name

#### Property Description

Tax Block(s): ~~1137~~ 11135

Tax Lot(s): 9

Tax Sheet(s): 4E

#### Property Assessed to:

Celebrity Motor Car, LLC Westchester Realty LLC

Name 130 Route 10 West Mailing address: 321 Rt. 22

Address Whippany, NJ 07981 GB, NY 10526

City State Zip

The undersigned, being duly sworn deposes and says that a search of the tax records in the office of the Receiver of Taxes, Town of Lewisboro, reveals that all amounts due to the Town of Lewisboro as real estate taxes and special assessments, together with all penalties and interest thereon, affecting the premises described below, have been paid.

Signature - Receiver of Taxes:

Date 11/28/2022

Sworn to before me this

28<sup>th</sup> day of November, 2022

JANET L. DONOHUE  
NOTARY PUBLIC, STATE OF NEW YORK  
No. 01DO6259627  
Qualified in Westchester County  
Commission Expires April 16, 2026

Signature - Notary Public (affix stamp)



December 1, 2022

Ciorsdan Conran  
Planning Board Secretary  
Town of Lewisboro

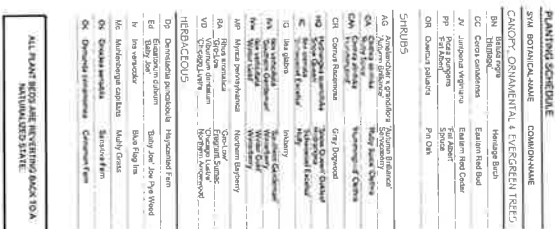
Dear Ciorsdan,

This letter is a request for an extension of time to supply the wetland monitoring report that relates to Sheet 22, Block 10802, Lots 61 & 37 .....Cal. #8-18 PB, Cal. #81-18 WP & Cal. #10-18SW.  
In advance I thank you for your consideration.

Sincerely,

  
John D. Assumma, CCM, CCE  
General Manager

*Please see attached "Mitigation Plan - As Built"  
9-11-2021 By A2 Land Consulting, LLC*



**A2 Land Consulting, LLC**  
30 Rocky Hill Rd.  
New Fairfield, CT 06812  
P: 845.531.1504  
E: [abigail@a2land.com](mailto:abigail@a2land.com)  
W: [www.a2land.com](http://www.a2land.com)

## MITIGATION PLAN - AS-BUILT

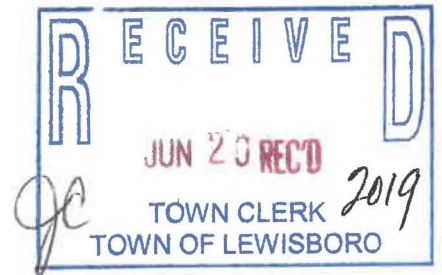
PREPARED FOR

WACCABUC COUNTRY CLUB

90 MEAD STREET  
LEWISBORO, NY







**RESOLUTION  
LEWISBORO PLANNING BOARD**

**SITE DEVELOPMENT PLAN APPROVAL  
WETLAND ACTIVITY PERMIT APPROVAL  
TOWN STORMWATER PERMIT**

**WACCABUC COUNTRY CLUB  
CHEMICAL MIXING AND WASH FACILITY  
90 MEAD STREET**

**Sheet 22, Block 10802, Lots 61 & 37  
Cal. #8-18 PB, Cal. #81-18 WP & Cal. #10-18SW**

**June 18, 2019**

**WHEREAS**, the subject property consists of  $\pm 4.06$  acres of land and is located at 90 Mead Street, within the R-4A Zoning District ("the subject property"); and

**WHEREAS**, the subject property is identified on the Town Tax Maps as Sheet 22, Block 10802, Lots 61 & 37; and

**WHEREAS**, the subject property is part of a larger site owned and operated by the Waccabuc Country Club ("the applicant"), a private club offering golf and other recreational facilities; and

**WHEREAS**, the applicant is proposing the construction of a 30' x 105' chemical mixing and wash building, as well as drainage, utility and other related improvements ("the proposed action"); and

**WHEREAS**, the chemical mixing and wash building is to be utilized for maintenance of the applicant's golf course and course-related vehicles and equipment; and

**WHEREAS**, the proposed facility provides recycling of wastewater generated by vehicle/equipment washing and processes any spills or leaks resulting from chemical mixing operations; once treated, the water is recycled for vehicle washing and there will be no discharge from the facility to the outside environment; and

**WHEREAS**, the proposed building will be located off of Carriage House Road, a private road which extends off Mead Street and serves the Waccabuc Country Club; and

**WHEREAS**, reference is made to the submitted survey entitled "Base Map Prepared for Waccabuc Country Club", prepared by Insite Engineering, Surveying and Landscape Architecture, P.C., dated January 31, 2019; and

**WHEREAS**, the subject property contains a watercourse which is jurisdictional to the Town of Lewisboro and a portion of the proposed building, driveway pavement, and utility relocation is within the Town's 150-foot regulated buffer area; and

**WHEREAS**, the applicant has applied to the Planning Board and has submitted applications for Site Development Plan Approval, a Wetland Activity Permit, and a Town Stormwater Permit; and

**WHEREAS**, reference is made to the following architectural floor plans and elevations presented to the Planning Board, prepared by Doyle Coffin Architecture, dated January 31, 2019:

- Architectural Site Plan (AS1.0), March 18, 2019
- Floor Plan, Door Schedule & Door Details (A1.1), October 11, 2018
- Roof Plan & Details (A1.2), October 11, 2018
- Elevations & Building Section (A1.3), October 11, 2018
- Ref. Ceiling Plan, Building Sections, Details & Symbols (A1.4), October 11, 2018

**WHEREAS**, the applicant applied to the Zoning Board of Appeals for area variances as determined necessary by the Building Inspector; see letter from the Building Inspector to the Planning Board, dated February 19, 2019; and

**WHEREAS**, the Zoning Board of Appeals voted to grant the area variances on May 29, 2019 and its written Decision issuing these variances is pending; and

**WHEREAS**, the Zoning Board of Appeals, as part of its consideration of the applicant's request for a variance for street frontage requirements, referred said application to the Planning Board pursuant to Section 220-11 of the Town Zoning Code; and

**WHEREAS**, the subject property is located within the New York City East of Hudson Watershed and is subject to the rules and regulations of the New York City Department of Environmental Protection (NYCDEP); and

**WHEREAS**, the applicant has consulted with the NYCDEP during the review process and the proposed action, a presently configured, does not require permits or approvals from the NYCDEP; and

**WHEREAS**, the applicant has developed a wetland mitigation plan, which includes invasive species removal, dense native plantings along the banks of the existing stream, improvements to the on-site drainage system, and containment of the existing sand stockpile area located southwest of the proposed building via curbing; and

**WHEREAS**, the proposed action is viewed as an environmental benefit as it will provide safeguards and containment as it relates to vehicle washing and chemical mixing and handling; and

**WHEREAS**, the subject property is located within the Special Character Overlay District and the application has been referred to and approved by the Architecture and Community Appearance Review Council (ACARC); and

**WHEREAS**, the proposed action was approved by the ACARC on January 4, 2019 (see Cal. No. 28-18-ACARC/PB); and

**WHEREAS**, the application has been referred to the Conservation Advisory Council (CAC) for review and comment; and

**WHEREAS**, the proposed action will result in  $\pm 20,185$  s.f. of land disturbance and, therefore, will require coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002); and

**WHEREAS**, reference is made to the Stormwater Pollution Prevention Plan (SWPPP), prepared by Marchetti Consulting Engineers, dated February 28, 2019; and

**WHEREAS**, the Planning Board conducted a duly noticed public hearing which was opened on March 19, 2019 and closed on June 18, 2019, at which time all interested parties were afforded an opportunity to be heard; and

**WHEREAS**, the Planning Board is familiar with the subject property and has considered the submitted Site Development Plan Application; Wetland Activity Permit Application; Town Stormwater Permit Application; correspondence from outside agencies; other materials submitted by the applicant in support of its proposal; the written and verbal comments from the Board's professional consultants; the verbal commentary and written submissions made during Planning Board meetings and the public hearing; and the decisions, comments and recommendations of the other permitting agencies.

**NOW, THEREFORE, BE IT RESOLVED THAT**, the proposed action has been determined to be a Type II Action under SEQRA; and

**BE IT FURTHER RESOLVED THAT**, the Planning Board hereby grants Site Development Plan Approval, subject to conditions; and

**BE IT FURTHER RESOLVED THAT**, the Planning Board hereby approves the following drawings, hereafter collectively referred to as "the approved Site Development Plans", subject to conditions:

**Plans, prepared by Machetti Consulting Engineers, dated (last revised) April 12, 2019:**

- Site Utility Drainage, Soil & Erosion Control Plan (C-1)
- Grading Plan (C-2)
- Details & Sections (C-3, C-4)
- Details (C-5)

**Plan, prepared by A2 Land Consulting, LLC, dated April 12, 2019:**

- Mitigation Plan (L1 and L2)

**BE IT FURTHER RESOLVED THAT,** Site Development Plan Approval, defined as the signing of the approved Site Development Plans by the Planning Board Chair, shall expire unless a Building Permit is applied for within one (1) year of the date of the signing of the plans or if all required improvements are not completed within three (3) years of the signing of the plans or if the construction or use shall cease for more than one (1) year; and

**BE IT FURTHER RESOLVED THAT,** the Planning Board may extend conditional approval and approval of the Site Development Plans by not more than two (2) additional periods of 90 days each if, in the Planning Board's opinion, such extension is warranted by the particular circumstances; and

**BE IT FURTHER RESOLVED THAT,** any subsequent alterations, modifications, additions or changes to the approved and/or constructed improvements shall require the prior review and written approval by the Planning Board as a new, modified and/or amended application for Site Development Plan Approval; and

**BE IT FURTHER RESOLVED THAT,** failure to comply with the approved Site Development Plans or any of the conditions set forth herein shall be deemed a violation of Site Development Plan Approval, which may lead to the revocation of said approval or the revocation by the Building Inspector of any issued Building Permit or Certificate of Occupancy; and

**BE IT FURTHER RESOLVED THAT,** in the review of this Wetland Activity Permit application, the Planning Board has taken into account the factors listed under Section 217-8A of the Wetland and Watercourse Law and, in so doing, has considered/evaluated wetland and wetland buffer functions and the role of the wetland and wetland buffer areas in the hydrologic and ecological system and has determined that the impact of the proposed action upon the public health and safety; special concern, rare, threatened and endangered species; water quality and wetland and wetland buffer functions has been avoided or minimized to the maximum extent practicable; and

**BE IT FURTHER RESOLVED THAT,** the Planning Board has reviewed the criteria listed under Section 217-8B of the Wetland and Watercourse Law and has determined that impacts to the affected wetland and wetland buffer areas are necessary and unavoidable and have been minimized to the maximum extent practicable; and

**BE IT FURTHER RESOLVED THAT,** the Planning Board hereby finds that the Wetland Activity Permit Application pertaining to the proposed action is consistent with the provisions and policies of Chapter 217 of the Code of the Town of Lewisboro and said permit is hereby approved, subject to the conditions set forth below; and

**BE IT FURTHER RESOLVED THAT,** all work associated with this Wetland Activity Permit shall be conducted in strict compliance with the approved Site Development Plans; and

**BE IT FURTHER RESOLVED THAT,** no work shall commence until a Wetland Activity Implementation Permit is issued by the Town Wetland Inspector; and

**BE IT FURTHER RESOLVED THAT,** this Wetland Activity Permit shall expire without further written notice if the requirements of this Resolution are not completed, as set forth herein. As provided pursuant to the Town Wetlands and Watercourses Law, this Wetland Activity Permit is subject to revocation should the applicant not comply with the terms and conditions of this Resolution; and

**BE IT FURTHER RESOLVED THAT,** this Wetland Activity Permit shall expire two (2) years from the date of this Resolution (June 18, 2021), unless a Wetland Certificate of Compliance has been obtained prior thereto; and

**BE IT FURTHER RESOLVED THAT,** a Town Stormwater Permit is required from the Planning Board in accordance with Section 189-5A of the Town of Lewisboro Town Code; and

**BE IT FURTHER RESOLVED THAT,** the submitted SWPPP has been prepared to comply with the requirements of the NYSDEC and the Town of Lewisboro; and

**BE IT FURTHER RESOLVED THAT,** the Planning Board finds that the applicant has complied with Chapter 189, Stormwater Management and Erosion and Sediment Control, of the Town Code of the Town of Lewisboro and a Town Stormwater Permit is hereby issued, subject to the conditions set forth below; and

**BE IT FURTHER RESOLVED THAT,** this Town Stormwater Permit shall expire upon completion of work and shall be valid for a period of two (2) years from the date of this Resolution (June 18, 2021); and

**BE IT FURTHER RESOLVED THAT,** Conditions #1 - #12 must be fulfilled within six (6) months of the date of this Resolution (on or before December 18, 2019). Should these

conditions not be satisfied within the allotted time frame, this Resolution shall become null and void unless an extension is requested by the applicant (in writing) with said 6-month period and granted by the Planning Board.

**Conditions to be Satisfied Prior to the Signing of the Approved Site Development Plans by the Secretary and Chair:**

1. The applicant shall submit to the Planning Board Secretary an engineering/inspection fee equal to 5% of the estimated cost of construction. Said estimate shall be prepared by a Licensed Professional Engineer and shall include unit costs, total costs and quantities for all proposed site improvements; said estimate shall be provided by the applicant, in writing, and approved by the Town Engineer.
2. Proposed wetland mitigation plantings shall be bonded in the amount approved by the Town Wetland Inspector, based upon a written cost estimate to be provided by the applicant. Said bond, or other security acceptable to the Planning Board, shall be supplied to the Planning Board and shall be released after a period of three (3) years, as measured from the issuance date of the Wetland Certificate of Compliance, provided that the Town Wetland Inspector verifies that a minimum of 85% of the planted species have survived.
3. A curb detail shall be added to the detail sheet; the plans shall be revised to clarify the locations of proposed curbing.
4. Sheet C-2 shall be revised to eliminate the note relating to the replacement of the foundation and floor of the barn and to eliminate illustrations and notes relating to the previously proposed storage sheds, curbs, and driveway. Further, the proposed 384' contour line shall be removed.
5. The applicant shall satisfy all outstanding written comments provided by the Town's consultants (see memorandum from Kellard Sessions Consulting, dated April 11, 2019).
6. The applicant shall submit the Notice of Intent (NOI) and MS4 SWPPP Acceptance Form for review by the Town Engineer and endorsement by the Town's Stormwater Management Officer. The applicant shall be responsible for submitting these documents to the NYSDEC for coverage under the SPDES General Permit (GP-0-15-002).
7. Each and every sheet of the approved Site Development Plans shall contain a common revision date with notation stating "Planning Board Approval"; shall contain an original seal and signature of the Design Professional; shall contain



the Town's standard signature blocks; and shall contain an original signature of the applicant(s) and owner(s).

8. The applicant shall submit a "check set" (2 copies) of the approved Site Development Plans, prepared in final form and in accordance with the conditions of this Resolution, for review by the Planning Board's consultants.
9. Following review and revision (if necessary) of the final plans, the applicant shall furnish the Planning Board with two (2) complete mylar sets of the approved Site Development Plans for final review by the Town's consultants and endorsement by the Town Engineer, Planning Board Chair and Secretary.
10. The applicant shall obtain a Wetland Implementation Permit, as issued by the Town Wetland Inspector.
11. The applicant shall provide a written statement to the Planning Board Secretary acknowledging that they have read and will abide by all conditions of this Resolution.
12. The applicant shall pay to the Town of Lewisboro, by certified check, all outstanding professional review fees.

**Conditions to be Satisfied Prior to the Issuance of a Building Permit:**

13. Conditions #1 – #12 as specified herein shall have been satisfied.
14. Following the endorsement of the approved Site Development Plans by the Town Engineer, Planning Board Chair and Secretary, one (1) mylar set will be returned to the applicant for copying and the second mylar set will be retained by the Planning Board as a record copy.
15. Within 10 days after endorsement of the approved Site Development Plans by the Town Engineer, Planning Board Chair and Planning Board Secretary, the applicant shall deliver to the Planning Board Secretary nine (9) printed sets of the signed plans, collated and folded.
16. The applicant shall demonstrate that coverage has been obtained under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002).

**Conditions to be Satisfied Prior to Commencement of Work:**

17. Prior to commencement of any site work or construction activity, a site visit shall be conducted with the applicant, contractor, design engineer, Building Inspector,

and the Town's consultants. Prior to the site visit, all erosion and sedimentation controls shall be properly installed and the limits of disturbance shall be staked in the field by a licensed land surveyor as specified on the approved Site Development Plans.

**Conditions to be Satisfied During Construction:**

18. During construction, the Town's consultants may conduct site inspections, as necessary, to determine compliance with the provisions of this Resolution and the approved Site Development Plans.
19. A copy of this Resolution, approved Site Development Plans, Wetland Implementation Permit, and SWPPP shall be kept on site at all times during construction.
20. Building construction shall be consistent with the floor plans and elevations referenced herein.
21. The applicant shall employ the services of a NYS Licensed Professional Engineer to supervise and inspect site work during construction.

**Conditions to be Satisfied Prior to the Issuance of a Certificate of Occupancy:**

22. No Certificate of Occupancy shall issue until all proposed improvements, both site and building related, are complete to the satisfaction of the Building Inspector and the Town's consultants.
23. Submission of an as-built survey, prepared by a NYS Licensed Land Surveyor and to the satisfaction of the Town Engineer, demonstrating compliance with the approved Site Development Plans shall be submitted to the Building Inspector and Planning Board (four (4) copies). The survey shall illustrate all drainage improvements, utility relocations, and associated elevations, as necessary.
24. An as-built plan of the stormwater management practices and associated improvements shall be submitted and shall be certified by a NYS Professional Engineer (four (4) copies).
25. Certification by a NYS Professional Engineer that all stormwater management practices and associated improvements have been installed in conformance with the approved Site Development Plans shall be submitted to the Building Inspector and Planning Board.
26. An as-built planting plan shall be prepared to the satisfaction of the Town's consultants and submitted to the Planning Board (four (4) copies).



27. The Building Inspector and Town's consultants shall conduct a final site visit to determine conformance with the approved Site Development Plans, Wetland Implementation Permit and this Resolution. A final inspection report shall be prepared by the Town Consulting Engineer.
28. The applicant shall obtain a Wetland Certificate of Compliance from the Town of Lewisboro Wetland Inspector.
29. The owner/operator shall submit a completed Notice of Termination (NOT) to the NYSDEC, Division of Water and the Planning Board Secretary.
30. The applicant shall pay to the Town of Lewisboro, by certified check, all outstanding professional review fees.

**Conditions of the Wetland Permit**

31. All plant material shall be installed between April 1<sup>st</sup> and November 1<sup>st</sup>. Plant substitutions, if any, must be previously approved by the Town's consultants.
32. Wetland mitigation areas shall be monitored for the first three (3) growing seasons following construction and planting. Monitoring reports shall detail the success of the plantings (survival rate), success of the invasive species removal program, and shall provide recommendations/action items for the next year (if any). Monitoring reports shall be submitted to the Town Wetland Inspector and Planning Board no later than December 1<sup>st</sup> of each year and shall be based upon site reconnaissance conducted by the qualified wetland scientist prior to October 15<sup>th</sup>. The first year of monitoring will be the first year that the mitigation areas have completed a full growing season. For monitoring purposes, a growing season starts no later than May 31<sup>st</sup>.

**Other Conditions:**

33. The continued validity of a Certificate of Occupancy shall be subject to continued conformance with the approved Site Development Plans and the conditions of this Resolution.
34. The applicant shall operate and maintain the chemical mixing and wash facility as per manufacturers recommendations.

### ADOPTION OF RESOLUTION

**WHEREUPON**, the Resolution herein was declared adopted by the Planning Board of the Town of Lewisboro as follows:

The motion was moved by: Richard Sklarin

The motion was seconded by: Jerome Kerner

The vote was as follows:



JANET ANDERSEN	<u>aye</u>
JEROME KERNER	<u>aye</u>
GREG LASORSA	<u>aye</u>
RICHARD SKLARIN	<u>aye</u>
MAUREEN MAGUIRE	<u>abstain</u>

Janet Andersen  
Janet Andersen, Chair      June 18, 2019

**MEMORANDUM**

TO: Chairperson Janet Andersen and  
Members of Lewisboro Planning Board

CC: Ciorsdan Conran  
Judson Siebert, Esq.

FROM: Jan K. Johannessen, AICP   
Joseph M. Cermele, P.E., CFM   
Town Consulting Professionals

DATE: December 16, 2022

RE: Site Development Plan Approval  
Tillmon – Solar Panels  
22 Quincy Court, Goldens Bridge  
Sheet 7I, Block 11127, Lot 22

**PROJECT DESCRIPTION**

The subject property consists of ±0.15 acres of land and is located at 22 Quincy Court within the R-MF Zoning District. The subject property is developed with an attached one (1) family residence. The applicant is proposing to install solar panels on the roof of the residence and associated ground-mounted equipment. As the property is located within the R-MF Zoning District, Site Development Plan Approval is required.

**SEQRA**

The proposed action has been preliminarily identified as a Type II Action and is therefore categorically exempt from the State Environmental Quality Review Act (SEQRA).

**REQUIRED APPROVALS**

1. Site Development Plan Approval is required from the Planning Board; the application qualifies for Waiver of Site Development Plan Procedures.

Chairperson Janet Andersen

December 16, 2022

Page 2 of 2

**COMMENTS**

1. Based upon the information submitted and the nature of the application, this office has no objection to the project, as proposed.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

**PLANS REVIEWED, PREPARED BY PHRGD , DATED JULY 10, 2022:**

- Zoning Information, Site Plan (Z-000.00)
- General Notes (G-000.00)
- System Layout (A-000.00)
- Roof Layout and Details (S-000.00)
- Labels (L-000.00)
- Specification Sheets (G-001.00)
- Specification Sheets Continued (G-002.00)
- Electrical 3-Line & 1-Line (E-000.00)

**DOCUMENTS REVIEWED:**

- Letter, prepared by Tom Petersen, dated July 12, 2022
- Planning Board Application

JKJ/dc

[https://kellardsessionsconsulti.sharepoint.com/sites/Kellard/Municipal/Lewisboro/Correspondence/2022-12-16\\_LWPB\\_Tillmon Solar- 22 Quincy Court\\_Review Memo.docx](https://kellardsessionsconsulti.sharepoint.com/sites/Kellard/Municipal/Lewisboro/Correspondence/2022-12-16_LWPB_Tillmon Solar- 22 Quincy Court_Review Memo.docx)

## TOWN OF LEWISBORO PLANNING BOARD

79 Bouton Road, South Salem, NY 10590 Tel: (914) 763-5592 Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)

#17-22PB

**Site Development Plan/Subdivision Plat Application - Check all that apply:**

Waiver of Site Development Plan Procedures ☐  
 Site Development Plan Approval ☐  
 Special Use Permit Approval ☐  
 Subdivision Plat Approval ☐

Step I ☐  
 Step I ☐  
 Step I ☐

Step II ☐  
 Step II ☐  
 Step II ☐

Step III ☐

escrow est d  
 & app fee  
 PD 11/22/22

**Project Information**Project Name: Tillmon Solar ProjectProject Address: 22 Quincy Ct, Goldens Bridge, NY 10526Gross Parcel Area: \_\_\_\_\_ Zoning District: R-MF Sheet(s): 7I Block (s): \_\_\_\_\_ Lot(s): \_\_\_\_\_

Project Description: Croton Energy Group Inc. will be installing a 15.2kW DC sized system on the roof of the Bernadette Tillmon residence. Also installing 31 Silfab SIL-490 HN solar panels at 490W each. We will be using two SolarEdge SE7600H-US Energy Hub Inverters. Also installing one 10kWh SolarEdge Battery.

Is the site located within 500 feet of any Town boundary?

YES ☐NO ☒

Is the site located within the New York City Watershed?

YES ☐NO ☒

Is the site located on a State or County Highway?

YES ☐NO ☒

Does the proposed action require any other permits/approvals from other agencies/departments?

Town Board ☒ZBA ☐Building Dept. ☐Town Highway ☐ACARC ☐NYSDEC ☐NYCDEP ☐WCDH ☐NYSDOT ☐Town Wetland ☐Town Stormwater ☐

Other \_\_\_\_\_

**Owner's Information**Name: Bernadette TillmonEmail: brtillmon@hotmail.comAddress: 22 Quincy Ct, Goldens Bridge, NY 10526Phone: (646) 596-0804**Applicant's Information (if different)**Name: Gregory KingEmail: gking@crotonenergy.comAddress: 75 South Riverside Ave, Croton-On-Hudson, NY 10520Phone: (914) 862-4177**Authorized Agent's Information**Name: Gregory KingEmail: gking@crotonenergy.comAddress: 75 South Riverside Ave, Croton-On-Hudson, NY 10520Phone: (914) 862-4177

THE APPLICANT understands that any application is considered complete only when all information and documents required have been submitted and received by the Planning Board. The applicant further understands that the applicant is responsible for the payment of all application and review fees incurred by the Planning Board.

THE UNDERSIGNED WARRANTS the truth of all statements contained herein and in all supporting documents according to the best of his/her knowledge and belief, and authorizes visitation and inspection of the subject property by the Town of Lewisboro and its agents.

APPLICANT'S SIGNATURE

DocuSigned by:

Gregory King

DATE 11/17/2022

OWNER'S SIGNATURE

DocuSigned by:

Bernadette Tillmon

DATE 11/17/2022

# TOWN OF LEWISBORO PLANNING BOARD

79 Bouton Road, South Salem, NY 10590

Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)

Tel: (914) 763-5592

Fax: (914) 875-9148

## Affidavit of Ownership

State of: ~~New York~~ CT

County of: ~~Westchester~~ Fairfield

FILE

Bernadette R. Tillman, being duly sworn, deposes and says that he/she

resides at 22 Quincy Court - North, Goldens Bridge, NY 10526

in the County of Westchester, State of New York

and that he/she is (check one) ☒ the owner, or ☐ the

Title

of \_\_\_\_\_

*Name of corporation, partnership, or other legal entity*

which is the owner, in fee of all that certain log, piece or parcel of land situated, lying and being in the  
Town of Lewisboro, New York, aforesaid and know and designated on the Tax Map in the Town of  
Lewisboro as:

Block 11127, Lot 22, on Sheet 7I

Bernadette R Tillman  
Owner's Signature

Sworn to before me this

15<sup>th</sup> day of November, 2022

MANISH D. KANTAWALA

Notary Public - affix stamp

My Commission Exp. 01/31/2027

**Narrative/Description of Project – Bernadette Tillmon**

This new ESS project is associated with a new DG – Solar PV

Croton Energy Group Inc. will be installing a 15.2kW DC sized system or a 15.2 kW AC sized system on the roof of Bernadette Tillmon residence at 22 Quincy Ct, Goldens Bridge, NY 10526. We will be installing 31 Silfab SIL-490 HN solar panels. We will be using 2 SolarEdge SE7600H-US Energy Hub Inverters. The peak output power of each inverter is 7600W.

We are installing one 10kWh SolarEdge Energy Bank Battery. The battery has a total capacity of 9.7 kWh. The battery can and will export to the grid but will not be charged by the grid. The battery will be charged by the 31 solar panels on the roof. The battery will power one 200-amp service panel and provide power during a grid outage.

FILE

## TOWN OF LEWISBORO PLANNING BOARD

79 Bouton Road, South Salem, NY 10590  
Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)  
Tel: (914) 763-5592 Fax: (914) 875-9148

### Tax Payment Affidavit Requirement

*This form must accompany all applications to the Planning Board.*

*Under regulations adopted by the Town of Lewisboro, the Planning Board may not accept any application unless an affidavit from the Town of Lewisboro Receiver of Taxes is on file in the Planning Board office. The affidavit must show that all amounts due to the Town of Lewisboro as real estate taxes and special assessments on the total area encompassed by the application, together with all penalties and interest thereon, have been paid.*

*Under New York State law, the Westchester County Clerk may not accept any subdivision map for filing unless the same type of affidavit from the Town of Lewisboro Receiver of Taxes is submitted by the applicant at the time of filing.*

This form must be completed by the applicant and must accompany all applications to the Planning Board. Upon receipt, the Planning Board Secretary will send the form to the Receiver of Taxes for signature and notarization. If preferred, the applicant may directly obtain the signature of the Receiver of Taxes and notarization prior to submission.

#### To Be Completed by Applicant (Please type or print)

CEG SOLAR

Name of Applicant

TILLMON SOLAR

Project Name

#### Property Description

Tax Block(s): 11127

Tax Lot(s): 22

Tax Sheet(s): 7I

#### Property Assessed to:

BERNADETTE R. TILLMON

Name

22 QUINCY CT - NORTH

Address

GOLDENS BRIDGE NY 10526

City

State

Zip

The undersigned, being duly sworn deposes and says that a search of the tax records in the office of the Receiver of Taxes, Town of Lewisboro, reveals that all amounts due to the Town of Lewisboro as real estate taxes and special assessments, together with all penalties and interest thereon, affecting the premises described below, have been paid.

Signature of Receiver of Taxes:

Am Bunt

11/9/22

Date

Sworn to before me this

9

day of

November

2022

Janet L. Donohue

Signature - Notary Public (affix stamp)

JANET L. DONOHUE  
NOTARY PUBLIC, STATE OF NEW YORK  
No. 01DO6259627  
Qualified in Westchester County  
Commission Expires April 16, 2024



# Tom Petersen

Architects • Planners

Construction Official  
Town of Brookhaven Building Department  
22 Quincy Court  
Goldens Bridge, NY 10526

July 12, 2022

Re: Solar Panel Installation  
Tilmon Residence  
22 Quincy Court  
Goldens Bridge, NY 10526

Dear Sirs,

I've reviewed the proposed solar panel installation at this location to evaluate the existing roof structure and the connection of the panels to the roof.

Criteria: Applicable codes: 2020 Residential Code of New York State (pub. date: Nov., 2019)  
2018 Wood Frame Construction Manual  
Design roof load: 30 psf live (ground snow) load, 10 psf dead load, 40 psf total load  
Design wind load: 120 mph Seismic Category: 'B'

My findings are as follows.

1. The new solar panels will imply an additional dead load of 3 psf. The existing roof structure (2x6 rafters @ 16" o.c., with collar ties and 2x8 ridge, span = +/- 18'-0") is overspanned and not sufficient to bear this additional load. In order to supplement the existing structure at the roof plane receiving new solar panels, we will sister new 2x6 rafters alongside each existing rafter. Connection to existing rafters shall be 10d common nails (3" x 0.148") staggered @ 16" o.c. Rafters can be sistered in two sections with a minimum 4' long, 2x6 splice board.
2. The solar panels are attached to the roof with the solar rack system by Unirac, with components as shown on the attached drawings. The rack system, roof connections and connection spacing are rated for 120 mph. Flange footing connections to the rail are not required to be staggered. The flange foot connections to the roof are 5/16" diameter x 5" long lag bolts. The total panel installation is no higher than 6" above the existing roof plane.

I therefore certify that this installation complies with the applicable codes and design loads mentioned above and is acceptable for approval. Please let me know if you have any questions on this information. Thanks!

Sincerely yours,

Tom Petersen

Cc: Michael Tarzian, PhRGD



SOLAR PV ELECTRIC GENERATION SYSTEM INSTALLATION ON EXISTING RESIDENCE:  
22 Quincy Ct, Golden's Bridge, NY 10526

Drafting/Design Firm  
**PhRGD**  
750 Lexington Ave 9th Floor  
NY, NY 10022  
(646) 866-4734

Developer  
**ceG SOLAR**  
Croton Energy Group Inc  
75 Couth Riverside Avenue  
Croton-on-Hudson, NY 10520  
(914) 862-4177

PROPERTY INFORMATION  
Parcel ID: 31.13-1-8  
Roof 1 Azimuth: 276° Panel Tilt: 21°  
Roof 2 Azimuth: 276° Panel Tilt: 15°  
Roof 3 Azimuth: 96° Panel Tilt: 21°  
PE Stamps/ Signatures  
Thomas Petersen  
Tom Petersen Architect, LLC  
6 Country Lane  
Howell NJ 07731  
NY Architect License # 035290

REGISTERED ARCHITECT  
THOMAS F. PETERSEN  
STATE OF NEW YORK  
035290  
*Thomas Petersen*  
IT IS A VIOLATION OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER IN ANY WAY AN ITEM BEARING THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS HE OR SHE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

Rev	Date	Description	Initial
.00	07/10/22	Design	MJ

22 Quincy Ct  
Golden's Bridge, NY 10526  
Owner: Tillmon Residence  
Solar Modules: (31) 490W Modules  
Solar Inverters: (2) SE7600H-US Inv  
Solar System DC Size: 15.2kW  
Solar System AC Size: 15.2kW  
Page Size: 11" x 17"  
**ZONING INFORMATION, SITE PLAN**  
Scale: See Scales | Page 1 of 7  
**Z-000 .00**

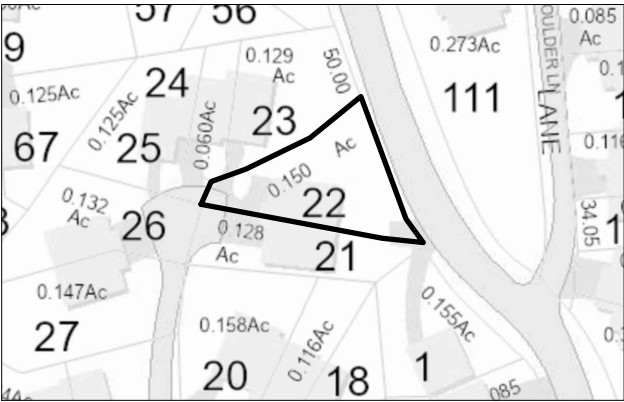
1 **SITE PLAN**  
Z-000 SCALE: 1" = 30'-0"



2 **AERIAL PLAN**  
Z-000 SCALE: NTS



3 **TAX MAP**  
Z-000 SCALE: NTS



**NOTES**

Per attached structural analysis letter, the existing roof structure, with upgrades where necessary, is capable of supporting the loads of the solar electrical generating system.

For Tenant Safety, Electrical, and Installation notes please see page G-000.00 "General Notes"

**APPLICABLE CODES**

All materials, equipment, installation and work shall comply with the following applicable codes:

2020 New York State Fire Code

**SCOPE OF WORK**

SCOPE OF WORK IS SOLELY FOR THE INSTALLATION OF THE SOLAR ELECTRONIC GENERATING SYSTEM. ALL OTHER WORK IS NOT TO BE RELIED UPON AS BEING APPROVED AND/OR PERMITTED BY THE BUILDINGS DEPARTMENT.

**LEGEND**

- Solar Panel
- Solar Inverter Electrical Equipment
- Building Outline
- Vent Pipe

**DRAWING INDEX**

1	Zoning Information, Site Plan	Z-000.00
2	General Notes	G-000.00
3	System Layout	A-000.00
4	Roof Layout & Details	S-000.00
5	Labels	L-000.00
6	Specifications Sheets	G-001.00
7	Specifications Sheets Continued	G-002.00
8	Electrical 3-Line & 1-Line	E-000.00



CONTRACTOR NOTES		EQUIPMENT NOTES		ABBREVIATIONS		Drafting/Design Firm																					
<div><div>1. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE SYSTEM DESIGN ENGINEEROF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS.</div><div>2. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL WORK AS SHOWN IN THE CONSTRUCTION DOCUMENTS UNLESS OTHERWISE NOTED. ALL WORK SHALL BE PERFORMED IN AN ORDERLY, WORKMANLIKE AND SAFE MANNER BY WORKERS SKILLED AND EXPERIENCED IN THEIR TRADES.</div><div>3. ALL REQUIRED AND NECESSARY PERMITS SHALL BE SECURED FROM ALL MUNICIPAL AGENCIES HAVING JURISDICTION AT THE COST AND EXPENSE OF THE CONTRACTORS PRIOR TO THE START OF WORK.</div><div>4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS TO BE WITNESSED BY THE AHJ AND/OR THE OWNER. THE CONTRACTOR SHALL WORK WITH THE OWNER'S INSPECTION AGENCY TO PLAN THE INSPECTIONS, AND NOTIFY ALL PARTIES INVOLVED SUFFICIENTLY IN ADVANCE TO ALLOW THE INSPECTIONS TO TAKE PLACE IN A TIMELY MANNER AND NOT DELAY THE PROGRESS OF THE WORK. THE OWNER AND SYSTEM DESIGN ENGINEER WILL NOT BE RESPONSIBLE FOR SCHEDULING, ARRANGING OR COORDINATING THE INSPECTIONS.</div><div>5. CONTRACTOR SHALL FURNISH ALL NECESSARY BOXES, OUTLETS, SUPPORTS, CONDUITS, FITTINGS, AND ACCESSORIES TO FULFILL APPLICABLE CODES, REGULATIONS, BUILDING STANDARDS, AND THE BEST PRACTICE OF THE TRADE FOR THE INSTALLATION OF ELECTRICAL WORK.</div><div>6. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION. CONTRACTORS SHALL ARRANGE ALL PARTS OF THIS WORK AND EQUIPMENT IN PROPER RELATION TO THE WORK AND EQUIPMENT OF OTHERS AND WITH BUILDING CONSTRUCTION AND ARCHITECTURAL FINISH SO THAT IT WILL HARMONIZE IN SERVICE AND APPEARANCE.</div></div>		<div><div>1. ALL MATERIALS, SUPPLIES, AND EQUIPMENT SHALL BE LISTED, USED, AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS, AND APPLICABLE NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) REQUIREMENTS.</div><div>2. ALL EQUIPMENT SHALL BE RATED FOR THE ENVIRONMENT IN WHICH IT IS INSTALLED.</div><div>3. WORKING SPACE AROUND ELECTRIAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.</div><div>4. THE APPROXIMATE LOCATIONS OF ALL JUNCTION BOXES, COMBINER BOXES, CONDUITS, ETC. SHALL BE DETERMINED FROM THE DRAWINGS, AND VERIFIED BY THE CONTRACTOR FOR INSTALLATION.</div><div>5. ALL JUNCTION BOXES, COMBINER BOXES, AND DISCONNECTS SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION.</div><div>6. PROVIDE NEMA 3R RATED EQUIPMENT OR BETTER WHERE EXPOSED TO OUTDOORS.</div><div>7. WHERE SIZES OF RACEWAYS OR BOXES ARE NOT INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL SIZE THESE ITEMS AS REQUIRED FOR THE INSTALLATION.</div><div>8. ALL VERTICAL RUNS OF CONDUIT OR TUBING TERMINATING IN THE BOTTOM OF WALL BOXES OR CABINETS OR SIMILAR LOCATIONS, SHALL BE PROTECTED FROM THE ENTRANCE OF FOREIGN MATERIAL PRIOR TO THE INSTALLATION OF CONDUCTORS.</div><div>9. METAL RACEWAYS, METAL ENCLOSURES OF ELECTRICAL DEVICES AND EQUIPMENT, MODULE FRAMES, AND OTHER EQUIPMENT SHALL BE COMPLETELY GROUNDED IN ACCORDANCE WITH THE NEC. PROPER HARDWARE FOR A COMPLETE GROUNDING AND BONDING SYSTEM SHALL BE INSTALLED BY THE CONTRACTOR, IF NECESSARY.</div><div>10. GROUNDING RODS SHALL HAVE A RESISTANCE TO GROUND OF 25 OHMS OR LESS AND SHALL BE 5/8" x 8' MIN, COPPER-BONDED STEEL. ALL GROUND CLAMPS USED SHALL BE UL 467 LISTED.</div><div>11. ALL PVC CONDUIT EXPOSED TO SUNLIGHT SHALL BE SCHEDULE 80 AND MARKED AS SUNLIGHT RESISTANT. ALL UNDERGROUND PVC CONDUIT SHALL BE SCHEDULE 40 OR 80.</div></div>		<div><div>A AC AF AFDI AT ATS AWG BIL BIB BPS CA CB COMM CT CP CPT CU CO CYC D DC DISC EDP EGC EHDP PANELBOARD ELDP PANELBOARD EMT EPR EQUIP EXIST GND GFCI GFD HWG INV Ipmax IMC KCMIL KV KVA KW LFMC LSC LSIG MAU MBP MCB MCCB MIB MISC MFG MPPT MV NEC NEMA ASSOCIATION NESC NTS OCPD PCC PDU PF POI PRI PT PV PVC PWR RCA RIB RMC RS RTU SA SCH SEC SPD TBD UL UPS V VA Vin VOC VOC Low TEMPERATURE Vout W WP XFMR Z</div><div>AMPERES ALTERNATING CURRENT AMP FRAME ARC FAULT DETECTION INTERRUPTER AMP TRIP AUTOMATIC TRANSFER SWITCH AMERICAN WIRE GAUGE BASIC IMPULSE LEVEL BYPASS ISOLATION BREAKER BOLT PRESSURE SWITCH CIRCULAR MILS AREA COMBINER BOX COMMUNICATIONS CURRENT TRANSFORMER CONTROL PANEL CONTROL POWER TRANSFORMER COPPER CONTINUOUS OPERATION CURRENT CYCLE DISTANCE DIRECT CURRENT DISCONNECT EMERGENCY DISTRIBUTION TRANSFORMER EQUIPMENT GROUNDING CONDUCTOR EMERGENCY HIGH VOLTAGE DISTRIBUTION  EMERGENCY LOW VOLTAGE DISTRIBUTION  ELECTRICAL METALLIC TUBING ETHYLENE PROPYLENE RUBBER EQUIPMENT EXISTING GROUND GROUND FAULT CIRCUIT INTERRUPTER GROUND FAULT DEVICE HEATER WATER GAS LINE INVERTER NOMINAL CURRENT (AMPS) INTERMEDIATE METAL CONDUIT THOUSAND CIRCULAR MILS THOUSAND VOLT THOUSAND VOLT-AMP THOUSAND WATT LIQUID TIGHT FLEXIBLE METALLIC CONDUIT SHORT CIRCUIT CURRENT LONG, SHORT, INSTANTANEOUS, GROUND TIME MAKEUP AIR UNIT MAINTENANCE BYPASS BREAKER MINI CIRCUIT BREAKERS MOLDED CASE CIRCUIT BREAKERS MAINTENANCE ISOLATION BREAKER MISCELLANEOUS MANUFACTURER MAXIMUM POWER POINT TRACKING MEDIUM VOLTAGE NATIONAL ELECTRIC CODE NATIONAL ELECTRICAL MANUFACTURERS  NATIONAL ELECTRIC SAFETY CODE NOT TO SCALE OVERCURRENT PROTECTION DEVICE POINT OF COMMON COUPLING POWER DISTRIBUTION UNIT POWER FACTOR POINT OF INTERCONNECTION PRIMARY POTENTIAL (VOLTAGE) TRANSFORMER PHOTOVOLTAIC POLYVINYL CHLORIDE POWER RECYCLED CONCRETE AGGREGATE UPS RECTIFIER RIGID METAL CONDUIT RAPID SHUTDOWN ROOFTOP AIR HANDLING UNIT SURGE ARRESTER SCHEDULE SECONDARY SURGE PROTECTION DEVICE TO BE DETERMINED UNDERWRITER'S LAB UNINTERRUPTED POWER SUPPLY VOLT VOLT-AMPERE INPUT VOLTAGE OPEN CIRCUIT VOLTAGE MAXIMUM OPEN CIRCUIT VOLTAGE IN LOWEST  OUTPUT VOLTAGE WATT WEATHER PROOF TRANSFORMER IMPEDANCE</div></div>		<div><div>Drafting/Design Firm</div><div><div>PhRGD</div><div>750 Lexington Ave 9th Floor NY, NY 10022 (646) 866-4734</div></div></div>																					
<div><div>TENANT SAFETY NOTES</div><div><div>1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE AREAS WHERE WORK IS TAKING PLACE, AS WELL AS ANY ADJOINING AREAS WHICH MAY BE AFFECTED BY THE WORK. TO PREVENT SUBJECTING THE OCCUPANTS, STRUCTURES, VEHICLES, EQUIPMENT, OR ANY OTHER PARTS OR CONTENTS OF THE SITE TO HAZARD OR DAMAGE.</div><div>2. CONSTRUCTION SHALL BE PERMITTED DURING NORMAL BUSINESS HOURS 8AM TO 5PM AND SHALL NOT EXCEED PAST THESE TIMES</div><div>3. THE CONTRACTOR SHALL, AT ALL TIMES DURING THE WORK, MAINTAIN ACCESSIBILITY FROM THE STREET TO ALL FIRE HYDRANTS, POWER OR LIGHT POLES, AND SIMILAR UTILITY AND PUBLIC SERVICE ITEMS WITHIN OR ADJACENT TO THE CONSTRUCTION SITE.</div><div>4. WORK SHALL NOT RESTRICT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULLBOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOKUP.</div><div>5. THE OWNERS AND THE AHJ SHALL BE NOTIFIED IN WRITING IN ADVANCE OF ANY REQUIRED CONSTRUCTION OPERATION THAT WILL INVOLVE INTERRUPTION OF THE HEATING, WATER, FIRE PROTECTION SYSTEMS, TELEPHONE, GAS OR ELECTRICAL SERVICES TO THE OTHER BUILDINGS AND AREAS OF THE SITE. THE CONTRACTOR SHALL COORDINATE ANY REQUIRED SHUTDOWN OF THE UTILITIES WITH THE OWNERS, THE AHJ, AND THE UTILITY COMPANY.</div><div>6. ANY DAMAGE TO SURROUNDING PROPERTIES INCLUDING SIDEWALKS, CURBS, TREES, AND STREET SHALL BE REPAIRED SATISFACTORILY TO ORIGINAL CONDITIONS.</div><div>7. PERSONAL PROTECTIVE EQUIPMENT (PE) SHALL BE PROVIDED AS REQUIRED IN ACCORDANCE WITH NEC 70E AND OSHA REQUIREMENTS</div></div></div>		<div><div>ELECTRICAL NOTES</div><div><div>1. ELECTRICAL POWER MUST BE SHUT OFF PRIOR TO THE CONTRACTOR PERFORMING ANY WORK IN RACEWAYS WITH LIVE ELECTRICAL CIRCUITS OR ANY OTHER EQUIPMENT. WHEN SWITCHES OR CIRCUIT BREAKERS ARE OPENED FOR WORK ON ELECTRICAL EQUIPMENT OR WIRING, SIGNS OR TAGS SHOULD BE INSTALLED AT THE SWITCH OR BREAKER STATING THAT WORK IS BEING PERFORMED ON THEM. INCLUDE THE TIME, DATE, AND CONTRACTOR'S NAME ON THE SIGN OR TAG. IF DEVICE IS LOCKABLE, IT SHOULD BE PADLOCKED.</div><div>2. THE ELECTRICAL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE AHJ, NATIONAL FIRE PROTECTION AGENCY (NFPA), NATIONAL ELECTRICAL CODE (NEC), AND OSHA.</div><div>3. PHASING OF NEW CONDUCTORS TO MATCH EXISTING CONDUCTORS. IF INSTALLATING A NEW CIRCUIT, THEN CONTRACTOR SHALL FOLLOW THE PHASING SCHEMES PROVIDED IN THE ELECTRICAL DIAGRAM.</div><div>4. ALL CONDUCTORS SHALL BE COPPER, RATED FOR 90°C WET ENVIRONMENT, AND 1000 VOLTS DC OR 600 VOLTS AC, UNLESS OTHERWISE NOTED.</div><div>5. EQUIPMENT GROUNDING CONDUCTOR FOR PV MODULES SMALLER THAN 6AWG SHALL BE PROTECTED FROM PHYSICAL DAMAGE BY A RACEWAY OR CABLE ARMOR.</div><div>6. ALL EQUIPMENT SHALL BE PROPERLY GROUNDED AND BONDED IN ACCORDANCE WITH NEC ARTICLE 250.</div><div>7. GROUNDING ELECTRODE CONDUCTOR (G.E.C.) SHALL BE CONTINUOUS AND/OR IRREVERSIBLY SPLICED/WELDED.</div><div>8. FLEXIBLE, FINE-STRANDED CABLES SHALL BE TERMINATED ONLY WITH TERMINALS, LUGS, DEVICES, OR CONNECTORS THAT ARE IDENTIFIED AND LISTED FOR SUCH USE PER NEC 690.31(F).</div><div>9. THE UTILITY INTERACTIVE INVERTER SHALL AUTOMATICALLY DE-ENERGIZE ITS OUTPUT TO THE CONNECTED ELECTRICAL PRODUCTION AND DISTRIBUTION NETWORK UPON LOSS OF VOLTAGE IN THE SYSTEM AND SHALL REMAIN IN THE STATE UNTIL THE ELECTRICAL PRODUCTION AND DISTRIBUTION NETWORK VOLTAGE HAS BEEN RESTORED.</div><div>10. DUE TO THE FACTS THAT PV MODULES ARE ENERGIZED WHENEVER EXPOSED TO LIGHT, PV CONTRACTOR SHALL DISABLE THE ARRAY DURING INSTALLATION AND SERVICE BY SHORT CIRCUITING, OPEN CIRCUITING, OR COVERING THE ARRAY WITH OPAQUE COVERING.</div><div>11. ALL WIRES SHALL BE IDENTIFIED BY CIRCUITS IN ALL CABINETS, BOXES, WIRING TROUGHS, AND OTHER ENCLOSURES, AND AT ALL TERMINAL POINTS, I.E., RECEPTACLES, MECHANICAL LUGS, COMPRESSION FITTINGS. THE CIRCUIT DESIGNATIONS SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS OR AS DIRECTED BY THE SYSTEM DESIGN ENGINEER. LABELS OR TAGS SHALL BE APPLIED TO WIRES SO THAT THEY WILL BE READILY VISIBLE.</div><div>12. BREAKERS SHALL BE 80% RATED UNLESS OTHERWISE SPECIFIED.</div><div>13. FUSES FOR SWITCHES SHALL BE CURRENT-LIMITING TYPE WITH A MINIMUM INTERRUPTING CAPACITY OF 200,000 AMPERES RMS (UNLESS OTHERWISE NOTED) AND OF THE CONTINUOUS CURRENT RATINGS AS INDICATED ON THE DRAWINGS OR AS RECOMMENDED BY THE MANUFACTURER.</div></div></div>		<div><div>Developer</div><div><div><div>ceg</div><div>SOLAR</div></div><div>Croton Energy Group Inc 75 Couth Riverside Avenue Croton-on-Hudson, NY 10520 (914) 862-4177</div></div></div>																							
<div><div>PHOTOVOLTAIC NOTES</div><div><div>1. ALL ASPECTS OF WORK RELATED TO THE SOLAR PHOTOVOLTAIC (PV) SYSTEM SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES, UTILITY REQUIREMENTS, AND THE NEC, ESPECIALLY ARTICLE 690.</div><div>2. SOLAR PV MODULE FRAMES SHALL BE BONDED TO RACKING RAIL OR BARE COPPER E.G.C. PER THE MODULE MANUFACTURER'S LISTED INSTRUCTION SHEET.</div><div>3. SOLAR PV SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH NEC 690 PART V: GROUNDING.</div><div>4. COMBINER BOXES, FUSING, WIRE SIZES, QUANTITIES AND CONDUIT SIZES BETWEEN SOLAR ARRAYS AND INVERTERS TO BE VERIFIED BY CONTRACTOR WITH SOLAR MODULE AND INVERTER MANUFACTURERS BEFORE INSTALLATION.</div><div>5. ALL PV SOURCE CIRCUIT CONDUCTORS AND CONNECTORS SHALL BE SUPPORTED AND SECURED WITHOUT EXCESSIVE STRESS. NO WIRING SHALL BE PERMITTED TO TOUCH THE ROOF SURFACE.</div><div>6. PV SOURCE CIRCUIT CONDUCTORS EXPOSED BETWEEN ARRAYS SHALL BE SECURED ON BOTH SIDES, AND BE PROTECTED FROM PHYSICAL DAMAGE AND ABRASION, INCLUDING FROM EDGES OF RACKING, CHANNEL EDGES, WIRE TRAYS, ETC.</div><div>7. ANY CABLE TIES USED SHALL BE HEAT STABILIZED (-40C TO 105C), UV STABILIZED AND OUTDOOR RATED, SUITABLE AND DURABLE FOR THE ENVIRONMENT AND LIFE OF THE PV SYSTEM.</div><div>8. WHERE EXPOSED TO SUNLIGHT, CONDUCTORS SHALL BE LISTED AND MARKED AS SUNLIGHT RESISTANT.</div><div>9. ALL EQUIPMENT GROUND CONDUCTORS SMALLER THAN AWG #6 SHALL BE PROTECTED FROM PHYSICAL DAMAGE BY AN IDENTIFIED RACEWAY OR CABLE ARMOR UNLESS INSTALLED WITHIN THE HOLLOW SPACES OF THE FRAMING MEMBERS OF BUILDINGS OR STRUCTURES AND WHERE NOT SUBJECT TO PHYSICAL DAMAGE.</div></div></div>		<div><div>GENERAL NOTES</div><div><div>1. THE GENERAL NOTES APPLY TO ALL DRAWINGS UNDER THE CONTRACT. REFER TO INDIVIDUAL DRAWINGS FOR ADDITIONAL NOTES.</div><div>2. UNFORESEEN OBSTRUCTIONS ON THE ROOF MAY REQUIRE A CHANGE IN THE LAYOUT. ANY CHANGES TO THE RACKING LAYOUT SHOULD BE REPORTED TO THE ENGINEER. CHANGES IN UP TO 6% OF THE MODULES SHOULD BE ANTICIPATED. CHANGES TO THE ARRAY LAYOUT SHOULD BE MADE AS TO NOT IMPACT THE NUMBER OF MODULES ON A COMBINER BOX OR INVERTER.</div><div>3. DRAWINGS ARE DIAGRAMS AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWINGS IN LAYING OUT OF WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS.</div></div></div>		<table><tr><th>Rev</th><th>Date</th><th>Description</th><th>Initial</th></tr><tr><td>.00</td><td>07/10/22</td><td>Design</td><td>MJ</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>				Rev	Date	Description	Initial	.00	07/10/22	Design	MJ												
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<div><div>G-000.00</div></div>																											



Croton Energy Group Inc  
75 Couth Riverside Avenue  
Croton-on-Hudson, NY 10520  
(914) 862-4177

PROPERTY INFORMATION

Parcel ID: 31.13-1-8

Roof 1 Azimuth: 276° Panel Tilt: 21°

Roof 2 Azimuth: 276° Panel Tilt: 15°

Roof 3 Azimuth: 96° Panel Tilt: 21°

PE Stamps/ Signatures

Thomas Petersen  
Tom Petersen Architect, LLC  
6 Country Lane  
Howell NJ 07731  
NY Architect License # 035290



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Rev	Date	Description	Initial
.00	07/10/22	Design	MJ

22 Quincy Ct  
Golden's Bridge, NY 10526

Owner: Tillmon Residence

Solar Modules: (31) 490W Modules

Solar Inverters: (2) SE7600H-US Inv

Solar System DC Size: 15.2kW

Solar System AC Size: 15.2kW

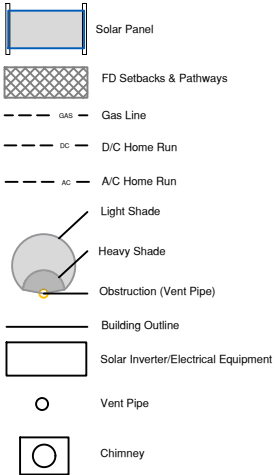
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SYSTEM LAYOUT

Scale: See Scales Page 3 of 7

A-000 .00

LEGEND



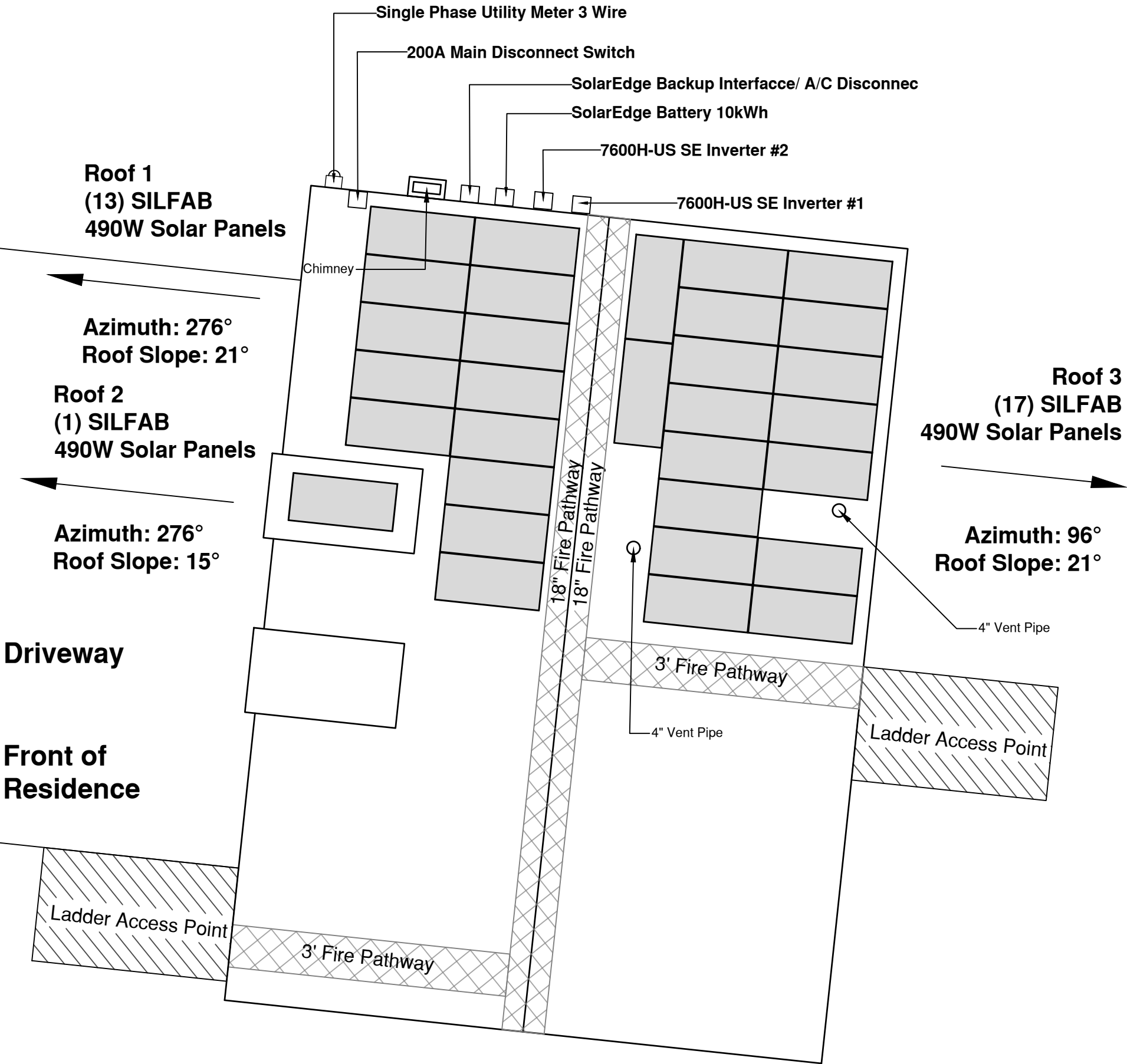
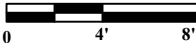
NOTES

Roof Notes:  
Roofing Material:  
One Layer Composite  
Shingle

SITE PHOTOS



SCALE: 1"=8'-0" (IN FEET)



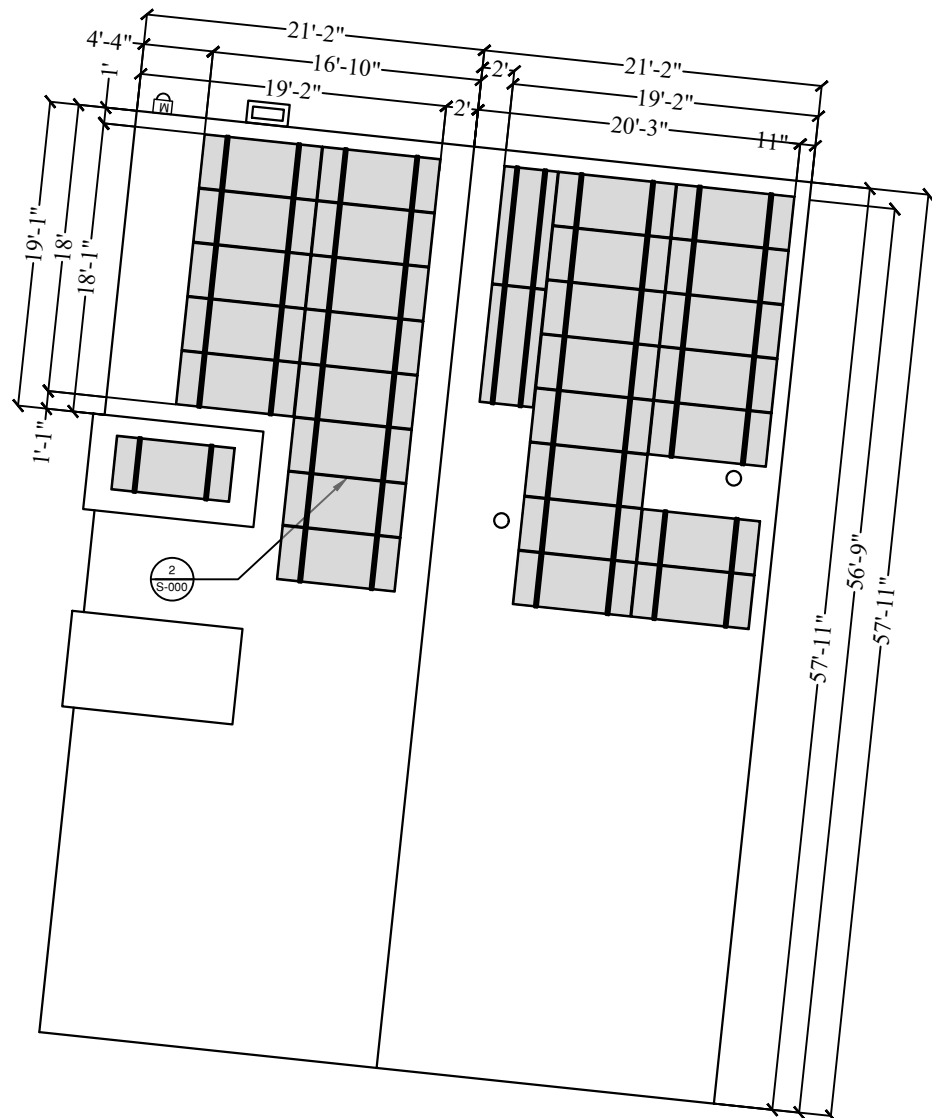
For Tenant Safety, Electrical, and Installation  
notes please see page G-000.00 "General Notes"



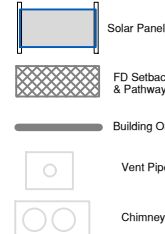
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# ROOF LAYOUT

SCALE: 1"= 12'-0"



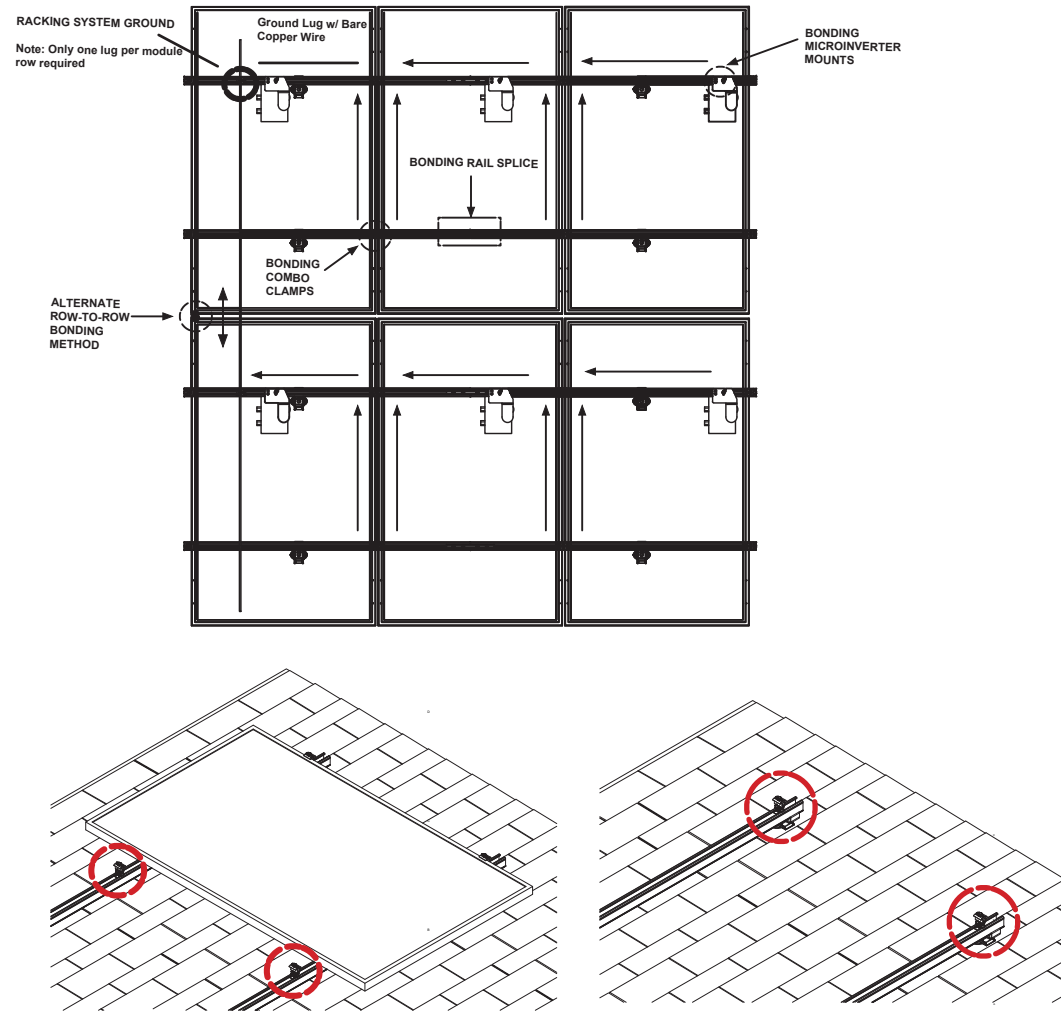
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# NXT HORIZON RACKING DETAIL

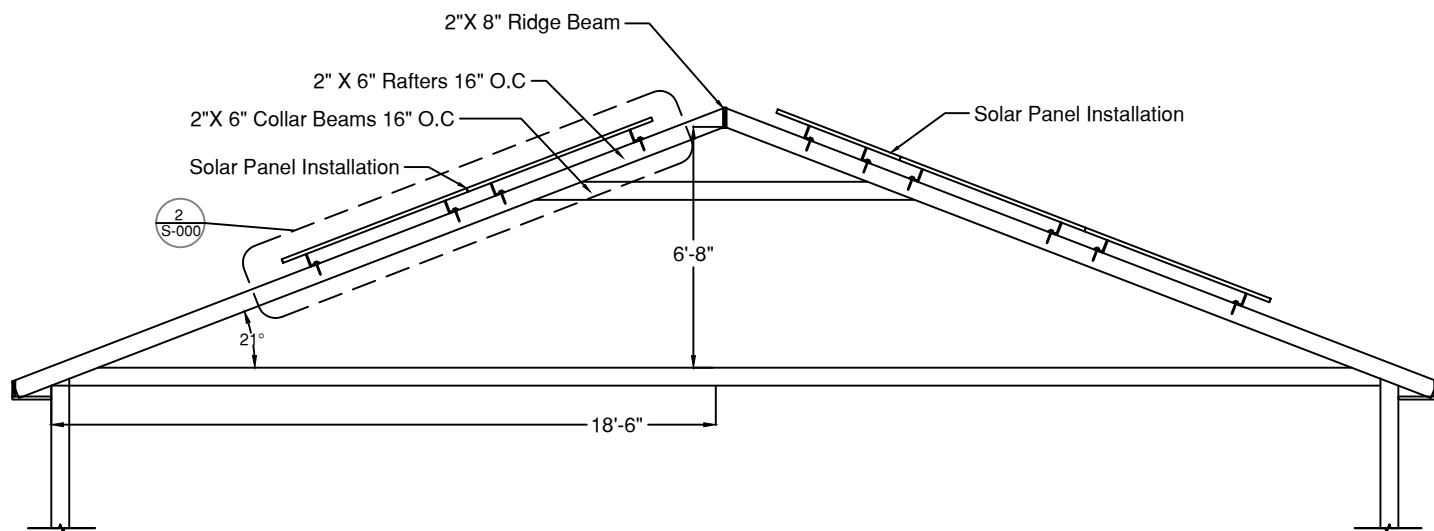
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# STRUCTURE DETAIL

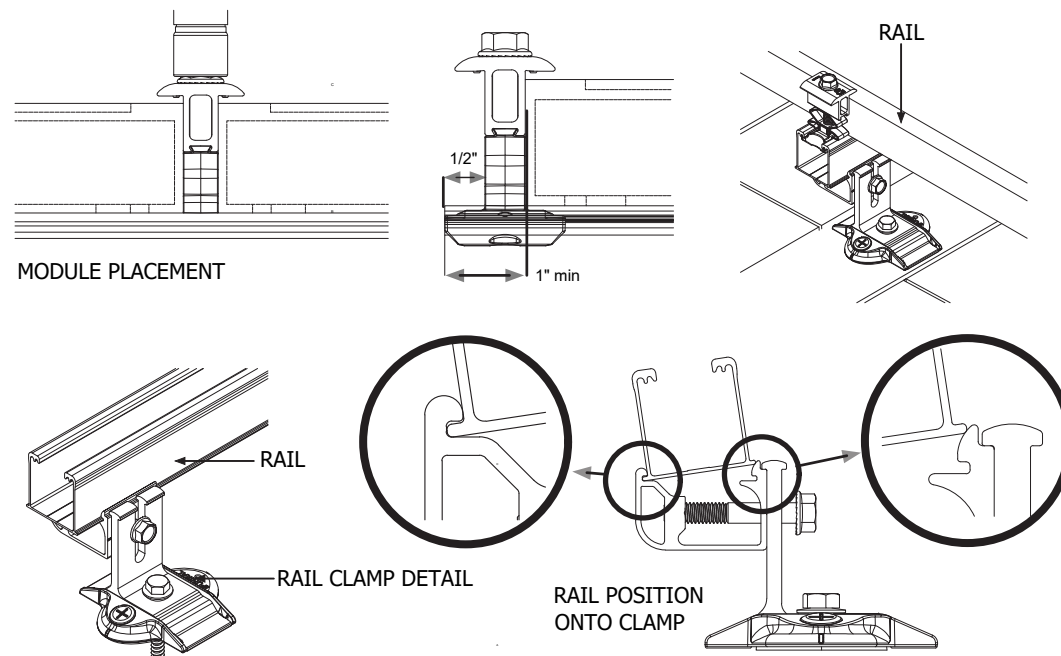
SCALE: NTS



3  
S-000

# RAIL CLAMP ATTACHMENT DETAIL

SCALE: NTS



Drafting/Design Firm

**PhRGD**

750 Lexington Ave 9th Floor  
NY, NY 10022  
(646) 866-4734

Developer



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Page Size: 11" x 17"

ROOF LAYOUT &  
DETAILS

Scale: See Scales Page 4 of 7

**S-000 .00**

Labels comply with NEC 110.21(B) and ANSI Z535.4

⚠️

WARNING

ELECTRIC SHOCK HAZARD

DO NOT TOUCH TERMINALS.  
TERMINALS ON BOTH THE LINE  
AND LOAD SIDES MAY BE  
ENERGIZED IN THE OPEN POSITION

INVERTER  
(DC DISCONNECT)  
COMBINER PANEL  
A/C DISCONNECT  
JUNCTION BOX

⚠️

CAUTION

DUAL POWER SOURCE

DO NOT INSTALL ADDITIONAL  
LOADS IN THIS PANEL

COMBINER PANEL

PHOTOVOLTAIC SYSTEM EQUIPPED WITH:  
RAPID SHUTDOWN

INVERTER  
A/C DISCONNECT

SOLAR AC DISCONNECT

INVERTER  
A/C DISCONNECT

SOLAR DC DISCONNECT

INVERTER  
D/C DISCONNECT

WARNING:  
PHOTOVOLTAIC POWER SOURCE

CONDUIT EVERY 10 FT  
JUNCTION BOX

⚠️

WARNING

ELECTRIC SHOCK HAZARD

THE DC CONDUCTORS OF THIS  
PHOTOVOLTAIC SYSTEM ARE  
UNGROUNDING AND MAY  
BE ENERGIZED

INVERTER  
(DC DISCONNECT)  
JUNCTION BOX

⚠️

WARNING

INVERTER OUTPUT CONNECTION

DO NOT RELOCATE THIS  
OVERCURRENT DEVICE

COMBINER PANEL  
MAIN  
DISTRIBUTION

⚠️

WARNING

ELECTRIC SHOCK HAZARD

IF A GROUND FAULT IS INDICATED,  
NORMALLY GROUNDED  
CONDUCTORS MAY  
BE UNGROUNDED AND ENERGIZED

INVERTER  
(DC DISCONNECT)

⚠️

WARNING

DUAL POWER SOURCE

TOTAL RATING OF ALL  
OVERCURRENT DEVICES,  
EXCLUDING MAIN SUPPLY  
OVERCURRENT DEVICE, SHALL NOT  
EXCEED AMPACITY OF BUSBAR

COMBINER PANEL

WARNING: ELECTRIC SHOCK HAZARD.  
DO NOT TOUCH TERMINALS.  
TERMINALS ON BOTH THE LINE AND LOAD  
SIDES MAY BE ENERGIZED IN THE OPEN  
POSITION. FOR SERVICE DE-ENERGIZE BOTH  
SOURCE AND MAIN BREAKER.  
PV POWER SOURCE  
AC OUTPUT CURRENT: 80A  
MAX AC VOLTAGE: 240V

MAIN  
DISTRIBUTION

⚠️

DANGER

ARC FLASH HAZARD

APPROPRIATE PPE REQUIRED.  
FAILURE TO COMPLY CAN RESULT  
IN INJURY OR DEATH. REFER TO  
NFPA 70E.

COMBINER PANEL

GRID TIED PHOTOVOLTAIC POWER SOURCE  
MAX POWER POINT CURRENT: 20 A  
MAX POWER POINT VOLTAGE: 400V  
MAX SYSTEM VOLTAGE: 600V  
MAX SYSTEM CURRENT: 45A  
  
MAX INVERTER OUTPUT:  
7.6kW, 32A, 240V

7.6kW SE INVERTER #1

⚠️

CAUTION

DUAL POWER SOURCE

TWO POWER SOURCES INSIDE  
UTILITY AND SOLAR PV

MAIN DISTRIBUTION  
PANEL

GRID TIED PHOTOVOLTAIC POWER SOURCE  
MAX POWER POINT CURRENT: 20 A  
MAX POWER POINT VOLTAGE: 400V  
MAX SYSTEM VOLTAGE: 600V  
MAX SYSTEM CURRENT: 45A  
  
MAX INVERTER OUTPUT:  
7.6kW, 32A, 240V

7.6kW SE INVERTER #2

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LABELS

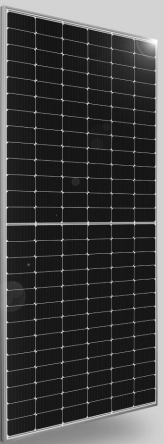
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SILFAB COMMERCIAL

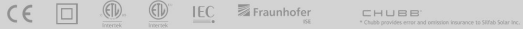
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SL-490 HN



ENGINEERED FOR COMMERCIAL & UTILITY PROJECTS  
Introducing Silfab Commercial.  
Superior performance and proven reliability from a trusted source.

SILFABSOLAR.COM



Single Phase Energy Hub Inverter with Prism Technology for North America

SE3000H-US / SE3800H-US / SE6000H-US / SE7600H-US<sup>(1)</sup>



HOME BACKUP

- Optimized battery storage with HD-Wave technology
- Record-breaking 99% weighted efficiency with 200% DC oversizing
  - Multi-inverter, scalable storage solution
  - Integrated arc fault protection and rapid shutdown for NEC 2014, NEC 2017 and NEC 2020, per article 690.11 and 690.12
  - Small, lightweight, and easy to install
  - Modular design, future ready with optional upgrades to:
    - DC-coupled storage for full or partial home backup
    - Built-in consumption monitoring
    - Direct connection to the SolarEdge smart EV charger
  - Embedded revenue grade production data, ANSI C12.20 Class 0.5

solar edge

Power Optimizer

For North America

P370 / P400 / P401 / P485 / P505



POWER OPTIMIZER

- PV power optimization at the module-level
- Specifically designed to work with SolarEdge inverters
  - Fast installation with a single bolt
  - Up to 25% more energy
  - Next generation maintenance with module-level monitoring
  - Superior efficiency (99.5%)
  - Meets NEC requirements for arc fault protection (AFC) and Photovoltaic Rapid Shutdown System (PVRSS)
  - Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
  - Module-level voltage shutdown for installer and firefighter safety
  - Flexible system design for maximum space utilization

solar edge

Backup Interface for North America

	BI-EUSGN-01	BI-NUSGN-01	
INPUT FROM GRID			
AC Current Input	200		A
AC Output Voltage (Nominal)	240		Vac
AC Output Voltage Range	211 - 264		Vac
AC Frequency (Nominal)	60		Hz
AC Frequency Range	59.3 - 60.5		Hz
Microgrid Interconnection Device Rated Current	200		A
Service Side AC Main Circuit Breaker Rated Current	200	N/A	A
Service Side AC Main Circuit Breaker Interrupt Current	80k	N/A	A
Grid Disconnection Switchover Time	<100		ms
OUTPUT TO MAIN DISTRIBUTION PANEL			
Maximum AC Current Output	200		A
AC L-L Output Voltage (Nominal)	240		Vac
AC L-L Output Voltage Range	211 - 264		Vac
AC Frequency (Nominal)	60		Hz
AC Frequency Range	59.3 - 60.5		Hz
Maximum Inverter AC Current Output In Backup Operation	70		A
Imbalance Compensation In Backup Operation	3000		W
AC L-N Output Voltage In Backup (Nominal)	120		V
AC L-N Output Voltage Range In Backup	105 - 132		V
AC Frequency Range In Backup	55 - 65		Hz
INPUT FROM INVERTER			
Number of Inverter Inputs	3		#
Rated AC Power	7,600		W
Maximum Continuous Input Current @ 240V	32		A
Rated AC Power in Continuous Backup Operation	6,800		W
Maximum Continuous Input Current in Backup Operation	26		A
Three AC Power (L-N) and In Backup Operation	2,000		W
Peak AC Current (L-N) and In Backup Operation	30		A
Inverter Input AC Circuit Breaker	40		A
Upgradability	Up to 3 x 65A CB <sup>(1)</sup>		
GENERATOR <sup>(2)</sup>			
Maximum Rated AC Power	15,000		W
Maximum Continuous Input Current	63		Adc
Dry Contact Switch Voltage Rating	250/30		Vac/Vdc
Dry Contact Switch Current Rating	5		A
Emergency Stop Switch	Yes		
ADDITIONAL FEATURES			
Isolation Type	Suitable for use as service equipment	For main lug only	
Number of Communication Inputs	2		
Communication	RS485		
Energy Meter (for Import/Export)	Yes		
Manual Control Over Microgrid Interconnection Device	Yes		

<sup>(1)</sup> For 40A CB supporting up to 15kW inverter with each 15kW CB supporting one 15kW and one 11.4kW inverter. The CB upgrade kit is available with the following part numbers: for 40A CB, CB-UPG-40-2; for 60A, CB-CH-UPG-60-1.  
<sup>(2)</sup> Requires supporting inverter features.

ELECTRICAL SPECIFICATIONS		450 V-N	
Test Conditions			
Module Power (Pmax)	Wp	400	NOCT
Maximum power voltage (Vmp)	V	45.23	362
Maximum power current (Imp)	A	8.83	0.61
Open circuit voltage (Voc)	V	53.95	0.56
Short circuit current (Is)	A	11.36	0.52
Module efficiency	%	20.9%	20.3%
Maximum system voltage (VDC)	V		1500
Series fuse rating	A		20
Power Tolerance	Wp		610 ±10
Measurement conditions: STC 1000 W/m², AM 1.5, Temperature 25 °C, NOCT 45 °C, NOCT 80 W/m², AM 1.5, Measurement uncertainty ± 3% See simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by 0.5% and power by 1% at 45°C.			
MECHANICAL PROPERTY SPECIFICATIONS		DETAILS	
Module weight	20.5kg (45.2lb)	56.4mm (2.22in)	
Dimensions (H x L x B)	2050 mm x 997 mm x 35 mm	89 in x 45.8 in x 1.37 in	
Maximum surface load (wind/snow) <sup>(1)</sup>	2400 Pa rear load / 1400 Pa front load	56.1 lb/ft² rear load / 33.2 lb/ft² front load	
Cell	4.2 mm x 66 mm	4.2 in x 2.6 in	
Cell	156 Half cells, Si mono PERC	156 Half cells, Si mono PERC	
Cell	3.2 mm High Transmittance, tempered, anti-reflective coating	3.2 mm High Transmittance, tempered, anti-reflective coating	
Glass	3.2 mm High Transmittance, tempered, anti-reflective coating	3.2 mm High Transmittance, tempered, anti-reflective coating	
Cables and connectors (refer to installation manual)	120 mm x 2 mm, MC4 from SolarEdge	120 mm x 2 mm, MC4 from SolarEdge	
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film	
Frame	Anodized Aluminum (6061)	Anodized Aluminum (6061)	
Bypass diodes	3 diodes 30SQ46T 45V max DC blocking voltage, 30A max forward rectified current	3 diodes 30SQ46T 45V max DC blocking voltage, 30A max forward rectified current	
Junction Box	UL 3750 Certified, 40°C 62790 Certified, IP68 rated	UL 3750 Certified, 40°C 62790 Certified, IP68 rated	
ENVIRONMENTAL SPECIFICATIONS		DETAILS	
Temperature Coefficient Isc	+0.054 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.28 %/°C	Linear power performance guarantee	30 years
Temperature Coefficient Pmax	-0.38 %/°C		
NOCT (25 °C)	45 °C		
Operating temperature	-40/+85 °C		
CERTIFICATIONS		SHIPPING SPECS	
Product	ULC 6090-CT300, UL 1740, CEI 1604, UL 61010-1, UL 6180-1-2, UL 6181-1-2, UL 6182-1-2, UL 6183-1-2, UL 6184-1-2, UL 6185-1-2, UL 6186-1-2, UL 6187-1-2, UL 6188-1-2, UL 6189-1-2, UL 6190-1-2, UL 6191-1-2, UL 6192-1-2, UL 6193-1-2, UL 6194-1-2, UL 6195-1-2, UL 6196-1-2, UL 6197-1-2, UL 6198-1-2, UL 6199-1-2, UL 6200-1-2, UL 6201-1-2, UL 6202-1-2, UL 6203-1-2, UL 6204-1-2, UL 6205-1-2, UL 6206-1-2, UL 6207-1-2, UL 6208-1-2, UL 6209-1-2, UL 6210-1-2, UL 6211-1-2, UL 6212-1-2, UL 6213-1-2, UL 6214-1-2, UL 6215-1-2, UL 6216-1-2, UL 6217-1-2, UL 6218-1-2, UL 6219-1-2, UL 6220-1-2, UL 6221-1-2, UL 6222-1-2, UL 6223-1-2, UL 6224-1-2, UL 6225-1-2, UL 6226-1-2, UL 6227-1-2, UL 6228-1-2, UL 6229-1-2, UL 6230-1-2, UL 6231-1-2, UL 6232-1-2, UL 6233-1-2, UL 6234-1-2, UL 6235-1-2, UL 6236-1-2, UL 6237-1-2, UL 6238-1-2, UL 6239-1-2, UL 6240-1-2, UL 6241-1-2, UL 6242-1-2, UL 6243-1-2, UL 6244-1-2, UL 6245-1-2, UL 6246-1-2, UL 6247-1-2, UL 6248-1-2, UL 6249-1-2, UL 6250-1-2, UL 6251-1-2, UL 6252-1-2, UL 6253-1-2, UL 6254-1-2, UL 6255-1-2, UL 6256-1-2, UL 6257-1-2, UL 6258-1-2, UL 6259-1-2, UL 6260-1-2, UL 6261-1-2, UL 6262-1-2, UL 6263-1-2, UL 6264-1-2, UL 6265-1-2, UL 6266-1-2, UL 6267-1-2, UL 6268-1-2, UL 6269-1-2, UL 6270-1-2, UL 6271-1-2, UL 6272-1-2, UL 6273-1-2, UL 6274-1-2, UL 6275-1-2, UL 6276-1-2, UL 6277-1-2, UL 6278-1-2, UL 6279-1-2, UL 6280-1-2, UL 6281-1-2, UL 6282-1-2, UL 6283-1-2, UL 6284-1-2, UL 6285-1-2, UL 6286-1-2, UL 6287-1-2, UL 6288-1-2, UL 6289-1-2, UL 6290-1-2, UL 6291-1-2, UL 6292-1-2, UL 6293-1-2, UL 6294-1-2, UL 6295-1-2, UL 6296-1-2, UL 6297-1-2, UL 6298-1-2, UL 6299-1-2, UL 6300-1-2, UL 6301-1-2, UL 6302-1-2, UL 6303-1-2, UL 6304-1-2, UL 6305-1-2, UL 6306-1-2, UL 6307-1-2, UL 6308-1-2, UL 6309-1-2, UL 6310-1-2, UL 6311-1-2, UL 6312-1-2, UL 6313-1-2, UL 6314-1-2, UL 6315-1-2, UL 6316-1-2, UL 6317-1-2, UL 6318-1-2, UL 6319-1-2, UL 6320-1-2, UL 6321-1-2, UL 6322-1-2, UL 6323-1-2, UL 6324-1-2, UL 6325-1-2, UL 6326-1-2, UL 6327-1-2, UL 6328-1-2, UL 6329-1-2, UL 6330-1-2, UL 6331-1-2, UL 6332-1-2, UL 6333-1-2, UL 6334-1-2, UL 6335-1-2, UL 6336-1-2, UL 6337-1-2, UL 6338-1-2, UL 6339-1-2, UL 6340-1-2, UL 6341-1-2, UL 6342-1-2, UL 6343-1-2, UL 6344-1-2, UL 6345-1-2, UL 6346-1-2, UL 6347-1-2, UL 6348-1-2, UL 6349-1-2, UL 6350-1-2, UL 6351-1-2, UL 6352-1-2, UL 6353-1-2, UL 6354-1-2, UL 6355-1-2, UL 6356-1-2, UL 6357-1-2, UL 6358-1-2, UL 6359-1-2, UL 6360-1-2, UL 6361-1-2, UL 6362-1-2, UL 6363-1-2, UL 6364-1-2, UL 6365-1-2, UL 6366-1-2, UL 6367-1-2, UL 6368-1-2, UL 6369-1-2, UL 6370-1-2, UL 6371-1-2, UL 6372-1-2, UL 6373-1-2, UL 6374-1-2, UL 6375-1-2, UL 6376-1-2, UL 6377-1-2, UL 6378-1-2, UL 6379-1-2, UL 6380-1-2, UL 6381-1-2, UL 6382-1-2, UL 6383-1-2, UL 6384-1-2, UL 6385-1-2, UL 6386-1-2, UL 6387-1-2, UL 6388-1-2, UL 6389-1-2, UL 6390-1-2, UL 6391-1-2, UL 6392-1-2, UL 6393-1-2, UL 6394-1-2, UL 6395-1-2, UL 6396-1-2, UL 6397-1-2, UL 6398-1-2, UL 6399-1-2, UL 6400-1-2, UL 6401-1-2, UL 6402-1-2, UL 6403-1-2, UL 6404-1-2, UL 6405-1-2, UL 6406-1-2, UL 6407-1-2, UL 6408-1-2, UL 6409-1-2, UL 6410-1-2, UL 6411-1-2, UL 6412-1-2, UL 6413-1-2, UL 6414-1-2, UL 6415-1-2, UL 6416-1-2, UL 6417-1-2, UL 6418-1-2, UL 6419-1-2, UL 6420-1-2, UL 6421-1-2, UL 6422-1-2, UL 6423-1-2, UL 6424-1-2, UL 6425-1-2, UL 6426-1-2, UL 6427-1-2, UL 6428-1-2, UL 6429-1-2, UL 6430-1-2, UL 6431-1-2, UL 6432-1-2, UL 6433-1-2, UL 6434-1-2, UL 6435-1-2, UL 6436-1-2, UL 6437-1-2, UL 6438-1-2, UL 6439-1-2, UL 6440-1-2, UL 6441-1-2, UL 6442-1-2, UL 6443-1-2, UL 6444-1-2, UL 6445-1-2, UL 6446-1-2, UL 6447-1-2, UL 6448-1-2, UL 6449-1-2, UL 6450-1-2, UL 6451-1-2, UL 6452-1-2, UL 6453-1-2, UL 6454-1-2, UL 6455-1-2, UL 6456-1-2, UL 6457-1-2, UL 6458-1-2, UL 6459-1-2, UL 6460-1-2, UL 6461-1-2, UL 6462-1-2, UL 6463-1-2, UL 6464-1-2, UL 6465-1-2, UL 6466-1-2, UL 6467-1-2, UL 6468-1-2, UL 6469-1-2, UL 6470-1-2, UL 6471-1-2, UL 6472-1-2, UL 6473-1-2, UL 6474-1-2, UL 6475-1-2, UL 6476-1-2, UL 6477-1-2, UL 6478-1-2, UL 6479-1-2, UL 6480-1-2, UL 6481-1-2, UL 6482-1-2, UL 6483-1-2, UL 6484-1-2, UL 6485-1-2, UL 6486-1-2, UL 6487-1-2, UL 6488-1-2, UL 6489-1-2, UL 6490-1-2, UL 6491-1-2, UL 6492-1-2, UL 6493-1-2, UL 6494-1-2, UL 6495-1-2, UL 6496-1-2, UL 6497-1-2, UL 6498-1-2, UL 6499-1-2, UL 6500-1-2, UL 6501-1-2, UL 6502-1-2, UL 6503-1-2, UL 6504-1-2, UL 6505-1-2, UL 6506-1-2, UL 6507-1-2, UL 6508-1-2, UL 6509-1-2, UL 6510-1-2, UL 6511-1-2, UL 6512-1-2, UL 6513-1-2, UL 6514-1-2, UL 6515-1-2, UL 6516-1-2, UL 6517-1-2, UL 6518-1-2, UL 6519-1-2, UL 6520-1-2, UL 6521-1-2, UL 6522-1-2, UL 6523-1-2, UL 6524-1-2, UL 6525-1-2, UL 6526-1-2, UL 6527-1-2, UL 6528-1-2, UL 6529-1-2, UL 6530-1-2, UL 6531-1-2, UL 6532-1-2, UL 6533-1-2, UL 6534-1-2, UL 6535-1-2, UL 6536-1-2, UL 6537-1-2, UL 6538-1-2, UL 6539-1-2, UL 6540-1-2, UL 6541-1-2, UL 6542-1-2, UL 6543-1-2, UL 6544-1-2, UL 6545-1-2, UL 6546-1-2, UL 6547-1-2, UL 6548-1-2, UL 6549-1-2, UL 6550-1-2, UL 6551-1-2, UL 6552-1-2, UL 6553-1-2, UL 6554-1-2, UL 6555-1-2, UL 6556-1-2, UL 6557-1-2, UL 6558-1-2, UL 6559-1-2, UL 6560-1-2, UL 6561-1-2, UL 6562-1-2, UL 6563-1-2, UL 6564-1-2, UL 6565-1-2, UL 6566-1-2, UL 6567-1-2, UL 6568-1-2, UL 6569-1-2, UL 6570-1-2, UL 6571-1-2, UL 6572-1-2, UL 6573-1-2, UL 6574-1-2, UL 6575-1-2, UL 6576-1-2, UL 6577-1-2, UL 6578-1-2, UL 6579-1-2, UL 6580-1-2, UL 6581-1-2, UL 6582-1-2, UL 6583-1-2, UL 6584-1-2, UL 6585-1-2, UL 6586-1-2, UL 6587-1-2, UL 6588-1-2, UL 6589-1-2, UL 6590-1-2, UL 6591-1-2, UL 6592-1-2, UL 6593-1-2, UL 6594-1-2, UL 6595-1-2, UL 6596-1-2, UL 6597-1-2, UL 6598-1-2, UL 6599-1-2, UL 6600-1-2, UL 6601-1-2, UL 6602-1-2, UL 6603-1-2, UL 6604-1-2, UL 6605-1-2, UL 6606-1-2, UL 6607-1-2, UL 6608-1-2, UL 6609-1-2, UL 6610-1-2, UL 6611-1-2, UL 6612-1-2, UL 6613-1-2, UL 6614-1-2, UL 6615-1-2, UL 6616-1-2, UL 6617-1-2, UL 6618-1-2, UL 6619-1-2, UL 6620-1-2, UL 6621-1-2, UL 6622-1-2, UL 6623-1-2, UL 6624-1-2, UL 6625-1-2, UL 6626-1-2, UL 6627-1-2, UL 6628-1-2, UL 6629-1-2, UL 6630-1-2, UL 6631-1-2, UL 6632-1-2, UL 6633-1-2, UL 6634-1-2, UL 6635-1-2, UL 6636-1-2, UL 6637-1-2, UL 6638-1-2, UL 6639-1-2, UL 6640-1-2, UL 6641-1-2, UL 6642-1-2, UL 6643-1-2, UL 6644-1-2, UL 6645-1-2, UL 6646-1-2, UL 6647-1-2, UL 6648-1-2, UL 6649-1-2, UL 6650-1-2, UL 6651-1-2, UL 6652-1-2, UL 6653-1-2, UL 6654-1-2, UL 6655-1-2, UL 6656-1-2, UL 6657-1-2, UL 6658-1-2, UL 6659-1-2, UL 6660-1-2, UL 6661-1-2, UL 6662-1-2, UL 6663-1-2, UL 6664-1-2, UL 6665-1-2, UL 6666-1-2, UL 6667-1-2, UL 6668-1-2, UL 6669-1-2, UL 6670-1-2, UL 6671-1-2, UL 6672-1-2, UL 6673-1-2, UL 6674-1-2, UL 6675-1-2, UL 6676-1-2, UL 6677-1-2, UL 6678-1-2, UL 6679-1-2, UL 6680-1-2, UL 6681-1-2, UL 6682-1-2, UL 6683-1-2, UL 6684-1-2, UL 6685-1-2, UL 6686-1-2, UL 6687-1-2, UL 6688-1-2, UL 6689-1-2, UL 6690-1-2, UL 6691-1-2, UL 6692-1-2, UL 6693-1-2, UL 6694-1-2, UL 6695-1-2, UL 6696-1-2, UL 6697-1-2, UL 6698-1-2, UL 6699-1-2, UL 6700-1-2, UL 6701-1-2, UL 6702-1-2, UL 6703-1-2, UL 6704-1-2, UL 6705-1-2, UL 6706-1-2, UL 6707-1-2, UL 6708-1-2, UL 6709-1-2, UL 6710-1-2, UL 6711-1-2, UL 6712-1-2, UL 6713-1-2, UL 6714-1-2, UL 6715-1-2, UL 6716-1-2, UL 6717-1-2, UL 6718-1-2, UL 6719-1-2, UL 6720-1-2, UL 6721-1-2, UL 6722-1-2, UL 6723-1-2, UL 6724-1-2, UL 6725-1-2, UL 6726-1-2, UL 6727-1-2, UL 6728-1-2, UL 6729-1-2, UL 6730-1-2, UL 6731-1-2, UL 6732-1-2, UL 6733-1-2, UL 6734-1-2, UL 6735-1-2, UL 6736-1-2, UL 6737-1-2, UL 6738-1-2, UL 6739-1-2, UL 6740-1-2, UL 6741-1-2, UL 6742-1-2, UL 6743-1-2, UL 6744-1-2, UL 6745-1-2, UL 6746-1-2, UL 6747-1-2, UL 6748-1-2, UL 6749-1-2, UL 6750-1-2, UL 6751-1-2, UL 6752-1-2, UL 6753-1-2, UL 6754-1-2, UL 6755-1-2, UL 6756-1-2, UL 6757-1-2, UL 6758-1-2, UL 6759-1-2, UL 6760-1-2, UL 6761-1-2, UL 6762-1-2, UL 6763-1-2, UL 6764-1-2, UL 6765-1-2, UL 6766-1-2, UL 6767-1-2, UL 6768-1-2, UL 6769-1-2, UL 6770-1-2, UL 6771-1-2, UL 6772-1-2, UL 6773-1-2, UL 6774-1-2, UL 6775-1-2, UL 6776-1-2, UL 6777-1-2, UL 6778-1-2, UL 6779-1-2, UL 6780-1-2, UL 6781-1-2, UL 6782-1-2, UL 6783-1-2, UL 6784-1-2, UL 6785-1-2, UL 6786-1-2, UL 6787-1-2, UL 6788-1-2, UL 6789-1-2, UL 6790-1-2, UL 6791-1-2, UL 6792-1-2, UL 6793-1-2, UL 6794-1-2, UL 6795-1-2, UL 6796-1-2, UL 6797-1-2, UL 6798-1-2, UL 6799-1-2, UL 6800-1-2, UL 6801-1-2, UL 6802-1-2, UL 6803-1-2, UL 6804-1-2, UL 6805-1-2, UL 6806-1-2, UL 6807-1-2, UL 6808-1-2, UL 6809-1-2, UL 6810-1-2, UL 6811-1-2, UL 6812-1-2, UL 6813-1-2, UL 6814-1-2, UL 6815-1-2, UL 6816-1-2, UL 6817-1-2, UL 6818-1-2, UL 6819-1-2, UL 6820-1-2, UL 6821-1-2, UL 6822-1-2, UL 6823-1-2, UL 6824-1-2, UL 6825-1-2, UL 6826-1-2, UL 6827-1-2, UL 6828-1-2, UL 6829-1-2, UL 6830-1-2, UL 6831-1-2, UL 6832-1-2, UL 6833-1-2, UL 6834-1-2, UL 6835-1-2, UL 6836-1-2, UL 6837-1-2, UL 6838-1-2, UL 6839-1-2, UL 6840-1-2, UL 6841-1-2, UL 6842-1-2, UL 6843-1-2, UL 6844-1-2, UL 6845-1-2, UL 6846-1-2, UL 6847-1-2, UL 6848-1-2, UL 6849-1-2, UL 6850-1-2, UL 6851-1-2, UL 6852-1-2, UL 6853-1-2, UL 6854-1-2, UL 6855-1-2, UL 6856-1-2, UL 6857-1-2, UL 6858-1-2, UL 6859-1-2, UL 6860-1-2, UL 6861-1-2, UL 6862-1-2, UL 6863-1-2, UL 6864-1-2, UL 6865-1-2, UL 6866-1-2, UL 6867-1-2, UL 6868-1-2, UL 6869-1-2, UL 6870-1-2, UL 6871-1-2, UL 6872-1-2, UL 6873-1-2, UL 6874-1-2, UL 6875-1-2, UL 6876-1-2, UL 6877-1-2, UL 6878-1-2, UL 6879-1-2, UL 6880-1-2, UL 6881-1-2, UL 6882-1-2, UL 6883-1-2, UL 6884-1-2, UL 6885-1-2, UL 6886-1-2, UL 6887-1-2, UL 6888-1-2, UL 6889-1-2, UL 6890-1-2, UL 6891-1-2, UL 6892-1-2, UL 6893-1-2, UL 6894-1-2, UL 6895-1-2, UL 6896-1-2, UL 6897-1-2, UL 6898-1-2, UL 6899-1-2, UL 6900-1-2, UL 6901-1-2, UL 6902-1-2, UL 6903-1-2, UL 6904-1-2, UL 6905-1-2, UL 6906-1-2, UL 6907-1-2, UL 6908-1-2, UL 6909-1-2, UL 6910-1-2, UL 6911-1-2, UL 6912-1-2, UL 6913-1-2, UL 6914-1-2, UL 6915-1-2, UL 6916-1-2, UL 6917-1-2, UL 6918-1-2, UL 6919-1-2, UL 6920-1-2, UL 6921-1-2, UL 6922-1-2, UL 6923-1-2, UL 6924-1-2, UL 6925-1-2, UL 6926-1-2, UL 6927-1-2, UL 6928-1-2, UL 6929-1-2, UL 6930-1-2, UL 6931-1-2, UL 6932-1-2, UL 6933-1-2, UL 6934-1-2, UL 6935-1-2, UL 6936-1-2, UL 6937-1-2, UL 6938-1-2, UL 6939-1-2, UL 6940-1-2, UL 6941-1-2, UL 6942-1-2, UL 6943-1-2, UL 6944-1-2, UL 6945-1-2, UL 6946-1-2, UL 6947-1-2, UL 6948-1-2, UL 6949-1-2, UL 6950-1-2, UL 6951-1-2, UL 6952-1-2, UL 6953-1-2, UL 6954-1-2, UL 6955-1-2, UL 6956-1-2, UL 6957-1-2, UL 6958-1-2, UL 6959-1-2, UL 6960-1-2, UL 6961-1-2, UL 6962-1-2, UL 6963-1-2, UL 6964-1-2, UL 6965-1-2, UL 6966-1-2, UL 6967-1-2, UL 6968-1-2, UL 6969-1-2, UL 6970-1-2, UL 6971-1-2, UL 6972-1-2, UL 6973-1-2, UL 6974-1-2, UL 6975-1-2, UL 6976-1-2, UL 6977-1-2, UL 6978-1-2, UL 6979-1-2, UL 6980-1-2, UL 6981-1-2, UL 6982-1-2, UL 6983-1-2, UL 6984-1-2, UL 6985-1-2, UL 6986-1-2, UL 6987-1-2, UL 6988-1-2, UL 6989-1-2, UL 6990-1-2, UL 6991-1-2, UL 6992-1-2, UL 6993-1-2, UL 6994-1-2, UL 6995-1-2, UL 6996-1-2, UL 6997-1-2, UL 6998-1-2, UL 6999-1-2, UL 7000-1-2, UL 7001-1-2, UL 7002-1-2, UL 7003-1-2, UL 7004-1-2, UL 7005-1-2, UL 7006-1-2, UL 7007-1-2, UL 7008-1-2, UL 7009-1-2, UL 7010-1-2, UL 7011-1-2, UL 7012-1-2, UL 7013-1-2, UL 7014-1-2, UL 7015-1-2, UL 7016-1-2, UL 7017-1-2, UL 7018-1-2, UL 7019-1-2, UL 7020-1-2, UL 7021-1-2, UL 7022-1-2, UL 7023-1-2, UL 7024-1-2, UL 7025-1-2, UL 7026-1-2, UL 7027-1-2, UL 7028-1-2, UL 7029-1-2, UL 7030-1-2, UL 7031-1-2, UL 7032-1-2, UL 7033-1-2, UL 7034-1-2, UL 7035-1-2, UL 7036-1-2, UL 7037-1-2, UL 7038-1-2, UL 7039-1-2, UL 7040-1-2, UL 7041-1-2, UL 7042-1-2, UL 7043-1-2, UL 7044-1-2, UL 7045-1-2, UL 7046-1-2, UL 7047-1-2, UL 7048-1-2, UL 7049-1-2, UL 7050-1-2, UL 7051-1-2, UL 7052-1-2, UL 7053-1-2, UL 7054-1-2, UL 7055-1-2, UL 7056-1-2, UL 7057-1-2, UL 7058-1-2, UL 7059-1-2, UL 7060-1-2, UL 7061-1-2, UL 7062-1-2, UL 7063-1-2, UL 7064-1-2, UL 7065-1-2, UL 7066-1-2, UL 7067-1-2, UL 7068-1-2, UL 7069-1-2, UL 7070-1-2, UL 7071-1-2, UL 7072-1-2, UL 7073-1-2, UL 7074-1-2, UL 7075-1-2, UL 7076-1-2, UL 7077-1-2, UL 7078-1-2, UL 7079-1-2, UL 7080-1-2, UL 7081-1-2, UL 7082-1-2, UL 7083-1-2, UL 7084-1-2, UL 7085-1-2, UL 7086-1-2, UL 7087-1-2, UL 7088-1-2, UL 7089-1-2, UL 7090-1-2, UL 7091-1-2, UL 7092-1-2, UL 7093-1-2, UL 7094-1-2, UL 7095-1-2, UL 7096-1-2, UL 7097-1-2, UL 7098-1-2, UL 7099-1-2, UL 7100-1-2, UL 7101-1-2, UL 7102-1-2, UL 7103-1-2, UL 7104-1-2, UL 7105-1-2, UL 7106-1-2, UL 7107-1-2, UL 7108-1-2, UL 7109-1-2, UL 7110-1-2, UL 7111-1-2, UL 7112-1-2, UL 7113-1-2, UL 7114-1-2, UL 7115-1-2, UL 7116-1-2, UL 7117-1-2, UL 7118-1-2, UL 7119-1-2, UL 7120-1-2, UL 7121-1-2, UL 7122-1-2, UL 7123-1-2, UL 7124-1-2, UL 7125-1-2, UL 7126-1-2, UL 7127-1-2, UL 7128-1-2, UL 7129-1-2, UL 7130-1-2, UL 7131-1-2, UL 7132-1-2, UL 7133-1-2, UL 7134-1-2, UL 7135-1-2, UL 7136-1-2, UL 7137-1-2, UL 7138-1-2, UL 7139-1-2, UL 7140-1-2, UL 7141-1-2, UL 7142-1-2, UL 7143-1-2, UL 7144-1-2, UL 7145-1-2, UL 7146-1-2, UL 7147-1-2, UL 7148-1-2, UL 7149-1-2, UL 7150-1-2, UL 7151-1-2, UL 7152-1-2, UL 7153-1-2, UL 7154-1-2, UL 7155-1-2, UL 7156-1-2, UL 7157-1-2, UL 7158-1-2, UL 7159-1-2, UL 7160-1-2, UL 7161-1-2, UL 7162-1-2, UL 7163-1-2, UL 7164-1-2, UL 7165-1-2, UL 7166-1-2, UL 7167-1-2, UL 7168-1-2, UL 7169-1-2, UL 7170-1-2, UL 71		



# PhRGD

Developer



Thomas Petersen  
Tom Petersen Architect, LLC  
6 Country Lane  
Howell NJ 07731  
NY Architect License # 035290

Rev	Date	Description	Initial
.00	07/10/22	Design	MJ

**G-002 .00**

# HOME BACKUP



\* The SolarEdge Energy Bank is designed for use with SolarEdge Energy Net for wireless communication. The Inverter might require a matching SolarEdge Energy Net Plug-in (more details below using R484) could reduce the usable energy to 5000Wh.

1) Please refer to the SolarEdge Energy Bank battery connection and configuration application note for compatible inverters.

2) These pack sizes apply to part number BA09-0005B-01.

3) For warranty details please refer to the SolarEdge Energy Bank battery Limited Warranty.

4) Installations with multiple SolarEdge Energy Bank batteries connected to a single inverter require a pair of branch connectors (DC+ and DC-) per battery excluding the first battery. Support for 3-batteries is pending approval from Inverter firmware. The branch connectors should be purchased separately.

5) Installation and mounting requires handles that should be purchased separately. Please refer to the Accessories/PAI table below.

6) The floor is purchased separately. One floor and is required per SolarEdge Energy Bank battery. Please refer to the Accessories/PAI table below.

7) Please note that the SolarEdge Energy Bank has a maximum temperature of extreme temperatures for extended duration of time may void the SolarEdge warranty coverage. Please see the Energy Bank Limited Product Warranty for additional details.

SolarEdge Energy Bank Battery - Accessories (purchased separately)	
Accessory	PN
Floor stand	IAC-RBAT-FURSTD-01
Branch connectors set (includes a pair of DC + and DC - connectors)	IAC-RBAT-L5YSCB-01
Required for installations with multiple SolarEdge Energy Bank batteries with a single inverter	IAC-RBAT-L5YSCB-01
Handles	IAC-RBAT-HANDLE-01
SolarEdge Energy Net Plug-in	ENET-INBNP-01
Battery inverter extension cable 2m long (MC4 to terminal block)	IAC-RBAT-20M420-01



The diagram illustrates the electrical layout of a Solar Edge system across four distinct areas, separated by vertical dashed lines:

- ROOF TOP:** Two PV Arrays are shown, each consisting of a series of solar panels connected to a combiner box and then to a string inverter.
- SIDE OF BUILDING:** This area contains two SolarEdge SE7600H-US inverters and a SolarEdge Battery. The PV arrays from the roof top connect to the DC input of these inverters. The inverters' AC outputs connect to a central Solar Edge Backup Interface unit.
- INSIDE OF BUILDING:** The Solar Edge Backup Interface unit connects to a MAIN DISCONNECT switch. Below the disconnect switch is a representation of an external circuit, likely a load or another inverter.
- SIDE OF BUILDING:** The MAIN DISCONNECT switch also connects to a Meter, which is then connected to the Grid.



PANEL CALCULATIONS	
ASHRAE High Low Temps Westchester, NY High =32°C Westchester, NY Low =-17°C	$\text{Voc Low Temp (VocLow)} = 53.96\text{V} - \{-0.14\text{V/C} * [25\text{C}^{\circ} - (-17\text{C}^{\circ})]\} = 56.98\text{V}$ $\text{Vmp High Temp} = 45.23\text{V} - \{-0.14\text{V} * [25\text{C}^{\circ} - (32\text{C}^{\circ})]\} = 41.5\text{V}$
BATTERY	
<p><u>(1) SOLAREEDGE Energy Bank 10kWh Battery</u>          Max Charge/ Discharge Power: 9.7kW          Voltage Range (Charge): 350 -450Vdc          Continuous Output Power: 5kW</p> <p>Storage Capacity 10kWh          Enclosure Rating: Indoor/Outdoor          Temp Range: -14F - 122F for up to 7 days          Weight: 267lbs</p>	

**E-000 .00**

## MEMORANDUM

TO: Chairperson Janet Andersen and  
Members of Lewisboro Planning Board

CC: Ciorsdan Conran  
Judson Siebert, Esq.

FROM: Jan K. Johannessen, AICP   
Joseph M. Cermele, P.E., CFM   
Town Consulting Professionals

DATE: December 16, 2022

RE: Special Use Permit Renewal  
ATC Tower (Formerly Sprint Spectrum)  
Route 35, Leon Levy Preserve  
Sheet 40, Block 10263, Lot 62

---

### PROJECT DESCRIPTION

The subject property consists of ±4.0 acres of land and is an out-parcel located within the Leon Levy Preserve located on Route 35 within the R-4A Residential Zoning District. The subject property is developed with an existing telecommunication facility and the tower owner is applying for a renewal of its Special Use Permit.

### SEQRA

The proposed action has been preliminarily identified as a Type II Action and is therefore categorically exempt from the State Environmental Quality Review Act (SEQRA).

### REQUIRED APPROVALS/REFERRALS

1. A Special Use Permit is required from the Planning Board and a public hearing is required.
2. A "Notification Only" Referral is required to be made to the Westchester County Planning Board in accordance with Section 239-m of the General Municipal Law; the Planning Board Administrator will coordinate this referral.

**COMMENTS**

1. The applicant shall submit an updated Existing Conditions Survey, signed and sealed by a NYS Licensed Land Surveyor, showing the entire property and including improvements within the compound area; all above ground buildings, structures, and equipment shall be labeled (type/carrier).
2. An overall site plan should be provided, based on a survey, and shall include the access driveway, parking, the compound, existing building and other above ground features.
3. The Detailed Site Plan (Sheet C-101) should be revised to name the features illustrated, as well as identifying the wireless carrier in which they serve.
4. The Tower Elevation Plan (Sheet C-102) shall identify each carrier and list the existing equipment installed for each. Please ensure this elevation and carrier information/equipment is consistent with that provided within the structural report.
5. Provide a Certification Letter, prepared by a NYS Licensed Professional Engineer, confirming that the existing tower and the equipment contained on the tower and within the compound/building is consistent with prior approvals of the Planning Board and Building Permits issued by the Building Inspector; any inconsistencies shall be identified.
6. The EAF states that the facility is connected to water and sewer services (Questions 10 and 11); please confirm and revise, as appropriate.
7. Please contact this office to schedule a site visit which will include an assessment of the condition of the access driveway. This site visit should be conducted after the applicant provides the information requested in items 1 – 4 above.
8. The Planning Board's standard signature blocks shall appear on all sheets.
9. When comparing the site plan to the original approval, the site plan that has been submitted does not include the driveway access, an approved parking space, and loading space.

Chairperson Janet Andersen  
December 16, 2022  
Page 3 of 3

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

**PLANS REVIEWED, PREPARED BY A.T. ENGINEERING SERVICE, PLLC, DATED OCTOBER 26, 2022:**

- Title Sheet (G-001)
- Detailed Site Plan (C-101)
- Tower Elevation (C-102)
- Signage (C-501)

**DOCUMENTS REVIEWED:**

- Cover letter and Report, prepared by Cuddy + Feder, LLP, dated November 15, 2022, with Exhibits

JKJ/dc

[https://kellardsessionsconsulti.sharepoint.com/sites/Kellard/Municipal/Lewisboro/Correspondence/2022-12-16\\_LWPB\\_Sprint Spectrum Leon Levy \(ATC Tower\)\\_Review Memo.docx](https://kellardsessionsconsulti.sharepoint.com/sites/Kellard/Municipal/Lewisboro/Correspondence/2022-12-16_LWPB_Sprint Spectrum Leon Levy (ATC Tower)_Review Memo.docx)



445 Hamilton Avenue, 14th Floor  
White Plains, New York 10601  
T 914 761 1300  
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Maximillian R. Mahalek  
[mmahalek@cuddyfeder.com](mailto:mmahalek@cuddyfeder.com)

November 15, 2022

**VIA E-MAIL AND FEDERAL EXPRESS**

Chairperson Janet Andersen  
and Members of the Planning Board  
Town of Lewisboro  
79 Bouton Road  
South Salem, NY 10590

Re: Special Use Permit Renewal for Telecommunications Facility  
American Towers, LLC, Site Number: 88166  
Premises: Route 35, South Salem, NY 10590  
Tax Parcel ID: 40-10263-62; also listed as Tax Parcel 55.1-3-18)

Dear Chairperson Andersen and Members of the Planning Board:

On behalf of our client, American Towers, LLC ("American Tower"), and in accordance with Zoning Code Section 220-41.1, we respectfully submit this letter and the referenced enclosures in support of the Applicant's request for a five (5)-year renewal of its Special Use Permit for the above-referenced wireless telecommunications facility.

American Tower's Telecommunications Facility

As the Board may recall, on November 21, 2017, it granted a five (5)-year Special Use Permit renewal for the above-referenced tower. For your convenience, a copy of the Board's 2017 Approval Resolution is included at **Exhibit F**. This current Approval is set to expire November 27, 2022.

As shown in the enclosed drawings, American Tower's facility is approximately 138 feet in height with all appurtenances included. It hosts a range of carriers, and all of the carriers' facilities are providing critical wireless services to their customers who live, work, and travel in this area of Town. There were no changes to existing wireless infrastructure in this area of Town that would obviate the need for American Tower's facility.

The Applicant understands to the best of its knowledge that the existing tower is in compliance with all past Approval Resolutions from the Planning Board and the Applicant's Engineer is writing a letter to certify the equipment on the tower. This certification letter will be provided under separate cover.

Under Section 220-46(D) of the Town's Zoning Code, the Planning Board may waive a Public

WESTCHESTER | NEW YORK CITY | HUDSON VALLEY | CONNECTICUT



November 15, 2022  
Page -2-

Hearing if it determines one is unwarranted in light of the scale of improvement or the record of prior reviews. In 2017, the Planning Board waived the requirement for a Public Hearing, and considering that the Applicant does not plan any changes to the tower, the Applicant requests the same waiver here.

Renewal Application Materials

In support of the Applicant's Special Use Permit renewal request, please find enclosed the following:

- Exhibit A: Site Plan Application Form;
- Exhibit B: Short Environmental Assessment Form;
- Exhibit C: Structural Analysis Report, prepared by American Tower Corporation;
- Exhibit D: Non-Ionizing Electromagnetic Radiation Study, prepared by Tower Engineering Professionals;
- Exhibit E: Photograph of Facility;
- Exhibit F: Copy of the Town of Lewisboro Planning Board's November 21, 2017 Resolution Granting a Special Use Permit Renewal for a Period of Five (5) Years; and
- Exhibit G: Deed to the Premises.

Also enclosed is a copy of the Site Plan drawings for this facility, prepared by A.T. Engineering Service, PLLC, dated October 26, 2022.<sup>1</sup>

This submission is accompanied by a check made payable to the Town of Lewisboro in the amount of \$1,710, representing the Special Use Permit Renewal Application Fee, and \$2,000, representing the required Escrow Fee.

Thank you for your consideration of this request. Should the Planning Board or Town Staff have any questions or comments regarding this request, please do not hesitate to contact me.

Respectfully submitted,

*Maximillian R. Mahalek*

Maximillian R. Mahalek

Enclosures

cc: American Tower  
Lucia Chiocchio, Esq.

<sup>1</sup> The electronic copy of the drawings was signed November 14, 2022. They are identical to the hard copies which were signed October 28, 2022.

# Exhibit A



## TOWN OF LEWISBORO PLANNING BOARD

79 Bouton Road, South Salem, NY 10590 Tel: (914) 763-5592 Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)

### Site Development Plan/Subdivision Plat Application - Check all that apply:

Waiver of Site Development Plan Procedures ☐

Site Development Plan Approval

Step I ☐

Step II ☐

Special Use Permit Approval

Step I ☐

Step II ☒

Subdivision Plat Approval

Step I ☐

Step II ☐

Step III ☐

### Project Information

Project Name: Renewal of Special Use Permit - American Tower

Project Address: NYS Route 35, South Salem, NY 10590

Gross Parcel Area: \_\_\_\_\_ Zoning District: R-4A Sheet(s): 40 Block(s): 10263 Lot(s): 62

Project Description: Renewal of Special Use Permit Approval for the continued use of an approved telecommunications facility.

Is the site located within 500 feet of any Town boundary?

YES ☐

NO ☒

Is the site located within the New York City Watershed?

YES ☒

NO ☐

Is the site located on a State or County Highway?

YES ☒

NO ☐

Does the proposed action require any other permits/approvals from other agencies/departments?

Town Board ☐

ZBA ☐

Building Dept. ☒

Town Highway ☐

ACARC ☐

NYSDEC ☐

NYCDEP ☐

WCDH ☐

NYSDOT ☐

Town Wetland ☐

Town Stormwater ☐

Other \_\_\_\_\_

### Owner's Information

Name: American Towers LLC Email: Margaret.Robinson@AmericanTower.com

Address: 10 Presidential Way Phone: 781-926-7136

### Applicant's Information (if different)

Name: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

### Authorized Agent's Information

Name: Maximillian Mahalek, Esq., Cuddy & Feder LLP Email: mmahalek@cuddyfeder.com

Attorney for the Applicant

Address: 445 Hamilton Avenue, 14th Floor, White Plains, NY 10601 Phone: 914-761-1300

THE APPLICANT understands that any application is considered complete only when all information and documents required have been submitted and received by the Planning Board. The applicant further understands that the applicant is responsible for the payment of all application and review fees incurred by the Planning Board.

THE UNDERSIGNED WARRANTS the truth of all statements contained herein and in all supporting documents according to the best of his/her knowledge and belief, and authorizes visitation and inspection of the subject property by the Town of Lewisboro and its agents.

APPLICANT'S SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

OWNER'S SIGNATURE [Signature] DATE 11-8-22



# TOWN OF LEWISBORO PLANNING BOARD

79 Bouton Road, South Salem, NY 10590

Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)

Tel: (914) 763-5592

Fax: (914) 875-9148

## Affidavit of Ownership

State of: New York

County of: Westchester

Margaret Robinson, being duly sworn, deposes and says that he/she

resides at 1 Chestnut Street, North Reading

in the County of Middlesex, State of MA

and that he/she is (check one) ☐ the owner, or ☒ the Vice President Legal Operations

of American Towers LLC Title

*Name of corporation, partnership, or other legal entity*


which is the owner, in fee of all that certain log, piece or parcel of land situated, lying and being in the Town of Lewisboro, New York, aforesaid and know and designated on the Tax Map in the Town of Lewisboro as:

Block 10263, Lot 62, on Sheet 40.

  
Owner's Signature

Sworn to before me this

8th day of November, 2022



Notary Public - affix stamp



# Exhibit B

# *Short Environmental Assessment Form*

## *Part 1 - Project Information*

### Instructions for Completing

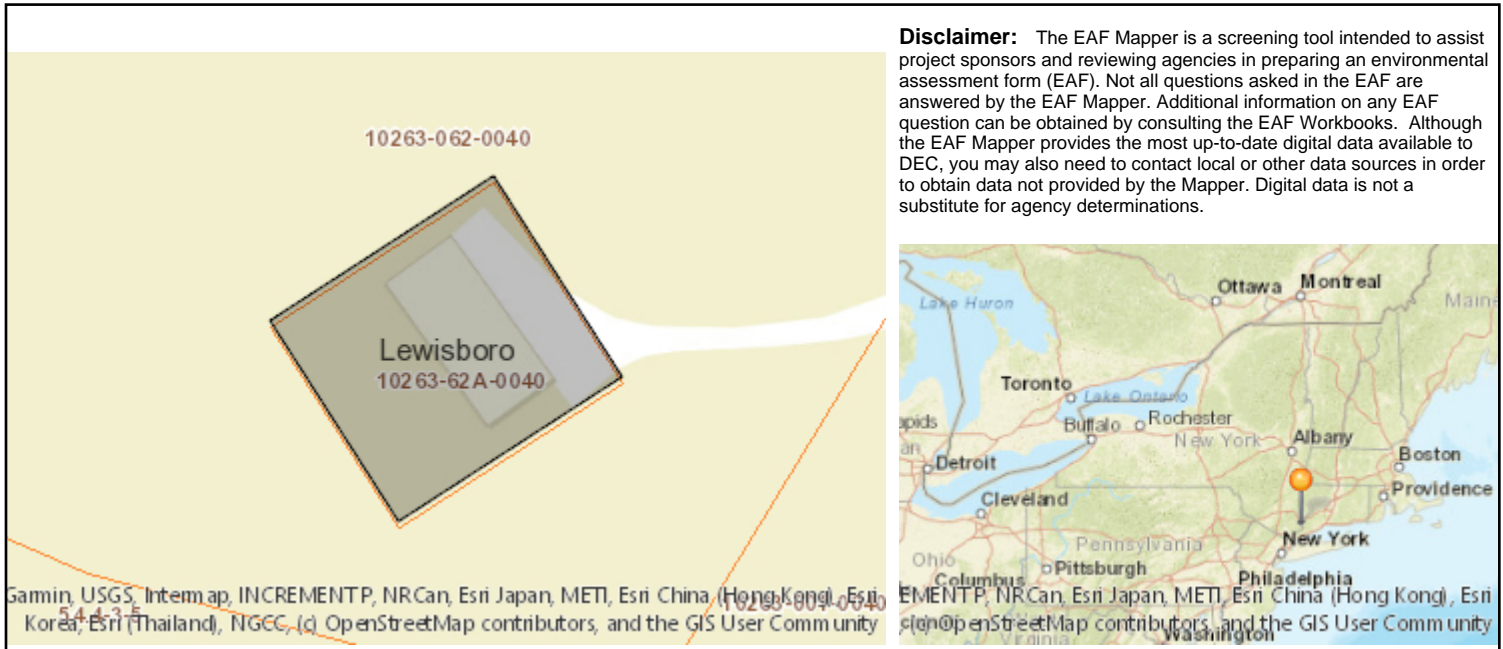
**Part 1 – Project Information.** The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

<b>Part 1 – Project and Sponsor Information</b>				
Name of Action or Project:				
Project Location (describe, and attach a location map):				
Brief Description of Proposed Action:				
Name of Applicant or Sponsor:			Telephone:	
			E-Mail:	
Address:				
City/PO:			State:	Zip Code:
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation?			NO	YES
If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.			<input type="checkbox"/>	<input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other government Agency?			NO	YES
If Yes, list agency(s) name and permit or approval:			<input type="checkbox"/>	<input type="checkbox"/>
3.   a. Total acreage of the site of the proposed action? _____ acres b. Total acreage to be physically disturbed? _____ acres c. Total acreage (project site and any contiguous properties) owned _____ acres or controlled by the applicant or project sponsor?				
4. Check all land uses that occur on, are adjoining or near the proposed action: 5.     Urban       Rural (non-agriculture)       Industrial       Commercial       Residential (suburban) <input type="checkbox"/> Forest     Agriculture                   Aquatic       Other(Specify): <input type="checkbox"/> Parkland				

5. Is the proposed action, a. A permitted use under the zoning regulations? b. Consistent with the adopted comprehensive plan?	NO  <input type="checkbox"/>  <input type="checkbox"/>	YES  <input type="checkbox"/>  <input type="checkbox"/>	N/A  <input type="checkbox"/>  <input type="checkbox"/>
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO  <input type="checkbox"/>	YES  <input type="checkbox"/>	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO  <input type="checkbox"/>	YES  <input type="checkbox"/>	
8. a. Will the proposed action result in a substantial increase in traffic above present levels? b. Are public transportation services available at or near the site of the proposed action? c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	NO  <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/>	YES  <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/>	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: _____ _____	NO  <input type="checkbox"/>	YES  <input type="checkbox"/>	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____ _____	NO  <input type="checkbox"/>	YES  <input type="checkbox"/>	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____ _____	NO  <input type="checkbox"/>	YES  <input type="checkbox"/>	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	NO  <input type="checkbox"/>  <input type="checkbox"/>	YES  <input type="checkbox"/>  <input type="checkbox"/>	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency? b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ _____ _____	NO  <input type="checkbox"/>  <input type="checkbox"/>	YES  <input type="checkbox"/>  <input type="checkbox"/>	

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span><input type="checkbox"/> Shoreline</span> <span><input type="checkbox"/> Forest</span> <span>Agricultural/grasslands</span> <span>Early mid-successional</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Wetland</span> <span><input type="checkbox"/> Urban</span> <span>Suburban</span> </div>		
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	NO	YES
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Is the project site located in the 100-year flood plan?	NO	YES
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, <div style="margin-left: 20px; margin-top: 10px;">           a. Will storm water discharges flow to adjacent properties?         </div> <div style="margin-left: 20px; margin-top: 10px;">           b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?         </div> If Yes, briefly describe: <div style="border-bottom: 1px solid black; margin-top: 5px; height: 1.2em;"></div> <div style="border-bottom: 1px solid black; margin-top: 5px; height: 1.2em;"></div>	NO	YES
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment: <div style="border-bottom: 1px solid black; margin-top: 5px; height: 1.2em;"></div> <div style="border-bottom: 1px solid black; margin-top: 5px; height: 1.2em;"></div>	NO	YES
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: <div style="border-bottom: 1px solid black; margin-top: 5px; height: 1.2em;"></div> <div style="border-bottom: 1px solid black; margin-top: 5px; height: 1.2em;"></div>	NO	YES
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: <div style="border-bottom: 1px solid black; margin-top: 5px; height: 1.2em;"></div> <div style="border-bottom: 1px solid black; margin-top: 5px; height: 1.2em;"></div>	NO	YES
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE</b></p> <p>Applicant/sponsor/name: _____ Date: _____</p> <p>Signature: <u>Maximillian R. Mahalek</u> Title: _____</p>		



Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	Yes
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	No
Part 1 / Question 15 [Threatened or Endangered Animal]	No
Part 1 / Question 16 [100 Year Flood Plain]	No
Part 1 / Question 20 [Remediation Site]	No

# Exhibit C



**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 125 ft Self Support Tower  
**ATC Site Name** : SOUTH SALEM NY,NY  
**ATC Site Number** : 88166  
**Engineering Number** : 13742215\_C3\_01  
**Proposed Carrier** : VERIZON WIRELESS  
**Carrier Site Name** : SOUTH SALEM  
**Carrier Site Number** : 144861  
**Site Location** : ROUTE 35  
South Salem, NY 10590-1923  
41.2585, -73.5347  
**County** : Westchester  
**Date** : November 10, 2021  
**Max Usage** : 83%  
**Result** : Pass

Prepared By:

Faisal Wakid  
Structural Engineer

*Faisal Wakid*

Reviewed By:





## **Table of Contents**

Introduction.....	3
Supporting Documents .....	3
Analysis .....	3
Conclusion .....	3
Existing and Reserved Equipment.....	4
Equipment to be Removed .....	4
Proposed Equipment .....	5
Structure Usages.....	6
Foundations .....	6
Deflection, Twist and Sway* .....	6
Standard Conditions .....	7
Calculations .....	Attached

## **Introduction**

The purpose of this report is to summarize results of a structural analysis performed on the 125 ft Self Support tower to reflect the change in loading by VERIZON WIRELESS.

## **Supporting Documents**

<b>Tower Drawings</b>	HTS Mapping Project #HTS101507 CSEI Analysis, ATC Eng. #26240121, dated August 21, 2006
<b>Foundation Drawing</b>	Foundation Mapping by TEP Job #071970, dated October 19, 2007 Rose, Chulkoff And Rose Structural Engineers Job # C67227, dated September 21, 1967
<b>Geotechnical Report</b>	GEOServices Project #21-07254, dated October 29, 2007

## **Analysis**

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

<b>Basic Wind Speed:</b>	115 mph (3-second gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-second gust) w/ 1.00" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-H / 2018 IBC / 2020 New York Building Code
<b>Exposure Category:</b>	B
<b>Risk Category:</b>	II
<b>Topographic Factor Procedure:</b>	Method 2
<b>Crest Height (H):</b>	160 ft
<b>Crest Length (L):</b>	1570 ft
<b>Spectral Response:</b>	$S_s = 0.25$ , $S_i = 0.06$
<b>Site Class:</b>	D - Stiff Soil - Default

## **Conclusion**

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at [Engineering@americantower.com](mailto:Engineering@americantower.com). Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

### Existing and Reserved Equipment

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
132.0	1	Generic 12' Omni	Square Platform with Handrails	-	OTHER
128.0	3	Samsung Outdoor CBRS 20W RRH –Clip-on Antenna		(10) 1 5/8" Coax (3) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Samsung B2/B66A RRH-BR049			
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung RT4401-48A			
	3	Raycap RxxDC-3315-PF-48			
	3	Commscope SBNHH-1D65B			
	3	Samsung MT6407-77A			
125.0	12	Decibel DB844H90E-XY		(12) 1 1/4" Coax	SPRINT NEXTEL
	3	RFS APX16DWV-16DWVS-E-A20		(18) 1 5/8" Coax (1) 3/8" Coax	T-MOBILE
	6	RFS ATMAA1412D-1A20			
	3	RFS APXVFW24-C-A20			
111.0	3	Alcatel-Lucent 800 MHz RRH w/ Notch Filter	Sector Frame	(3) 1 1/4" Hybriflex Cable (1) 1.54" (39.2mm) Hybrid	SPRINT NEXTEL
	3	Alcatel-Lucent 1900MHz RRH (65MHz)			
	3	RFS ACU-A20-N			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	RFS APXVSP18-C			
	3	RFS APXVTM14-ALU-I20			
104.0	1	Raycap DC6-48-60-18-8F (23.5" Height)	Sector Frame	(2) 0.39" (10mm) Fiber Trunk (4) 0.78" (19.7mm) 8 AWG 6 (2) 2" conduit (12) 7/8" Coax	AT&T MOBILITY
	3	Nokia AirScale RRH 4T4R B5 160W AHCA			
	1	Raycap DC6-48-60-18-8F ("Squid")			
	3	Alcatel-Lucent B25 RRH4x30			
	3	Nokia Airscale Dual RRH 4T4R B12/B14 320W AHLBA			
	3	Alcatel-Lucent 9442 RRH2x40-AWS			
	3	Alcatel-Lucent RRH4x25-WCS-4R			
	9	Commscope NNHH-65C-R4			
93.0	1	Commscope RDIDC-9181-PF-48	Sector Frame	(1) 1.75" (44.5mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604			
	3	Fujitsu TA08025-B605			
	3	JMA Wireless MX08FRO665-21			
75.0	1	Generic GPS	Sector Frame	(1) 1/2" Coax	SPRINT NEXTEL
53.0	4	Generic GPS	Stand-Off	(4) 1/2" Coax	VERIZON WIRELESS

### Equipment to be Removed

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
128.0	6	Commscope NHH-65B-R2B	-	(2) 1 5/8" Coax	VERIZON WIRELESS

**Proposed Equipment**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
128.0	1	Samsung Outdoor CBRS 20W RRH –Clip-on Antenna	Square Platform with Handrails	(1) 1 5/8" Hybriflex	VERIZON WIRELESS
	1	Samsung RT4401-48A			
	1	Samsung B2/B66A RRH-BR049			
	1	Samsung B5/B13 RRH-BR04C			
	1	Raycap RxxDC-3315-PF-48			
	1	Samsung MT6407-77A			
	4	JMA Wireless MX12FIT665-01			

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<sup>1</sup> Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines alongside existing VERIZON WIRELESS lines.

### **Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	53%	Pass
Diagonals	83%	Pass
Horizontals	33%	Pass
Anchor Bolts	42%	Pass

### **Foundations**

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	144.7	57%
Axial (kips)	181.8	11%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

### **Deflection, Twist and Sway\***

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
128.0	JMA Wireless MX12FIT665-01	VERIZON WIRELESS	0.071	0.006	0.058
	Raycap RxxDC-3315-PF-48				
	Samsung B2/B66A RRH-BR049				
	Samsung B5/B13 RRH-BR04C				
	Samsung MT6407-77A				
	Samsung Outdoor CBRS 20W RRH –Clip-on Antenna				
	Samsung RT4401-48A				

\*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H

## **Standard Conditions**

All engineering services performed by ATC Tower Services, Inc. are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of ATC Tower Services, Inc.

It is the responsibility of the client to ensure that the information provided to ATC Tower Services, Inc. and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively “American Tower”) are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

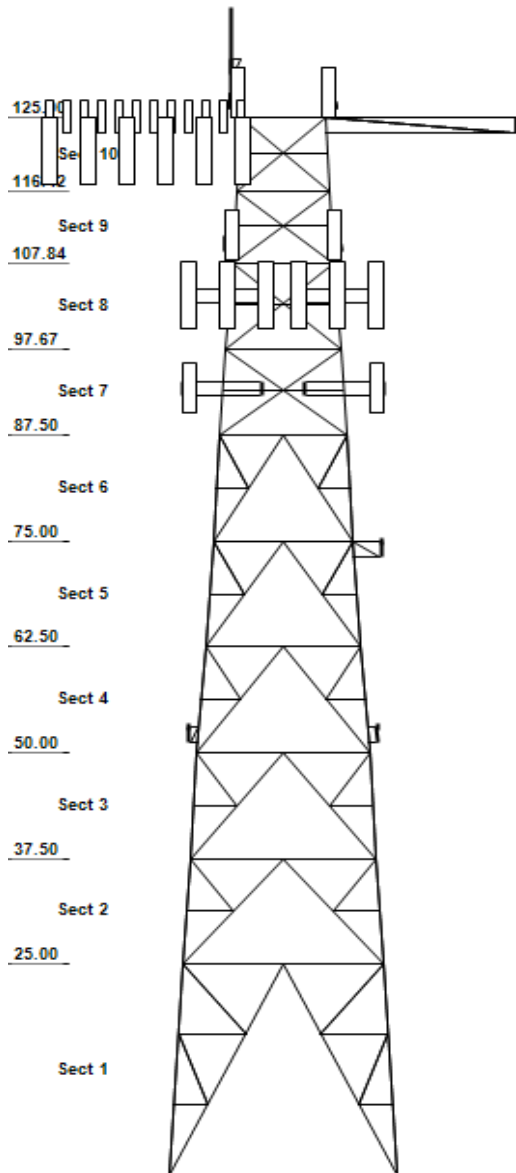
Unless explicitly agreed by both the client and ATC Tower Services, Inc., all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

Asset: 88166, SOUTH SALEM NY  
 Client: VERIZON WIRELESS  
 Code: ANSI/TIA-222-H

Height : 125 ft  
 Base Width : 24.25 ft  
 Shape : Square

## Quadrant 1



## SITE PARAMETERS

Nominal Wind : 115 mph wind with no ice Exposure : B Site Class : D  
 Ice Wind: 50 mph wind with 1" radial Topo Method: Method 2 Risk Cat : II  
 Service Wind : 60 mph Serviceability Topo Feature : Hill  $S_g$  : 0.251  $S_1$  : 0.058

## SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1	SAE 33 ksi 8X8X0.625	DAS 33 ksi 3.5X3X0.25	DAE 33 ksi 2.5X2.5X0.25
2 - 3	SAE 33 ksi 6X6X0.75	DAE 33 ksi 2.5X2.5X0.25	DAE 33 ksi 2.5X2.5X0.25
4 - 5	SAE 33 ksi 6X6X0.5625	DAL 33 ksi 2.5X2X0.25	DAE 33 ksi 2.5X2.5X0.25
6	SAE 33 ksi 6X6X0.4375	DAL 33 ksi 2.5X2X0.25	DAE 33 ksi 2.5X2.5X0.25
7	SAE 33 ksi 5X5X0.4375	SAE 33 ksi 3.5x3.5x0.25	SAU 33 ksi 3X2.5X0.25
8	SAE 33 ksi 5X5X0.4375	SAE 33 ksi 3.5x3.5x0.25	DAL 33 ksi 3X2.5X0.25
9	SAE 33 ksi 5X5X0.3125	SAE 33 ksi 3X3X0.25	SAU 33 ksi 3X2.5X0.25
10	SAE 33 ksi 5X5X0.3125	SAE 33 ksi 3X3X0.25	CHN 36 ksi C8 x 11.5

## REDUNDANT SECONDARY BRACING

Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1	D2.5X2X0.1875	S2.5X2.5X0.1875	D2.5X2X0.1875	S2.5X2.5X0.1875	-	-
2 - 4	S2.5X2.5X0.1875	S2.5X2X0.1875	-	-	-	-
5 - 6	S2.5X2X0.1875	S2.5X2X0.1875	-	-	-	-
7	-	S2.5X2X0.1875	-	-	-	-
8	-	S3X2.5X0.25	-	-	-	-
9 - 10	-	S2.5X2X0.1875	-	-	-	-

## DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
132.00	OMNI	1	Generic 12' Omni
128.00	BOB/SSB	1	Raycap RxxDC-3315-PF-48
128.00	BOB/SSB	3	Raycap RxxDC-3315-PF-48
128.00	PANEL	1	Samsung Outdoor CBRS 20W RRH –
128.00	PANEL	1	Samsung MT6407-77A
128.00	PANEL	3	Samsung MT6407-77A
128.00	PANEL	3	Samsung Outdoor CBRS 20W RRH –
128.00	PANEL	3	Commscope SBNHH-1D65B
128.00	PANEL	4	JMA Wireless MX12FIT665-01
128.00	RRU/RRH	1	Samsung B5/B13 RRH-BR04C
128.00	RRU/RRH	1	Samsung RT4401-48A
128.00	RRU/RRH	1	Samsung B2/B66A RRH-BR049
128.00	RRU/RRH	3	Samsung RT4401-48A
128.00	RRU/RRH	3	Samsung B2/B66A RRH-BR049
128.00	RRU/RRH	3	Samsung B5/B13 RRH-BR04C
125.00	Other	9	Generic General Pole Mount
125.00	PANEL	3	RFS APX16DWV-16DWVS-E-A20
125.00	PANEL	3	RFS APXVFW24-C-A20
125.00	PANEL	12	Decibel DB844H90E-XY
125.00	Sector Frame	3	Round Sector Frame
125.00	T-Arm	1	20' Pipe
125.00	TTA	6	RFS ATMAA1412D-1A20
125.00	Triangular Low Profile Platform	1	Heavy Platform with Handrails
113.00	Sector Frame	3	Heavy Sector Frame
112.50	Triangular Low Profile	1	Catwalk



Asset: 88166, SOUTH SALEM NY  
 Client: VERIZON WIRELESS  
 Code: ANSI/TIA-222-H

Height : 125 ft  
 Base Width : 24.25 ft  
 Shape : Square

## DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
	Platform		
111.00	PANEL	3	RFS APXVTM14-ALU-I20
111.00	PANEL	3	RFS APXVSP18-C
111.00	RET/RCU	3	RFS ACU-A20-N
111.00	RRU/RRH	3	Alcatel-Lucent 1900MHz RRH (65
111.00	RRU/RRH	3	Alcatel-Lucent TD-RRH8x20-25 w
111.00	RRU/RRH	3	Alcatel-Lucent 800 MHz RRH w/
104.00	BOB/SSB	1	Raycap DC6-48-60-18-8F (23.5"
104.00	BOB/SSB	1	Raycap DC6-48-60-18-8F ("Squid
104.00	PANEL	9	Commscope NNHH-65C-R4
104.00	RRU/RRH	3	Alcatel-Lucent RRH4x25-WCS-4R
104.00	RRU/RRH	3	Alcatel-Lucent 9442 RRH2x40-AW
104.00	RRU/RRH	3	Nokia Airscale Dual RRH 4T4R B
104.00	RRU/RRH	3	Alcatel-Lucent B25 RRH4x30
104.00	RRU/RRH	3	Nokia AirScale RRH 4T4R B5 160
104.00	Sector Frame	3	Sector Frame Sabre 12' EHD V-B
93.00	BOB/SSB	1	Commscope RDIDC-9181-PF-48
93.00	PANEL	3	JMA Wireless MX08FRO665-21
93.00	RRU/RRH	3	Fujitsu TA08025-B604
93.00	RRU/RRH	3	Fujitsu TA08025-B605
93.00	Sector Frame	3	Generic Flat Light Sector Fram
85.00	T-Arm	1	Generic Flat Side Arm
76.00	Triangular Low Profile Platform	1	Rest Platform
75.00	GPS	1	Generic GPS
75.00	T-Arm	1	Stand-Off
56.00	T-Arm	1	Stand-Off
53.00	GPS	4	Generic GPS
37.80	ICE SHIELD	3	Generic RAC 8' Ice Shield
25.00	Triangular Low Profile Platform	1	Rest Platform

## LINEAR APPURTENANCE

Elev (ft)			Qty	Description
From	To			
0.00	128.00	4	1 5/8" Hybriflex	
0.00	128.00	10	1 5/8" Coax	
0.00	125.00	3	Waveguide Ladder	
0.00	125.00	1	Climbing Ladder	
0.00	125.00	1	3/8" Coax	
0.00	125.00	18	1 5/8" Coax	
0.00	125.00	12	1 1/4" Coax	
0.00	111.00	1	1.54" (39.2mm) Hybrid	
0.00	111.00	3	1 1/4" Hybriflex Cable	
0.00	104.00	12	7/8" Coax	
0.00	104.00	2	2" conduit	
0.00	104.00	4	0.78" (19.7mm) 8 AWG 6	
0.00	104.00	2	0.39" (10mm) Fiber Trunk	
0.00	93.00	1	1.75" (44.5mm) Hybrid	
0.00	75.00	1	1/2" Coax	
0.00	53.00	4	1/2" Coax	

## JOB INFORMATION

Asset: 88166, SOUTH SALEM NY  
Client: VERIZON WIRELESS  
Code: ANSI/TIA-222-H

Height : 125 ft  
Base Width : 24.25 ft  
Shape : Square

## GLOBAL BASE FOUNDATION DESIGN LOADS

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL+WL	5510.68	84.4	69.54
DL+WL+IL	1693.43	171.97	22.13

## INDIVIDUAL BASE FOUNDATION DESIGN LOADS

Vertical (kip)	Uplift (kip)	Horizontal (kip)
181.85	144.73	26.26

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

## ANALYSIS PARAMETERS

Location:	Westchester County, NY	Height:	125 ft
Type and Shape:	Self Support, Square	Base Elevation:	0.00 ft
Manufacturer:	AT&T TAG	Bottom Face Width:	24.25 ft
Kd	0.85	Top Face Width:	9.00 ft
Ke:	0.97	Anchor Bolt Detail Type:	c

## ICE &amp; WIND PARAMETERS

Exposure Category:	B	Design Wind Speed Without Ice:	115 mph
Risk Category:	II	Design Wind Speed with Ice:	50 mph
Topographic Factor Procedure:	Method 2	Operational Windspeed:	60 mph
		Design Ice Thickness:	1.00 in
		HMSL:	760 ft
Crest Height(H):	160 ft		
Crest Length(L):	1570 ft	Distance from Apex (x):	0
Feature:	Hill	Upwind/Downwind:	Upwind

## SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	0.49
T <sub>L</sub> (sec):	6	P:	1.3
S <sub>s</sub> :	0.251	S <sub>1</sub> :	0.058
F <sub>a</sub> :	1.599	F <sub>v</sub> :	2.400
S <sub>ds</sub> :	0.268	S <sub>d1</sub> :	0.093
		C <sub>s</sub> :	0.063
		C <sub>s</sub> , Max:	0.063
		C <sub>s</sub> , Min:	0.030

## LOAD CASES

1.2D + 1.0W Normal	115 mph wind with no ice
1.2D + 1.0W 45°	115 mph wind with no ice
0.9D + 1.0W Normal	115 mph wind with no ice
0.9D + 1.0W 45°	115 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 45°	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
1.2D + 1.0Ev + 1.0Eh 45°	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 45°	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice
1.0D + 1.0W Service 45°	60 mph Wind with No Ice

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

## TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient Factor	Vert Ecc (ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
132.0	Generic 12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	0.0	0.00	36.23	111	48
128.0	Samsung Outdoor CBRS 20W RRH –	3	4	0.9	1.0	8.7	1.4	0.75	0.50	0.0	0.00	36.05	31	16
128.0	Samsung Outdoor CBRS 20W RRH –	1	4	0.9	1.0	8.7	1.4	0.75	0.50	0.0	0.00	36.05	10	5
128.0	Samsung RT4401-48A	3	19	1.0	1.2	8.6	4.2	0.75	0.50	0.0	0.00	36.05	34	67
128.0	Samsung RT4401-48A	1	19	1.0	1.2	8.6	4.2	0.75	0.50	0.0	0.00	36.05	11	22
128.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.75	0.50	0.0	0.00	36.05	65	304
128.0	Samsung B2/B66A RRH-BR049	1	84	1.9	1.3	15.0	10.0	0.75	0.50	0.0	0.00	36.05	22	101
128.0	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.75	0.50	0.0	0.00	36.05	65	253
128.0	Samsung B5/B13 RRH-BR04C	1	70	1.9	1.3	15.0	8.1	0.75	0.50	0.0	0.00	36.05	22	84
128.0	Raycap RxxDC-3315-PF-48	3	21	2.5	1.6	15.7	10.3	0.75	0.50	0.0	0.00	36.05	87	77
128.0	Raycap RxxDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.75	0.50	0.0	0.00	36.05	29	26
128.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.75	0.61	0.0	0.00	36.05	198	294
128.0	Samsung MT6407-77A	1	82	4.7	2.9	16.1	5.5	0.75	0.61	0.0	0.00	36.05	66	98
128.0	Commscope SBNHH-1D65B	3	51	8.2	6.1	11.9	7.1	0.75	0.69	0.0	0.00	36.05	389	183
128.0	JMA Wireless MX12FIT665-01	4	84	12.5	6.0	20.0	8.0	0.75	0.64	0.0	0.00	36.05	735	403
125.0	Generic General Pole Mount	9	5	0.0	3.3	5.0	6.0	1.00	1.00	0.0	0.00	35.91	0	54
125.0	RFS ATMAA1412D-1A20	6	13	1.0	1.0	10.0	4.0	0.75	0.50	-3.0	205.19	35.76	68	94
125.0	20' Pipe	1	100	3.4	20.0	2.5	2.5	1.00	1.00	0.0	0.00	35.91	104	120
125.0	Decibel DB844H90E-XY	12	14	3.6	4.0	6.5	8.0	0.75	0.73	0.0	0.00	35.91	725	202
125.0	RFS APX16DWV-16DWVS-E-A20	3	41	6.6	4.7	13.3	3.1	0.75	0.60	-3.0	810.82	35.76	270	147
125.0	RFS APXVFW24-C-A20	3	73	11.3	8.0	11.8	7.9	0.75	0.71	-3.0	1,647.68	35.76	549	263
125.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	35.91	663	1080
125.0	Heavy Platform with Handrails	1	6000	80.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	35.91	2442	7200
113.0	Heavy Sector Frame	3	500	29.3	0.0	0.0	0.0	0.75	0.67	0.0	0.00	35.30	1325	1800
112.5	Catwalk	1	5000	65.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	35.27	1949	6000
111.0	RFS ACU-A20-N	3	1	0.1	0.3	2.0	3.5	0.80	0.50	0.0	0.00	35.19	4	4
111.0	Alcatel-Lucent 1900MHz RRH (65	3	60	2.4	2.1	11.1	11.4	0.80	0.50	0.0	0.00	35.19	85	216
111.0	Alcatel-Lucent 800 MHz RRH w/	3	62	2.5	1.6	13.0	15.2	0.80	0.50	0.0	0.00	35.19	90	222
111.0	Alcatel-Lucent TD-RRH8x20-25 w	3	70	4.0	2.2	18.6	6.7	0.80	0.50	0.0	0.00	35.19	145	252
111.0	RFS APXVTM14-ALU-I20	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.00	35.19	301	202
111.0	RFS APXVSP18-C	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.00	35.19	397	205
104.0	Raycap DC6-48-60-18-8F (23.5"	1	20	1.3	2.0	9.7	9.7	0.80	0.50	0.0	0.00	34.80	15	24
104.0	Nokia AirScale RRH 4T4R B5 160	3	35	1.3	1.1	11.6	6.5	0.80	0.50	0.0	0.00	34.80	46	127
104.0	Raycap DC6-48-60-18-8F ("Squid	1	32	1.5	2.0	11.0	11.0	0.80	0.50	0.0	0.00	34.80	17	38
104.0	Alcatel-Lucent B25 RRH4x30	3	53	2.1	1.8	12.0	7.2	0.80	0.50	0.0	0.00	34.80	75	191
104.0	Nokia Airscale Dual RRH 4T4R B	3	77	2.2	1.8	12.1	7.0	0.80	0.50	0.0	0.00	34.80	79	278
104.0	Alcatel-Lucent 9442 RRH2x40-AW	3	49	2.5	2.1	12.0	9.0	0.80	0.50	0.0	0.00	34.80	89	176
104.0	Alcatel-Lucent RRH4x25-WCS-4R	3	70	3.2	2.6	12.0	8.7	0.80	0.50	0.0	0.00	34.80	112	252
104.0	Commscope NNHH-65C-R4	9	99	17.1	8.0	19.6	7.8	0.80	0.64	0.0	0.00	34.80	2327	1071
104.0	Sector Frame Sabre 12' EHD V-B	3	530	17.5	0.0	0.0	0.0	0.75	0.67	0.0	0.00	34.80	780	1908
93.0	Commscope RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.00	34.10	43	26
93.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	34.10	68	230
93.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	34.10	68	270
93.0	JMA Wireless MX08FRO665-21	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.00	34.10	556	232
93.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	34.10	782	1440
85.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	0.67	0.0	0.00	33.54	120	225
76.0	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	32.83	419	600
75.0	Generic GPS	1	10	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.00	32.74	25	12
75.0	Stand-Off	1	100	3.5	0.0	0.0	0.0	1.00	0.67	0.0	0.00	32.74	65	120
56.0	Stand-Off	1	100	3.5	0.0	0.0	0.0	1.00	0.67	0.0	0.00	30.85	61	120
53.0	Generic GPS	4	10	0.9	1.0	9.0	6.0	1.00	0.50	0.0	0.00	30.49	47	48
37.8	Generic RAC 8' Ice Shield	3	600	6.0	8.0	60.0	24.0	1.00	1.00	0.0	0.00	28.26	432	2160
25.0	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	26.93	343	600
Totals		147	25,159	995.7									17,562	30,190

## TOWER LOADING

Discrete Appurtenance Properties 0.9D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Width (ft)	Depth (in)	K <sub>a</sub>	Orient Factor	Vert Ecc (ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)	
132.0	Generic 12' Omni	1	40	3.6	12.0	3.0	1.00	1.00	0.0	0.00	36.23	111	36	
128.0	Samsung Outdoor CBRS 20W RRH –	3	4	0.9	1.0	8.7	1.4	0.75	0.50	0.0	0.00	36.05	31	12
128.0	Samsung Outdoor CBRS 20W RRH –	1	4	0.9	1.0	8.7	1.4	0.75	0.50	0.0	0.00	36.05	10	4

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient Factor	Vert Ecc (ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
128.0	Samsung RT4401-48A	3	19	1.0	1.2	8.6	4.2	0.75	0.50	0.0	0.00	36.05	34	50
128.0	Samsung RT4401-48A	1	19	1.0	1.2	8.6	4.2	0.75	0.50	0.0	0.00	36.05	11	17
128.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.75	0.50	0.0	0.00	36.05	65	228
128.0	Samsung B2/B66A RRH-BR049	1	84	1.9	1.3	15.0	10.0	0.75	0.50	0.0	0.00	36.05	22	76
128.0	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.75	0.50	0.0	0.00	36.05	65	190
128.0	Samsung B5/B13 RRH-BR04C	1	70	1.9	1.3	15.0	8.1	0.75	0.50	0.0	0.00	36.05	22	63
128.0	Raycap RxxDC-3315-PF-48	3	21	2.5	1.6	15.7	10.3	0.75	0.50	0.0	0.00	36.05	87	58
128.0	Raycap RxxDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.75	0.50	0.0	0.00	36.05	29	19
128.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.75	0.61	0.0	0.00	36.05	198	220
128.0	Samsung MT6407-77A	1	82	4.7	2.9	16.1	5.5	0.75	0.61	0.0	0.00	36.05	66	73
128.0	Commscope SBNHH-1D65B	3	51	8.2	6.1	11.9	7.1	0.75	0.69	0.0	0.00	36.05	389	137
128.0	JMA Wireless MX12FIT665-01	4	84	12.5	6.0	20.0	8.0	0.75	0.64	0.0	0.00	36.05	735	302
125.0	Generic General Pole Mount	9	5	0.0	3.3	5.0	6.0	1.00	1.00	0.0	0.00	35.91	0	40
125.0	RFS ATMAA1412D-1A20	6	13	1.0	1.0	10.0	4.0	0.75	0.50	-3.0	205.19	35.76	68	70
125.0	20' Pipe	1	100	3.4	20.0	2.5	2.5	1.00	1.00	0.0	0.00	35.91	104	90
125.0	Decibel DB844H90E-XY	12	14	3.6	4.0	6.5	8.0	0.75	0.73	0.0	0.00	35.91	725	151
125.0	RFS APX16DWV-16DWVS-E-A20	3	41	6.6	4.7	13.3	3.1	0.75	0.60	-3.0	810.82	35.76	270	110
125.0	RFS APXVFW24-C-A20	3	73	11.3	8.0	11.8	7.9	0.75	0.71	-3.0	1,647.68	35.76	549	197
125.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	35.91	663	810
125.0	Heavy Platform with Handrails	1	6000	80.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	35.91	2442	5400
113.0	Heavy Sector Frame	3	500	29.3	0.0	0.0	0.0	0.75	0.67	0.0	0.00	35.30	1325	1350
112.5	Catwalk	1	5000	65.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	35.27	1949	4500
111.0	RFS ACU-A20-N	3	1	0.1	0.3	2.0	3.5	0.80	0.50	0.0	0.00	35.19	4	3
111.0	Alcatel-Lucent 1900MHz RRH (65	3	60	2.4	2.1	11.1	11.4	0.80	0.50	0.0	0.00	35.19	85	162
111.0	Alcatel-Lucent 800 MHz RRH w/	3	62	2.5	1.6	13.0	15.2	0.80	0.50	0.0	0.00	35.19	90	167
111.0	Alcatel-Lucent TD-RRH8x20-25 w	3	70	4.0	2.2	18.6	6.7	0.80	0.50	0.0	0.00	35.19	145	189
111.0	RFS APXVTM14-ALU-I20	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.00	35.19	301	152
111.0	RFS APXVSP18-C	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.00	35.19	397	154
104.0	Raycap DC6-48-60-18-8F (23.5"	1	20	1.3	2.0	9.7	9.7	0.80	0.50	0.0	0.00	34.80	15	18
104.0	Nokia AirScale RRH 4T4R B5 160	3	35	1.3	1.1	11.6	6.5	0.80	0.50	0.0	0.00	34.80	46	95
104.0	Raycap DC6-48-60-18-8F ("Squid	1	32	1.5	2.0	11.0	11.0	0.80	0.50	0.0	0.00	34.80	17	29
104.0	Alcatel-Lucent B25 RRH4x30	3	53	2.1	1.8	12.0	7.2	0.80	0.50	0.0	0.00	34.80	75	143
104.0	Nokia Airscale Dual RRH 4T4R B	3	77	2.2	1.8	12.1	7.0	0.80	0.50	0.0	0.00	34.80	79	208
104.0	Alcatel-Lucent 9442 RRH2x40-AW	3	49	2.5	2.1	12.0	9.0	0.80	0.50	0.0	0.00	34.80	89	132
104.0	Alcatel-Lucent RRH4x25-WCS-4R	3	70	3.2	2.6	12.0	8.7	0.80	0.50	0.0	0.00	34.80	112	189
104.0	Commscope NNHH-65C-R4	9	99	17.1	8.0	19.6	7.8	0.80	0.64	0.0	0.00	34.80	2327	804
104.0	Sector Frame Sabre 12' EHD V-B	3	530	17.5	0.0	0.0	0.0	0.75	0.67	0.0	0.00	34.80	780	1431
93.0	Commscope RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.00	34.10	43	20
93.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	34.10	68	173
93.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	34.10	68	202
93.0	JMA Wireless MX08FRO665-21	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.00	34.10	556	174
93.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	34.10	782	1080
85.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	0.67	0.0	0.00	33.54	120	169
76.0	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	32.83	419	450
75.0	Generic GPS	1	10	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.00	32.74	25	9
75.0	Stand-Off	1	100	3.5	0.0	0.0	0.0	1.00	0.67	0.0	0.00	32.74	65	90
56.0	Stand-Off	1	100	3.5	0.0	0.0	0.0	1.00	0.67	0.0	0.00	30.85	61	90
53.0	Generic GPS	4	10	0.9	1.0	9.0	6.0	1.00	0.50	0.0	0.00	30.49	47	36
37.8	Generic RAC 8' Ice Shield	3	600	6.0	8.0	60.0	24.0	1.00	1.00	0.0	0.00	28.26	432	1620
25.0	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	26.93	343	450

Totals 147 25,159 995.7

17,562 22,643

## TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient Factor	Vert Ecc (ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
132.0	Generic 12' Omni	1	104	6.6	12.0	3.0	3.0	1.00	1.00	0.0	0.00	6.85	39	112
128.0	Samsung Outdoor CBRS 20W RRH –	3	17	1.3	1.0	8.7	1.4	0.75	0.50	0.0	0.00	6.81	9	54
128.0	Samsung Outdoor CBRS 20W RRH –	1	17	1.3	1.0	8.7	1.4	0.75	0.50	0.0	0.00	6.81	3	18
128.0	Samsung RT4401-48A	3	38	1.5	1.2	8.6	4.2	0.75	0.50	0.0	0.00	6.81	10	124
128.0	Samsung RT4401-48A	1	38	1.5	1.2	8.6	4.2	0.75	0.50	0.0	0.00	6.81	3	41
128.0	Samsung B2/B66A RRH-BR049	3	129	2.5	1.3	15.0	10.0	0.75	0.50	0.0	0.00	6.81	16	438
128.0	Samsung B2/B66A RRH-BR049	1	129	2.5	1.3	15.0	10.0	0.75	0.50	0.0	0.00	6.81	5	146
128.0	Samsung B5/B13 RRH-BR04C	3	111	2.5	1.3	15.0	8.1	0.75	0.50	0.0	0.00	6.81	16	374
128.0	Samsung B5/B13 RRH-BR04C	1	111	2.5	1.3	15.0	8.1	0.75	0.50	0.0	0.00	6.81	5	125
128.0	Raycap RxxDC-3315-PF-48	3	77	3.2	1.6	15.7	10.3	0.75	0.50	0.0	0.00	6.81	21	245

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient Factor	Vert Ecc (ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
128.0	Raycap RxxDC-3315-PF-48	1	77	3.2	1.6	15.7	10.3	0.75	0.50	0.0	0.00	6.81	7	82
128.0	Samsung MT6407-77A	3	153	5.8	2.9	16.1	5.5	0.75	0.61	0.0	0.00	6.81	46	509
128.0	Samsung MT6407-77A	1	153	5.8	2.9	16.1	5.5	0.75	0.61	0.0	0.00	6.81	15	170
128.0	Commscope SBNHH-1D65B	3	174	10.2	6.1	11.9	7.1	0.75	0.69	0.0	0.00	6.81	91	553
128.0	JMA Wireless MX12FIT665-01	4	265	14.5	6.0	20.0	8.0	0.75	0.64	0.0	0.00	6.81	161	1126
125.0	Generic General Pole Mount	9	7	0.0	3.3	5.0	6.0	1.00	1.00	0.0	0.00	6.79	0	76
125.0	RFS ATMAA1412D-1A20	6	32	1.5	1.0	10.0	4.0	0.75	0.50	-3.0	57.00	6.76	19	206
125.0	20' Pipe	1	198	5.1	20.0	2.5	2.5	1.00	1.00	0.0	0.00	6.79	29	218
125.0	Decibel DB844H90E-XY	12	86	3.6	4.0	6.5	8.0	0.75	0.73	0.0	0.00	6.79	138	1066
125.0	RFS APX16DWV-16DWVS-E-A20	3	123	8.1	4.7	13.3	3.1	0.75	0.60	-3.0	188.73	6.76	63	393
125.0	RFS APXVFW24-C-A20	3	240	13.6	8.0	11.8	7.9	0.75	0.71	-3.0	373.90	6.76	125	763
125.0	Round Sector Frame	3	559	26.0	0.0	0.0	0.0	0.75	0.67	0.0	0.00	6.79	227	1856
125.0	Heavy Platform with Handrails	1	9029	104.7	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.79	604	10229
113.0	Heavy Sector Frame	3	886	41.5	0.0	0.0	0.0	0.75	0.67	0.0	0.00	6.67	354	2957
112.5	Catwalk	1	9881	96.7	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.67	548	10881
111.0	RFS ACU-A20-N	3	4	0.3	0.3	2.0	3.5	0.80	0.50	0.0	0.00	6.65	2	13
111.0	Alcatel-Lucent 1900MHz RRH (65	3	118	3.1	2.1	11.1	11.4	0.80	0.50	0.0	0.00	6.65	21	390
111.0	Alcatel-Lucent 800 MHz RRH w/	3	125	3.2	1.6	13.0	15.2	0.80	0.50	0.0	0.00	6.65	22	412
111.0	Alcatel-Lucent TD-RRH8x20-25 w	3	136	5.0	2.2	18.6	6.7	0.80	0.50	0.0	0.00	6.65	34	450
111.0	RFS APXVTM14-ALU-I20	3	152	7.9	4.7	12.6	6.3	0.80	0.66	0.0	0.00	6.65	70	490
111.0	RFS APXVSP18-C	3	177	10.0	6.0	11.8	7.0	0.80	0.69	0.0	0.00	6.65	93	566
104.0	Raycap DC6-48-60-18-8F (23.5"	1	57	1.7	2.0	9.7	9.7	0.80	0.50	0.0	0.00	6.58	4	61
104.0	Nokia AirScale RRH 4T4R B5 160	3	63	1.8	1.1	11.6	6.5	0.80	0.50	0.0	0.00	6.58	12	209
104.0	Raycap DC6-48-60-18-8F ("Squid	1	75	2.0	2.0	11.0	11.0	0.80	0.50	0.0	0.00	6.58	4	81
104.0	Alcatel-Lucent B25 RRH4x30	3	95	2.8	1.8	12.0	7.2	0.80	0.50	0.0	0.00	6.58	19	317
104.0	Nokia Airscale Dual RRH 4T4R B	3	120	2.9	1.8	12.1	7.0	0.80	0.50	0.0	0.00	6.58	20	408
104.0	Alcatel-Lucent 9442 RRH2x40-AW	3	103	3.3	2.1	12.0	9.0	0.80	0.50	0.0	0.00	6.58	22	337
104.0	Alcatel-Lucent RRH4x25-WCS-4R	3	134	4.1	2.6	12.0	8.7	0.80	0.50	0.0	0.00	6.58	27	443
104.0	Commscope NNHH-65C-R4	9	328	19.6	8.0	19.6	7.8	0.80	0.64	0.0	0.00	6.58	506	3131
104.0	Sector Frame Sabre 12' EHD V-B	3	533	17.6	0.0	0.0	0.0	0.75	0.67	0.0	0.00	6.58	148	1916
93.0	Commscope RDIDC-9181-PF-48	1	61	2.5	1.3	14.0	8.0	0.80	1.00	0.0	0.00	6.45	11	66
93.0	Fujitsu TA08025-B604	3	104	2.6	1.3	15.0	7.9	0.80	0.50	0.0	0.00	6.45	17	351
93.0	Fujitsu TA08025-B605	3	118	2.6	1.3	15.0	9.1	0.80	0.50	0.0	0.00	6.45	17	400
93.0	JMA Wireless MX08FRO665-21	3	243	14.4	6.0	20.0	8.0	0.80	0.64	0.0	0.00	6.45	122	767
93.0	Generic Flat Light Sector Fram	3	609	28.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	6.45	234	2066
85.0	Generic Flat Side Arm	1	279	8.4	0.0	0.0	0.0	1.00	0.67	0.0	0.00	6.34	30	317
76.0	Rest Platform	1	974	22.1	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.21	117	1074
75.0	Generic GPS	1	30	1.3	1.0	9.0	6.0	1.00	1.00	0.0	0.00	6.19	7	32
75.0	Stand-Off	1	133	4.7	0.0	0.0	0.0	1.00	0.67	0.0	0.00	6.19	17	153
56.0	Stand-Off	1	132	4.7	0.0	0.0	0.0	1.00	0.67	0.0	0.00	5.83	16	152
53.0	Generic GPS	4	29	1.3	1.0	9.0	6.0	1.00	0.50	0.0	0.00	5.76	13	125
37.8	Generic RAC 8' Ice Shield	3	1092	11.4	8.0	60.0	24.0	1.00	1.00	0.0	0.00	5.34	155	3636
25.0	Rest Platform	1	906	21.1	0.0	0.0	0.0	1.00	1.00	0.0	0.00	5.09	91	1006
Totals		147	47,097	1303.7									4408	52,129

## TOWER LOADING

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient Factor	Vert Ecc (ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
132.0	Generic 12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	0.0	0.00	9.86	30	40
128.0	Samsung Outdoor CBRS 20W RRH –	3	4	0.9	1.0	8.7	1.4	0.75	0.50	0.0	0.00	9.81	8	13
128.0	Samsung Outdoor CBRS 20W RRH –	1	4	0.9	1.0	8.7	1.4	0.75	0.50	0.0	0.00	9.81	3	4
128.0	Samsung RT4401-48A	3	19	1.0	1.2	8.6	4.2	0.75	0.50	0.0	0.00	9.81	9	56
128.0	Samsung RT4401-48A	1	19	1.0	1.2	8.6	4.2	0.75	0.50	0.0	0.00	9.81	3	19
128.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.75	0.50	0.0	0.00	9.81	18	253
128.0	Samsung B2/B66A RRH-BR049	1	84	1.9	1.3	15.0	10.0	0.75	0.50	0.0	0.00	9.81	6	84
128.0	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.75	0.50	0.0	0.00	9.81	18	211
128.0	Samsung B5/B13 RRH-BR04C	1	70	1.9	1.3	15.0	8.1	0.75	0.50	0.0	0.00	9.81	6	70
128.0	Raycap RxxDC-3315-PF-48	3	21	2.5	1.6	15.7	10.3	0.75	0.50	0.0	0.00	9.81	24	64
128.0	Raycap RxxDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.75	0.50	0.0	0.00	9.81	8	21
128.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.75	0.61	0.0	0.00	9.81	54	245
128.0	Samsung MT6407-77A	1	82	4.7	2.9	16.1	5.5	0.75	0.61	0.0	0.00	9.81	18	82
128.0	Commscope SBNHH-1D65B	3	51	8.2	6.1	11.9	7.1	0.75	0.69	0.0	0.00	9.81	106	152
128.0	JMA Wireless MX12FIT665-01	4	84	12.5	6.0	20.0	8.0	0.75	0.64	0.0	0.00	9.81	200	336
125.0	Generic General Pole Mount	9	5	0.0	3.3	5.0	6.0	1.00	1.00	0.0	0.00	9.77	0	45

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient Factor	Vert Ecc (ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
125.0	RFS ATMAA1412D-1A20	6	13	1.0	1.0	10.0	4.0	0.75	0.50	-3.0	55.85	9.74	19	78
125.0	20' Pipe	1	100	3.4	20.0	2.5	2.5	1.00	1.00	0.0	0.00	9.77	28	100
125.0	Decibel DB844H90E-XY	12	14	3.6	4.0	6.5	8.0	0.75	0.73	0.0	0.00	9.77	197	168
125.0	RFS APX16DWV-16DWVS-E-A20	3	41	6.6	4.7	13.3	3.1	0.75	0.60	-3.0	220.72	9.74	74	122
125.0	RFS APXVFW24-C-A20	3	73	11.3	8.0	11.8	7.9	0.75	0.71	-3.0	448.52	9.74	150	219
125.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	9.77	180	900
125.0	Heavy Platform with Handrails	1	6000	80.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	9.77	665	6000
113.0	Heavy Sector Frame	3	500	29.3	0.0	0.0	0.0	0.75	0.67	0.0	0.00	9.61	361	1500
112.5	Catwalk	1	5000	65.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	9.60	531	5000
111.0	RFS ACU-A20-N	3	1	0.1	0.3	2.0	3.5	0.80	0.50	0.0	0.00	9.58	1	3
111.0	Alcatel-Lucent 1900MHz RRH (65	3	60	2.4	2.1	11.1	11.4	0.80	0.50	0.0	0.00	9.58	23	180
111.0	Alcatel-Lucent 800 MHz RRH w/	3	62	2.5	1.6	13.0	15.2	0.80	0.50	0.0	0.00	9.58	24	185
111.0	Alcatel-Lucent TD-RRH8x20-25 w	3	70	4.0	2.2	18.6	6.7	0.80	0.50	0.0	0.00	9.58	40	210
111.0	RFS APXVTM14-ALU-I20	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.00	9.58	82	169
111.0	RFS APXVSPP18-C	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.00	9.58	108	171
104.0	Raycap DC6-48-60-18-8F (23.5"	1	20	1.3	2.0	9.7	9.7	0.80	0.50	0.0	0.00	9.47	4	20
104.0	Nokia AirScale RRH 4T4R B5 160	3	35	1.3	1.1	11.6	6.5	0.80	0.50	0.0	0.00	9.47	12	106
104.0	Raycap DC6-48-60-18-8F ("Squid	1	32	1.5	2.0	11.0	11.0	0.80	0.50	0.0	0.00	9.47	5	32
104.0	Alcatel-Lucent B25 RRH4x30	3	53	2.1	1.8	12.0	7.2	0.80	0.50	0.0	0.00	9.47	20	159
104.0	Nokia Airscale Dual RRH 4T4R B	3	77	2.2	1.8	12.1	7.0	0.80	0.50	0.0	0.00	9.47	22	232
104.0	Alcatel-Lucent 9442 RRH2x40-AW	3	49	2.5	2.1	12.0	9.0	0.80	0.50	0.0	0.00	9.47	24	147
104.0	Alcatel-Lucent RRH4x25-WCS-4R	3	70	3.2	2.6	12.0	8.7	0.80	0.50	0.0	0.00	9.47	31	210
104.0	Commscope NNHH-65C-R4	9	99	17.1	8.0	19.6	7.8	0.80	0.64	0.0	0.00	9.47	633	893
104.0	Sector Frame Sabre 12' EHD V-B	3	530	17.5	0.0	0.0	0.0	0.75	0.67	0.0	0.00	9.47	212	1590
93.0	Commscope RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.00	9.28	12	22
93.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	9.28	19	192
93.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	9.28	19	225
93.0	JMA Wireless MX08FRO665-21	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.00	9.28	151	194
93.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	9.28	213	1200
85.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	0.67	0.0	0.00	9.13	33	188
76.0	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	8.94	114	500
75.0	Generic GPS	1	10	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.00	8.91	7	10
75.0	Stand-Off	1	100	3.5	0.0	0.0	0.0	1.00	0.67	0.0	0.00	8.91	18	100
56.0	Stand-Off	1	100	3.5	0.0	0.0	0.0	1.00	0.67	0.0	0.00	8.40	17	100
53.0	Generic GPS	4	10	0.9	1.0	9.0	6.0	1.00	0.50	0.0	0.00	8.30	13	40
37.8	Generic RAC 8' Ice Shield	3	600	6.0	8.0	60.0	24.0	1.00	1.00	0.0	0.00	7.69	118	1800
25.0	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	7.33	93	500
Totals		147	25,159	995.7									4,781	25,159

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

## TOWER LOADING

## Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient Factor	K <sub>a</sub> Override
0.0	128.0	1 5/8" Hybriflex	1	1.98	1.30	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	128.0	1 5/8" Hybriflex	3	1.98	1.30	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	128.0	1 5/8" Coax	10	1.98	0.82	75	1	Block	0.00	N	1.00	1.00	0.00
0.0	125.0	Waveguide Ladder	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	125.0	Climbing Ladder	1	2.00	6.90	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	125.0	1 5/8" Coax	18	1.98	0.82	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	125.0	Waveguide Ladder	2	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	125.0	1 1/4" Coax	12	1.55	0.63	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	125.0	3/8" Coax	1	0.44	0.08	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	111.0	1 1/4" Hybriflex Cable	3	1.54	1.00	33	1	Block	0.00	N	1.00	1.00	0.00
0.0	111.0	1.54" (39.2mm) Hybrid	1	1.54	1.60	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	104.0	2" conduit	1	2.38	3.65	100	1	Individual	0.00	N	1.00	1.00	0.01
0.0	104.0	2" conduit	1	2.38	3.65	100	1	Individual	0.00	N	1.00	1.00	0.01
0.0	104.0	0.39" (10mm) Fiber Trunk	2	0.39	0.06	50	1	Block	0.00	N	1.00	1.00	0.00
0.0	104.0	7/8" Coax	12	1.09	0.33	50	1	Block	0.00	N	1.00	1.00	0.00
0.0	104.0	0.78" (19.7mm) 8 AWG 6	4	0.78	0.59	50	1	Block	0.00	N	1.00	1.00	0.00
0.0	93.0	1.75" (44.5mm) Hybrid	1	1.75	2.72	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	75.0	1/2" Coax	1	0.63	0.15	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	53.0	1/2" Coax	4	0.63	0.15	100	1	Cluster	1.26	N	1.00	1.00	0.00



## SECTION FORCES

1.2D + 1.0W Normal  
115 mph wind with no ice

Gust Response Factor (Gh): 0.85  
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q <sub>Z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)	
10	121	35.70	22.079	0.000	0.00	0.261	2.73	1.00	1.00	0.0	22.08	60.33	0.00	2723	0	1831	1495	3326	
9	112	35.25	20.058	0.000	0.00	0.216	2.91	1.00	1.00	0.0	20.06	58.39	0.00	2360	0	1750	1497	3246	
8	103	34.72	23.880	0.000	0.00	0.196	3.00	1.00	1.00	0.0	23.88	71.54	0.00	3642	0	2111	1974	4086	
7	93	34.08	24.651	0.000	0.00	0.182	3.06	1.00	1.00	0.0	24.65	75.43	0.00	3332	0	2185	2066	4251	
6	81	33.25	29.823	0.000	0.00	0.161	3.15	1.00	1.00	0.0	29.82	94.04	0.00	5005	0	2658	2496	5154	
5	69	32.18	30.656	0.000	0.00	0.151	3.20	1.00	1.00	0.0	30.66	98.11	0.00	5457	0	2684	2428	5112	
4	56	30.88	26.938	0.000	0.00	0.120	3.35	1.00	1.00	0.0	26.94	90.22	0.00	5385	0	2368	2335	4703	
3	44	29.22	27.768	0.000	0.00	0.114	3.38	1.00	1.00	0.0	27.77	93.86	0.00	6158	0	2331	2228	4560	
2	31	27.02	28.411	0.000	0.00	0.109	3.41	1.00	1.00	0.0	28.41	96.77	0.00	6321	0	2223	2060	4283	
1	12	27.45	78.749	0.000	0.00	0.135	3.28	1.00	1.00	0.0	78.75	258.14	0.00	13824	0	6024	4187	10211	
														54,206	0				48,931

1.2D + 1.0W 45°  
115 mph wind with no ice

Gust Response Factor (Gh): 0.85  
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q <sub>Z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)	
10	121	35.70	22.079	0.000	0.00	0.261	2.73	1.20	1.20	0.0	26.40	72.14	0.00	2723	0	2189	1495	3684	
9	112	35.25	20.058	0.000	0.00	0.216	2.91	1.16	1.16	0.0	23.31	67.86	0.00	2360	0	2033	1497	3530	
8	103	34.72	23.880	0.000	0.00	0.196	3.00	1.15	1.15	0.0	27.40	82.07	0.00	3642	0	2422	1974	4397	
7	93	34.08	24.651	0.000	0.00	0.182	3.06	1.14	1.14	0.0	28.01	85.71	0.00	3332	0	2483	2066	4549	
6	81	33.25	29.823	0.000	0.00	0.161	3.15	1.12	1.12	0.0	33.43	105.40	0.00	5005	0	2979	2496	5475	
5	69	32.18	30.656	0.000	0.00	0.151	3.20	1.11	1.11	0.0	34.13	109.22	0.00	5457	0	2988	2428	5416	
4	56	30.88	26.938	0.000	0.00	0.120	3.35	1.09	1.09	0.0	29.36	98.35	0.00	5385	0	2581	2335	4917	
3	44	29.22	27.768	0.000	0.00	0.114	3.38	1.09	1.09	0.0	30.14	101.87	0.00	6158	0	2530	2228	4759	
2	31	27.02	28.411	0.000	0.00	0.109	3.41	1.08	1.08	0.0	30.73	104.66	0.00	6321	0	2404	2060	4464	
1	12	27.45	78.749	0.000	0.00	0.135	3.28	1.10	1.10	0.0	86.70	284.21	0.00	13824	0	6632	4187	10819	
														54,206	0				52,009

0.9D + 1.0W Normal  
115 mph wind with no ice

Gust Response Factor (Gh): 0.85  
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q <sub>Z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)	
10	121	35.70	22.079	0.000	0.00	0.261	2.73	1.00	1.00	0.0	22.08	60.33	0.00	2042	0	1831	1495	3326	
9	112	35.25	20.058	0.000	0.00	0.216	2.91	1.00	1.00	0.0	20.06	58.39	0.00	1770	0	1750	1497	3246	
8	103	34.72	23.880	0.000	0.00	0.196	3.00	1.00	1.00	0.0	23.88	71.54	0.00	2732	0	2111	1974	4086	
7	93	34.08	24.651	0.000	0.00	0.182	3.06	1.00	1.00	0.0	24.65	75.43	0.00	2499	0	2185	2066	4251	
6	81	33.25	29.823	0.000	0.00	0.161	3.15	1.00	1.00	0.0	29.82	94.04	0.00	3753	0	2658	2496	5154	
5	69	32.18	30.656	0.000	0.00	0.151	3.20	1.00	1.00	0.0	30.66	98.11	0.00	4093	0	2684	2428	5112	
4	56	30.88	26.938	0.000	0.00	0.120	3.35	1.00	1.00	0.0	26.94	90.22	0.00	4038	0	2368	2335	4703	
3	44	29.22	27.768	0.000	0.00	0.114	3.38	1.00	1.00	0.0	27.77	93.86	0.00	4618	0	2331	2228	4560	
2	31	27.02	28.411	0.000	0.00	0.109	3.41	1.00	1.00	0.0	28.41	96.77	0.00	4741	0	2223	2060	4283	
1	12	27.45	78.749	0.000	0.00	0.135	3.28	1.00	1.00	0.0	78.75	258.14	0.00	10368	0	6024	4187	10211	
														40,655	0				48,931

0.9D + 1.0W 45°  
115 mph wind with no ice

Gust Response Factor (Gh): 0.85  
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q <sub>Z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)
10	121	35.70	22.079	0.000	0.00	0.261	2.73	1.20	1.20	0.0	26.40	72.14	0.00	2042	0	2189	1495	3684
9	112	35.25	20.058	0.000	0.00	0.216	2.91	1.16	1.16	0.0	23.31	67.86	0.00	1770	0	2033	1497	3530

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

## SECTION FORCES

Sect #	Elev (ft)	Q <sub>Z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)
8	103	34.72	23.880	0.000	0.00	0.196	3.00	1.15	1.15	0.0	27.40	82.07	0.00	2732	0	2422	1974	4397
7	93	34.08	24.651	0.000	0.00	0.182	3.06	1.14	1.14	0.0	28.01	85.71	0.00	2499	0	2483	2066	4549
6	81	33.25	29.823	0.000	0.00	0.161	3.15	1.12	1.12	0.0	33.43	105.40	0.00	3753	0	2979	2496	5475
5	69	32.18	30.656	0.000	0.00	0.151	3.20	1.11	1.11	0.0	34.13	109.22	0.00	4093	0	2988	2428	5416
4	56	30.88	26.938	0.000	0.00	0.120	3.35	1.09	1.09	0.0	29.36	98.35	0.00	4038	0	2581	2335	4917
3	44	29.22	27.768	0.000	0.00	0.114	3.38	1.09	1.09	0.0	30.14	101.87	0.00	4618	0	2530	2228	4759
2	31	27.02	28.411	0.000	0.00	0.109	3.41	1.08	1.08	0.0	30.73	104.66	0.00	4741	0	2404	2060	4464
1	12	27.45	78.749	0.000	0.00	0.135	3.28	1.10	1.10	0.0	86.70	284.21	0.00	10368	0	6632	4187	10819
															40,655	0		52,009

1.2D + 1.0Di + 1.0Wi Normal  
50 mph wind with 1" radial iceGust Response Factor (Gh):  
Wind Importance Factor (Iw):0.85  
1.00Ice Importance Factor:  
Ice Dead Load Factor:1.00  
1.00

Sect #	Elev (ft)	Q <sub>Z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)
10	121	6.75	22.079	10.564	10.56	0.378	2.34	1.00	1.00	1.2	32.64	76.41	10.56	6714	3991	438	623	1040 **
9	112	6.66	20.058	10.997	11.00	0.329	2.49	1.00	1.00	1.2	31.05	77.41	11.00	6302	3943	439	660	1098
8	103	6.56	23.880	12.571	12.57	0.295	2.61	1.00	1.00	1.2	36.45	95.08	12.57	8831	5188	530	876	1406
7	93	6.44	24.651	13.188	13.19	0.275	2.68	1.00	1.00	1.2	37.84	101.43	13.19	8479	5147	555	917	1473
6	81	6.29	29.823	13.553	13.55	0.231	2.85	1.00	1.00	1.2	43.38	123.61	13.55	11895	6891	660	1150	1811
5	69	6.08	30.656	13.832	13.83	0.216	2.91	1.00	1.00	1.2	44.49	129.46	13.83	12457	7000	669	1137	1806
4	56	5.84	26.938	14.159	14.16	0.181	3.06	1.00	1.00	1.2	41.10	125.85	14.16	12035	6651	624	1121	1746
3	44	5.52	27.768	14.374	14.37	0.171	3.11	1.00	1.00	1.1	42.14	130.96	14.37	12942	6784	615	1072	1687
2	31	5.11	28.411	14.465	14.47	0.162	3.15	1.00	1.00	1.1	42.88	134.92	14.47	13057	6735	586	987	1573
1	12	5.19	78.749	21.476	21.48	0.170	3.11	1.00	1.00	1.0	100.22	311.89	21.48	27124	13300	1376	1903	3279
** = Section Force Exceeds Solidity Ratio Criteria															119,837	65,630		16,919

1.2D + 1.0Di + 1.0Wi 45°  
50 mph wind with 1" radial iceGust Response Factor (Gh):  
Wind Importance Factor (Iw):0.85  
1.00Ice Importance Factor:  
Ice Dead Load Factor:1.00  
1.00

Sect #	Elev (ft)	Q <sub>Z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)
10	121	6.75	22.079	10.564	10.56	0.378	2.34	1.20	1.20	1.2	39.17	91.70	10.56	6714	3991	526	623	1040 **
9	112	6.66	20.058	10.997	11.00	0.329	2.49	1.20	1.20	1.2	37.27	92.89	11.00	6302	3943	526	660	1124 **
8	103	6.56	23.880	12.571	12.57	0.295	2.61	1.20	1.20	1.2	43.74	114.10	12.57	8831	5188	637	876	1449 **
7	93	6.44	24.651	13.188	13.19	0.275	2.68	1.20	1.20	1.2	45.41	121.72	13.19	8479	5147	666	917	1583 **
6	81	6.29	29.823	13.553	13.55	0.231	2.85	1.17	1.17	1.2	50.90	145.05	13.55	11895	6891	775	1150	1925
5	69	6.08	30.656	13.832	13.83	0.216	2.91	1.16	1.16	1.2	51.71	150.49	13.83	12457	7000	778	1137	1915
4	56	5.84	26.938	14.159	14.16	0.181	3.06	1.14	1.14	1.2	46.68	142.95	14.16	12035	6651	709	1121	1830
3	44	5.52	27.768	14.374	14.37	0.171	3.11	1.13	1.13	1.1	47.55	147.76	14.37	12942	6784	694	1072	1766
2	31	5.11	28.411	14.465	14.47	0.162	3.15	1.12	1.12	1.1	48.10	151.37	14.47	13057	6735	657	987	1644
1	12	5.19	78.749	21.476	21.48	0.170	3.11	1.13	1.13	1.0	113.02	351.69	21.48	27124	13300	1551	1903	3455
** = Section Force Exceeds Solidity Ratio Criteria															119,837	65,630		17,732

1.0D + 1.0W Service Normal  
60 mph Wind with No IceGust Response Factor (Gh):  
Wind Importance Factor (Iw):0.85  
1.00

Sect #	Elev (ft)	Q <sub>Z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)
10	121	9.72	22.079	0.000	0.00	0.261	2.73	1.00	1.00	0.0	22.08	60.33	0.00	2269	0	498	407	905
9	112	9.60	20.058	0.000	0.00	0.216	2.91	1.00	1.00	0.0	20.06	58.39	0.00	1966	0	476	407	884
8	103	9.45	23.880	0.000	0.00	0.196	3.00	1.00	1.00	0.0	23.88	71.54	0.00	3035	0	575	537	1112
7	93	9.28	24.651	0.000	0.00	0.182	3.06	1.00	1.00	0.0	24.65	75.43	0.00	2776	0	595	562	1157
6	81	9.05	29.823	0.000	0.00	0.161	3.15	1.00	1.00	0.0	29.82	94.04	0.00	4171	0	724	679	1403
5	69	8.76	30.656	0.000	0.00	0.151	3.20	1.00	1.00	0.0	30.66	98.11	0.00	4547	0	731	661	1392
4	56	8.40	26.938	0.000	0.00	0.120	3.35	1.00	1.00	0.0	26.94	90.22	0.00	4487	0	645	636	1280
3	44	7.95	27.768	0.000	0.00	0.114	3.38	1.00	1.00	0.0	27.77	93.86	0.00	5131	0	635	607	1241
2	31	7.36	28.411	0.000	0.00	0.109	3.41	1.00	1.00	0.0	28.41	96.77	0.00	5268	0	605	561	1166
1	12	7.47	78.749	0.000	0.00	0.135	3.28	1.00	1.00	0.0	78.75	258.14	0.00	11520	0	1640	1140	2779

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

## SECTION FORCES

Sect #	Elev (ft)	Q <sub>z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)
** = Section Force Exceeds Solidity Ratio Criteria															45,172	0		13,320

1.0D + 1.0W Service 45°

Gust Response Factor (G<sub>h</sub>): 0.85

60 mph Wind with No Ice

Wind Importance Factor (I<sub>w</sub>): 1.00

Sect #	Elev (ft)	Q <sub>z</sub> (psf)	A <sub>f</sub> (sf)	A <sub>r</sub> (sf)	Ice A <sub>r</sub> (sf)	e	C <sub>f</sub>	D <sub>f</sub>	D <sub>r</sub>	T <sub>iz</sub> (in)	A <sub>e</sub> (sf)	EPA <sub>a</sub> (sf)	EPA <sub>ai</sub> (sf)	Wt. (lb)	Ice Wt (lb)	F <sub>st</sub> (lb)	F <sub>a</sub> (lb)	Force (lb)
10	121	9.72	22.079	0.000	0.00	0.261	2.73	1.20	1.20	0.0	26.40	72.14	0.00	2269	0	596	407	1003
9	112	9.60	20.058	0.000	0.00	0.216	2.91	1.16	1.16	0.0	23.31	67.86	0.00	1966	0	554	407	961
8	103	9.45	23.880	0.000	0.00	0.196	3.00	1.15	1.15	0.0	27.40	82.07	0.00	3035	0	659	537	1197
7	93	9.28	24.651	0.000	0.00	0.182	3.06	1.14	1.14	0.0	28.01	85.71	0.00	2776	0	676	562	1238
6	81	9.05	29.823	0.000	0.00	0.161	3.15	1.12	1.12	0.0	33.43	105.40	0.00	4171	0	811	679	1490
5	69	8.76	30.656	0.000	0.00	0.151	3.20	1.11	1.11	0.0	34.13	109.22	0.00	4547	0	813	661	1474
4	56	8.40	26.938	0.000	0.00	0.120	3.35	1.09	1.09	0.0	29.36	98.35	0.00	4487	0	703	636	1338
3	44	7.95	27.768	0.000	0.00	0.114	3.38	1.09	1.09	0.0	30.14	101.87	0.00	5131	0	689	607	1295
2	31	7.36	28.411	0.000	0.00	0.109	3.41	1.08	1.08	0.0	30.73	104.66	0.00	5268	0	654	561	1215
1	12	7.47	78.749	0.000	0.00	0.135	3.28	1.10	1.10	0.0	86.70	284.21	0.00	11520	0	1805	1140	2945
** = Section Force Exceeds Solidity Ratio Criteria															45,172	0		14,157

ASSET: # 88166, SOUTH SALEM NY  
 CUSTOMER VERIZON WIRELESS

STANDARD ANSI/TIA-222-H  
 ENG NO.: 13742215\_C3\_01

#### EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period ( $S_S$ ):	0.25
Spectral Response Acceleration at 1.0 Second Period ( $S_1$ ):	0.06
Long-Period Transition Period ( $T_L$ – Seconds):	6
Importance Factor ( $I_e$ ):	1.00
Site Coefficient $F_a$ :	1.60
Site Coefficient $F_v$ :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.27
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.09
Seismic Response Coefficient ( $C_s$ ):	0.06
Upper Limit $C_s$ :	0.06
Lower Limit $C_s$ :	0.03
Period based on Rayleigh Method (sec):	0.49
Redundancy Factor ( $\rho$ ):	1.30
Seismic Force Distribution Exponent ( $k$ ):	1.00
Total Unfactored Dead Load:	70.33 k
Seismic Base Shear (E):	5.76 k

#### SEISMIC

Load Case: 0.9D - 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	$W_z$ (lb-ft)	$C_{vx}$	Horizontal Force (lb)	Vertical Force (lb)
10	120.71	2,269	273,918	0.053	305	1,921
9	112.13	1,966	220,490	0.043	246	1,664
8	102.76	3,035	311,879	0.060	347	2,569
7	92.58	2,776	257,058	0.050	286	2,350
6	81.25	4,171	338,853	0.066	378	3,530
5	68.75	4,547	312,631	0.060	348	3,849
4	56.25	4,487	252,399	0.049	281	3,798
3	43.75	5,131	224,503	0.043	250	4,344
2	31.25	5,268	164,619	0.032	183	4,459
1	12.50	11,520	144,003	0.028	160	9,752
Generic 12' Omni	125.00	40	5,000	0.001	6	34
Samsung Outdoor CBRS 20W RRH –Clip-on Antenna	125.00	13	1,650	0.000	2	11
Samsung Outdoor CBRS 20W RRH –Clip-on Antenna	125.00	4	550	0.000	1	4
Samsung RT4401-48A	125.00	56	6,975	0.001	8	47
Samsung RT4401-48A	125.00	19	2,325	0.000	3	16
Samsung B2/B66A RRH-BR049	125.00	253	31,650	0.006	35	214
Samsung B2/B66A RRH-BR049	125.00	84	10,550	0.002	12	71
Samsung B5/B13 RRH-BR04C	125.00	211	26,362	0.005	29	179
Samsung B5/B13 RRH-BR04C	125.00	70	8,788	0.002	10	60
Raycap RxxDC-3315-PF-48	125.00	64	8,025	0.002	9	54
Raycap RxxDC-3315-PF-48	125.00	21	2,675	0.000	3	18
Samsung MT6407-77A	125.00	245	30,600	0.006	34	207
Samsung MT6407-77A	125.00	82	10,200	0.002	11	69
Commscope SBNHH-1D65B	125.00	152	19,012	0.004	21	129
JMA Wireless MX12FIT665-01	125.00	336	42,000	0.008	47	284
Generic General Pole Mount	125.00	45	5,625	0.001	6	38
RFS ATMAA1412D-1A20	125.00	78	9,750	0.002	11	66
20' Pipe	125.00	100	12,500	0.002	14	85
Decibel DB844H90E-XY	125.00	168	21,000	0.004	23	142
RFS APX16DWV-16DWVS-E-A20	125.00	122	15,262	0.003	17	103
RFS APXVFW24-C-A20	125.00	219	27,375	0.005	30	185
Round Sector Frame	125.00	900	112,500	0.022	125	762

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

Heavy Platform with Handrails	125.00	6,000	750,000	0.145	836	5,079
Heavy Sector Frame	113.00	1,500	169,500	0.033	189	1,270
Catwalk	112.50	5,000	562,500	0.109	627	4,232
RFS ACU-A20-N	111.00	3	333	0.000	0	3
Alcatel-Lucent 1900MHz RRH (65MHz)	111.00	180	19,980	0.004	22	152
Alcatel-Lucent 800 MHz RRH w/ Notch Filter	111.00	185	20,579	0.004	23	157
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	111.00	210	23,310	0.004	26	178
RFS APXVTM14-ALU-I20	111.00	169	18,715	0.004	21	143
RFS APXVSPP18-C	111.00	171	18,981	0.004	21	145
Raycap DC6-48-60-18-8F (23.5" Height)	104.00	20	2,080	0.000	2	17
Nokia AirScale RRH 4T4R B5 160W AHCA	104.00	106	11,014	0.002	12	90
Raycap DC6-48-60-18-8F ("Squid")	104.00	32	3,307	0.001	4	27
Alcatel-Lucent B25 RRH4x30	104.00	159	16,536	0.003	18	135
Nokia Airscale Dual RRH 4T4R B12/B14 320W AHLBA	104.00	232	24,086	0.005	27	196
Alcatel-Lucent 9442 RRH2x40-AWS	104.00	147	15,288	0.003	17	124
Alcatel-Lucent RRH4x25-WCS-4R	104.00	210	21,840	0.004	24	178
Commscope NNHH-65C-R4	104.00	893	92,851	0.018	103	756
Sector Frame Sabre 12' EHD V-Boom	104.00	1,590	165,360	0.032	184	1,346
Commscope RDIDC-9181-PF-48	93.00	22	2,037	0.000	2	19
Fujitsu TA08025-B604	93.00	192	17,828	0.003	20	162
Fujitsu TA08025-B605	93.00	225	20,925	0.004	23	190
JMA Wireless MX08FRO665-21	93.00	194	17,996	0.004	20	164
Generic Flat Light Sector Frame	93.00	1,200	111,600	0.022	124	1,016
Generic Flat Side Arm	85.00	188	15,938	0.003	18	159
Rest Platform	76.00	500	38,000	0.007	42	423
Generic GPS	75.00	10	750	0.000	1	8
Stand-Off	75.00	100	7,500	0.002	8	85
Stand-Off	56.00	100	5,600	0.001	6	85
Generic GPS	53.00	40	2,120	0.000	2	34
Generic RAC 8' Ice Shield	37.80	1,800	68,040	0.013	76	1,524
Rest Platform	25.00	500	12,500	0.002	14	423
Totals		70,330	5,167,822	1.000	5,758	59,533

## SEISMIC

Load Case: 1.2D + 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
10	120.71	2,269	273,918	0.053	305	2,845
9	112.13	1,966	220,490	0.043	246	2,465
8	102.76	3,035	311,879	0.060	347	3,805
7	92.58	2,776	257,058	0.050	286	3,480
6	81.25	4,171	338,853	0.066	378	5,228
5	68.75	4,547	312,631	0.060	348	5,700
4	56.25	4,487	252,399	0.049	281	5,625
3	43.75	5,131	224,503	0.043	250	6,432
2	31.25	5,268	164,619	0.032	183	6,603
1	12.50	11,520	144,003	0.028	160	14,441
Generic 12' Omni	125.00	40	5,000	0.001	6	50
Samsung Outdoor CBRS 20W RRH –Clip-on Antenna	125.00	13	1,650	0.000	2	17
Samsung Outdoor CBRS 20W RRH –Clip-on Antenna	125.00	4	550	0.000	1	6
Samsung RT4401-48A	125.00	56	6,975	0.001	8	70
Samsung RT4401-48A	125.00	19	2,325	0.000	3	23
Samsung B2/B66A RRH-BR049	125.00	253	31,650	0.006	35	317
Samsung B2/B66A RRH-BR049	125.00	84	10,550	0.002	12	106
Samsung B5/B13 RRH-BR04C	125.00	211	26,362	0.005	29	264
Samsung B5/B13 RRH-BR04C	125.00	70	8,788	0.002	10	88
Raycap RxxDC-3315-PF-48	125.00	64	8,025	0.002	9	80
Raycap RxxDC-3315-PF-48	125.00	21	2,675	0.000	3	27
Samsung MT6407-77A	125.00	245	30,600	0.006	34	307
Samsung MT6407-77A	125.00	82	10,200	0.002	11	102
Commscope SBNHH-1D65B	125.00	152	19,012	0.004	21	191
JMA Wireless MX12FIT665-01	125.00	336	42,000	0.008	47	421
Generic General Pole Mount	125.00	45	5,625	0.001	6	56
RFS ATMAA1412D-1A20	125.00	78	9,750	0.002	11	98
20' Pipe	125.00	100	12,500	0.002	14	125
Decibel DB844H90E-XY	125.00	168	21,000	0.004	23	211
RFS APX16DWV-16DWVS-E-A20	125.00	122	15,262	0.003	17	153
RFS APXVFW24-C-A20	125.00	219	27,375	0.005	30	275

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

Round Sector Frame	125.00	900	112,500	0.022	125	1,128
Heavy Platform with Handrails	125.00	6,000	750,000	0.145	836	7,521
Heavy Sector Frame	113.00	1,500	169,500	0.033	189	1,880
Catwalk	112.50	5,000	562,500	0.109	627	6,268
RFS ACU-A20-N	111.00	3	333	0.000	0	4
Alcatel-Lucent 1900MHz RRH (65MHz)	111.00	180	19,980	0.004	22	226
Alcatel-Lucent 800 MHz RRH w/ Notch Filter	111.00	185	20,579	0.004	23	232
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	111.00	210	23,310	0.004	26	263
RFS APXVTM14-ALU-I20	111.00	169	18,715	0.004	21	211
RFS APXVSPP18-C	111.00	171	18,981	0.004	21	214
Raycap DC6-48-60-18-8F (23.5" Height)	104.00	20	2,080	0.000	2	25
Nokia AirScale RRH 4T4R B5 160W AHCA	104.00	106	11,014	0.002	12	133
Raycap DC6-48-60-18-8F ("Squid")	104.00	32	3,307	0.001	4	40
Alcatel-Lucent B25 RRH4x30	104.00	159	16,536	0.003	18	199
Nokia Airscale Dual RRH 4T4R B12/B14 320W AHLBA	104.00	232	24,086	0.005	27	290
Alcatel-Lucent 9442 RRH2x40-AWS	104.00	147	15,288	0.003	17	184
Alcatel-Lucent RRH4x25-WCS-4R	104.00	210	21,840	0.004	24	263
Commscope NNHH-65C-R4	104.00	893	92,851	0.018	103	1,119
Sector Frame Sabre 12' EHD V-Boom	104.00	1,590	165,360	0.032	184	1,993
Commscope RDIDC-9181-PF-48	93.00	22	2,037	0.000	2	27
Fujitsu TA08025-B604	93.00	192	17,828	0.003	20	240
Fujitsu TA08025-B605	93.00	225	20,925	0.004	23	282
JMA Wireless MX08FRO665-21	93.00	194	17,996	0.004	20	243
Generic Flat Light Sector Frame	93.00	1,200	111,600	0.022	124	1,504
Generic Flat Side Arm	85.00	188	15,938	0.003	18	235
Rest Platform	76.00	500	38,000	0.007	42	627
Generic GPS	75.00	10	750	0.000	1	13
Stand-Off	75.00	100	7,500	0.002	8	125
Stand-Off	56.00	100	5,600	0.001	6	125
Generic GPS	53.00	40	2,120	0.000	2	50
Generic RAC 8' Ice Shield	37.80	1,800	68,040	0.013	76	2,256
Rest Platform	25.00	500	12,500	0.002	14	627
Totals		70,330	5,167,822	1.000	5,758	88,161

## FORCE/STRESS SUMMARY

## Section 1 – Bolt Elevation 0.0 (ft) and Height 25.00 (ft)

Max Compression	Pu	Load Case	Len (ft)	Bracing %				F'y (ksi)	Shear		Bear	# Bolt	# Hole	Use %	Controls
	(kip)			X	Y	Z	KL/R		Φc Pn (kip)	ΦRnv (kip)	ΦRn (kip)				
L SAE - 8X8X0.625	-148.28	1.2D + 1.0W 45°	25.093	33	33	33	62.89	33.0	280.97	715.69	1980.00	40	4	52	Member Z
H DAE - 2.5X2.5X0.25	-9.58	1.2D + 1.0W N	10.6	100	100	16	154.64	33.0	28.49	79.52	79.20	4	2	33	Member X
D DAS - 3.5X3X0.25	-25.11	1.2D + 1.0W N	27.827	33	67	6	135.69	33.0	48.66	119.28	118.80	6	2	51	Member Y

						Shear	Bear	Blk Shear				
Max Tension Member	Pu (kip)	Load Case	F <sub>y</sub> (ksi)	F <sub>u</sub> (ksi)	Φ <sub>c</sub> P <sub>n</sub> (kip)	ΦR <sub>nv</sub> (kip)	ΦR <sub>n</sub> (kip)	Φ <sub>t</sub> P <sub>n</sub> (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 8X8X0.625	115.08	0.9D + 1.0W 45°	33.0	55	285.42	715.69	1960.41		40	4	40	Member
H DAE - 2.5X2.5X0.25	10.02	1.2D + 1.0W N	33.0	55	61.06	79.52	63.52	39.24	4	2	25	Blk Shear
D DAS - 3.5X3X0.25	23.82	1.2D + 1.0W N	33.0	55	84.27	119.28	103.12	63.68	6	2	37	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ <sub>R<sub>nt</sub></sub> (kip)	Use %	Num Bolts	Bolt Type
Top Tension	114.22	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	146.95	0.9D + 1.0W 45°	412.21	13	4	2" C1015
Bot Compression	182.20	1.2D + 1.0W 45°	469.67	42	0	

## Section 2 – Bolt Elevation 25.0 (ft) and Height 12.50 (ft)

Max Compression	Pu	Load Case	Len (ft)	Bracing %			F'y (ksi)	Shear		Bear		# Bolt	# Hole	Use %	Controls
	(kip)			X	Y	Z		KL/R	Φc Pn (kip)	ΦRnv (kip)	ΦRn (kip)				
L SAE - 6X6X0.75	-130.06	1.2D + 1.0W 45°	12.549	50	50	50	64.35	33.0	245.27	572.56	1900.80	32	4	53	Member Z
H DAE - 2.5X2.5X0.25	-8.99	1.2D + 1.0W N	9.82	100	100	20	145.37	33.0	32.24	79.52	79.20	4	2	27	Member X
D DAE - 2.5X2.5X0.25	-15.22	1.2D + 1.0W N	16.408	50	100	12	161.99	33.0	25.96	79.52	79.20	4	2	58	Member Y

						Shear	Bear	Blk Shear				
Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	Φt Pn (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.75	100.50	0.9D + 1.0W 45°	33.0	55	247.60	572.56	1877.29		32	4	40	Member
H DAE - 2.5X2.5X0.25	8.93	1.2D + 1.0W N	33.0	55	61.06	79.52	63.52	39.24	4	2	22	Blk Shear
D DAE - 2.5X2.5X0.25	14.18	1.2D + 1.0W N	33.0	55	61.06	79.52	63.52	39.24	4	2	36	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ <sub>R<sub>nt</sub></sub> (kip)	Use %	Num Bolts	Bolt Type
Top Tension	99.77	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	114.22	0.9D + 1.0W 45°	0.00	0	0	

## Section 3 – Bolt Elevation 37.5 (ft) and Height 12.50 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %				F'y (ksi)	Shear		Bear		# Bolt	# Hole	Use %	Controls
				X	Y	Z	KL/R		Φc Pn (kip)	ΦRnv (kip)	ΦRn (kip)					
L SAE - 6X6X0.75	-109.56	1.2D + 1.0W 45°	12.532	50	50	50	64.27	33.0	245.36	0.00	0.00	0	0	44	Member Z	
H DAE - 2.5X2.5X0.25	-8.73	1.2D + 1.0W N	9.19	100	100	20	137.88	33.0	35.83	79.52	79.20	4	2	24	Member X	
D DAE - 2.5X2.5X0.25	-16.36	1.2D + 1.0W N	15.909	50	100	12	157.89	33.0	27.32	79.52	79.20	4	2	59	Member Y	

	Pu		Fy	Fu	ΦcPn	Shear	Bear	Blk Shear				
Max Tension Member	(kip)	Load Case	(ksi)	(ksi)	(kip)	ΦRnv	ΦRn	Φt Pn	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.75	84.01	0.9D + 1.0W 45°	33.0	55	250.67	0.00	0.00		0	0	33	Member
H DAE - 2.5X2.5X0.25	9.74	1.2D + 1.0W N	33.0	55	61.06	79.52	63.52	39.24	4	2	24	Blk Shear
D DAE - 2.5X2.5X0.25	15.38	1.2D + 1.0W N	33.0	55	61.06	79.52	63.52	39.24	4	2	39	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ <sub>R<sub>nt</sub></sub> (kip)	Use %	Num Bolts	Bolt Type
Top Tension	83.26	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	99.77	0.9D + 1.0W 45°	0.00	0	0	

## FORCE/STRESS SUMMARY

## Section 4 – Bolt Elevation 50.0 (ft) and Height 12.50 (ft)

	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F <sub>y</sub> (ksi)	Shear		Bear ΦR <sub>n</sub> (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z			Φ <sub>c</sub> P <sub>n</sub> (kip)	ΦR <sub>nv</sub> (kip)					
Max Compression															
L SAE - 6X6X0.5625	-92.92	1.2D + 1.0W 45°	12.569	50	50	50	63.91	33.0	187.21	429.42	1069.20	24	4	49	Member Z
H DAE - 2.5X2.5X0.25	-7.36	1.2D + 1.0W N	8.26	100	100	20	126.82	33.0	42.13	79.52	79.20	4	2	17	Member X
D DAL - 2.5X2X0.25	-13.82	1.2D + 1.0W N	15.543	50	100	12	188.16	33.0	17.22	79.52	79.20	4	2	80	Member Y
Max Tension Member															
L SAE - 6X6X0.5625	69.86	0.9D + 1.0W 45°													
H DAE - 2.5X2.5X0.25	7.32	1.2D + 1.0W N													
D DAL - 2.5X2X0.25	12.98	1.2D + 1.0W N													
Max Splice Forces															
Top Tension	69.15	0.9D + 1.0W 45°													
Bot Tension	83.26	0.9D + 1.0W 45°													

## Section 5 – Bolt Elevation 62.5 (ft) and Height 12.50 (ft)

	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F <sub>y</sub> (ksi)	Shear		Bear ΦR <sub>n</sub> (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z			Φ <sub>c</sub> P <sub>n</sub> (kip)	ΦR <sub>nv</sub> (kip)					
Max Compression															
L SAE - 6X6X0.5625	-73.76	1.2D + 1.0W 45°	12.549	50	50	50	63.81	33.0	187.29	0.00	0.00	0	0	39	Member Z
H DAE - 2.5X2.5X0.25	-7.53	1.2D + 1.0W N	7.48	100	120	25	116.72	33.0	47.70	79.52	79.20	4	2	15	Member X
D DAL - 2.5X2X0.25	-15.22	1.2D + 1.0W N	15.003	50	100	12	182.58	33.0	18.29	79.52	79.20	4	2	83	Member Y
Max Tension Member															
L SAE - 6X6X0.5625	53.09	0.9D + 1.0W 45°													
H DAE - 2.5X2.5X0.25	7.50	1.2D + 1.0W N													
D DAL - 2.5X2X0.25	14.40	1.2D + 1.0W N													
Max Splice Forces															
Top Tension	52.46	0.9D + 1.0W 45°													
Bot Tension	69.15	0.9D + 1.0W 45°													

## Section 6 – Bolt Elevation 75.0 (ft) and Height 12.50 (ft)

	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F <sub>y</sub> (ksi)	Shear		Bear ΦR <sub>n</sub> (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z			Φ <sub>c</sub> P <sub>n</sub> (kip)	ΦR <sub>nv</sub> (kip)					
Max Compression															
L SAE - 6X6X0.4375	-53.53	1.2D + 1.0W 45°	12.534	50	50	50	63.20	33.0	147.76	429.42	831.60	24	4	36	Member Z
H DAE - 2.5X2.5X0.25	-6.35	1.2D + 1.0W N	6.83	100	107	33	106.58	33.0	52.82	79.52	79.20	4	2	12	Member X
D DAL - 2.5X2X0.25	-15.68	1.2D + 1.0W N	14.582	50	100	12	178.22	33.0	19.19	79.52	79.20	4	2	81	Member Y
Max Tension Member															
L SAE - 6X6X0.4375	35.44	0.9D + 1.0W 45°													
H DAE - 2.5X2.5X0.25	8.06	1.2D + 1.0W N													
D DAL - 2.5X2X0.25	14.95	1.2D + 1.0W N													
Max Splice Forces															
Top Tension	34.81	0.9D + 1.0W 45°													
Bot Tension	52.46	0.9D + 1.0W 45°													



ASSET: # 88166, SOUTH SALEM NY

STANDARD ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.: 13742215\_C3\_01

## FORCE/STRESS SUMMARY

## Section 7 – Bolt Elevation 87.5 (ft) and Height 10.17 (ft)

Max Compression	Pu	Load Case	Len (ft)	Bracing %			F'y (ksi)	Shear		Bear		# Bolt	# Hole	Use %	Controls
	(kip)			X	Y	Z		KL/R	Φc Pn (kip)	ΦRnv (kip)	ΦRn (kip)				
L SAE - 5X5X0.4375	-43.02	1.2D + 1.0W 45°	10.224	50	50	50	62.21	33.0	122.55	429.42	831.60	24	4	35	Member Z
H SAU - 3X2.5X0.25	-1.96	0.9D + 1.0W N	12.18	100	50	100	239.54	33.0	6.53	39.76	39.60	2	1	30	Member Z
D SAE - 3.5x3.5x0.25	-8.95	1.2D + 1.0W N	16.459	50	50	50	137.98	33.0	25.41	39.76	39.60	2	1	0	Member Z

	Pu		Fy	Fu	ΦcPn	Shear	Bear	Blk Shear				
Max Tension Member	(kip)	Load Case	(ksi)	(ksi)	(kip)	ΦRnv (kip)	ΦRn (kip)	Φt Pn (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 5X5X0.4375	27.93	0.9D + 1.0W 45°	33.0	55	113.77	429.42	817.88		24	4	24	Member
H SAU - 3X2.5X0.25	3.17	1.2D + 1.0W N	33.0	55	34.24	39.76	31.76	20.91	2	1	15	Blk Shear
D SAE - 3.5x3.5x0.25	7.31	0.9D + 1.0W N	33.0	55	46.00	39.76	31.76	23.49	2	1	31	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ <sub>R<sub>nt</sub></sub> (kip)	Use %	Num Bolts	Bolt Type
Top Tension	21.41	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	34.81	0.9D + 1.0W 45°	0.00	0	0	

## Section 8 – Bolt Elevation 97.7 (ft) and Height 10.17 (ft)

Max Compression	Pu	Load Case	Len (ft)	Bracing %				F'y (ksi)	Shear		Bear	# Bolt	# Hole	Use %	Controls
	(kip)			X	Y	Z	KL/R		Φc Pn (kip)	ΦRnv (kip)	ΦRn (kip)				
L SAE - 5X5X0.4375	-28.25	1.2D + 1.0W 45°	10.21	50	50	50	62.13	33.0	122.59	0.00	0.00	0	0	23	Member Z
H DAL - 3X2.5X0.25	-1.09	0.9D + 1.0W N	10.9	100	100	67	198.11	33.0	19.18	79.52	79.20	4	2	5	Member Y
D SAE - 3.5x3.5x0.25	-8.40	1.2D + 1.0W N	15.395	50	50	50	130.91	33.0	28.22	39.76	39.60	2	1	0	Member Z

						Shear	Bear	Blk Shear				
	Pu		Fy	Fu	ΦcPn	ΦRnv	ΦRn	Φt Pn	#	#	Use	
Max Tension Member	(kip)	Load Case	(ksi)	(ksi)	(kip)	(kip)	(kip)	(kip)	Bolt	Hole	%	Controls
L SAE - 5X5X0.4375	15.84	0.9D + 1.0W 45°	33.0	55	124.15	0.00	0.00		0	0	12	Member
H DAL - 3X2.5X0.25	2.27	1.2D + 1.0W N	33.0	55	68.80	79.52	63.52	41.82	4	2	5	Blk Shear
D SAE - 3.5x3.5x0.25	6.78	0.9D + 1.0W N	33.0	55	46.00	39.76	31.76	23.49	2	1	28	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ <sub>R<sub>nt</sub></sub> (kip)	Use %	Num Bolts	Bolt Type
Top Tension	8.67	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	21.41	0.9D + 1.0W 45°	0.00	0	0	

## Section 9 – Bolt Elevation 107.8 (ft) and Height 8.58 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %				F'y (ksi)	Shear		Bear	# Bolt	# Hole	Use %	Controls
				X	Y	Z	KL/R		Φc Pn (kip)	ΦRnv (kip)	ΦRn (kip)				
L SAE - 5X5X0.3125	-15.19	1.2D + 1.0W 45°	8.61	50	50	50	51.97	33.0	92.21	429.42	594.00	24	4	16	Member Z
H SAU - 3X2.5X0.25	-0.38	0.9D + 1.0W N	9.88	100	50	100	199.71	33.0	9.40	79.52	79.20	4	2	4	Member Z
D SAE - 3X3X0.25	-5.70	1.2D + 1.0W N	13.484	50	50	50	132.74	33.0	23.39	39.76	39.60	2	1	0	Member Z

	Pu		F <sub>y</sub>	F <sub>u</sub>	Φ <sub>c</sub> P <sub>n</sub>	Shear ΦR <sub>nv</sub>	Bear ΦR <sub>n</sub>	Blk Shear Φ <sub>t</sub> P <sub>n</sub>	#	#	Use	
Max Tension Member	(kip)	Load Case	(ksi)	(ksi)	(kip)	(kip)	(kip)	(kip)	Bolt	Hole	%	Controls
L SAE - 5X5X0.3125	6.43	0.9D + 1.0W 45°	33.0	55	83.09	429.42	584.20		24	4	7	Member
H SAU - 3X2.5X0.25	1.12	1.2D + 1.0W N	33.0	55	27.96	79.52	71.36	37.61	4	2	4	Member
D SAE - 3X3X0.25	4.19	1.2D + 1.0W N	33.0	55	38.27	39.76	31.76	20.91	2	1	20	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ <sub>R<sub>nt</sub></sub> (kip)	Use %	Num Bolts	Bolt Type
Top Tension	1.60	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	8.67	0.9D + 1.0W 45°	0.00	0	0	

ASSET: # 88166, SOUTH SALEM NY

STANDARD ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.: 13742215\_C3\_01

## FORCE/STRESS SUMMARY

Section 10 – Bolt Elevation 116.4 (ft) and Height 8.58 (ft)

									Shear		Bear					
	Pu		Len	Bracing %			F <sub>y</sub>	Φ <sub>c</sub> P <sub>n</sub>	ΦR <sub>nv</sub>	ΦR <sub>n</sub>	#	#	Use			
	(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	(kip)	(kip)	Bolt	Hole	%	Controls	
Max Compression	-5.98	1.2D + 1.0W 45°	8.602	50	50	50	51.92	33.0	92.22	0.00	0.00	0	0	6	Member Z	
L SAE - 5X5X0.3125	-0.37	1.2D + 1.0W N	9	100	100	100	160.28	36.0	37.66	39.76	36.75	2	2	1	Bolt Bear	
H CHN - C8 x 11.5	-3.79	1.2D + 1.0W N	12.764	50	50	50	127.18	33.0	25.37	39.76	39.60	2	1	0	Member Z	
D SAE - 3X3X0.25																
	Pu			F <sub>y</sub>	F <sub>u</sub>	Φ <sub>c</sub> P <sub>n</sub>	ΦR <sub>nv</sub>	ΦR <sub>n</sub>	Blk Shear		#	#	Use			
	(kip)	Load Case		(ksi)	(ksi)	(kip)	(kip)	(kip)	(kip)		Bolt	Hole	%	Controls		
Max Tension Member	0.09	1.2D + 1.0W 45°		33.0	55	89.99	0.00	0.00			0	0	0	Member		
L SAE - 5X5X0.3125	0.63	1.2D + 1.0W 45°		36.0	58	98.61	39.76	29.48	0.00		2	2	2	Bolt Bear		
H CHN - C8 x 11.5	2.94	0.9D + 1.0W N		33.0	55	38.27	39.76	31.76	20.91		2	1	14	Blk Shear		
D SAE - 3X3X0.25																
	Pu		ΦR <sub>nt</sub>	Use	Num											
	(kip)	Load Case	(kip)	%	Bolts	Bolt Type										
Max Splice Forces	1.60	0.9D + 1.0W 45°	0.00	0	0											
Bot Tension																

ASSET: # 88166, SOUTH SALEM NY

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13742215\_C3\_01

## DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.2D + 1.0W Normal	17.15	0.00	45	1	-7.89	129.99	-18.22
	17.15	0.00	135	1a	4.96	-86.87	-15.39
	17.15	0.00	225	1b	-5.31	-87.67	-15.08
	17.15	0.00	315	1c	8.23	128.95	-17.80
1.2D + 1.0W 45°	17.15	0.00	45	1	-18.29	181.85	-18.85
	17.15	0.00	135	1a	-9.14	22.03	-6.16
	17.15	0.00	225	1b	-16.03	-139.52	-15.58
	17.15	0.00	315	1c	-5.72	20.04	-8.58
0.9D + 1.0W Normal	17.15	0.00	45	1	-7.53	124.65	-17.84
	17.15	0.00	135	1a	5.33	-92.31	-15.76
	17.15	0.00	225	1b	-5.68	-92.90	-15.44
	17.15	0.00	315	1c	7.87	123.87	-17.45
0.9D + 1.0W 45°	17.15	0.00	45	1	-17.93	176.48	-18.47
	17.15	0.00	135	1a	-8.77	16.54	-6.53
	17.15	0.00	225	1b	-16.40	-144.73	-15.94
	17.15	0.00	315	1c	-6.08	15.01	-8.23
1.2D + 1.0Di + 1.0Wi Normal	17.15	0.00	45	1	-4.93	76.91	-8.39
	17.15	0.00	135	1a	-1.00	10.88	-2.37
	17.15	0.00	225	1b	0.92	9.28	-2.38
	17.15	0.00	315	1c	5.01	74.90	-8.18
1.2D + 1.0Di + 1.0Wi 45°	17.15	0.00	45	1	-8.26	92.44	-8.49
	17.15	0.00	135	1a	-5.48	44.72	0.55
	17.15	0.00	225	1b	-2.46	-6.25	-2.45
	17.15	0.00	315	1c	0.56	41.06	-5.25
1.2D + 1.0Ev + 1.0Eh Normal	17.15	0.00	45	1	-2.25	32.58	-2.95
	17.15	0.00	135	1a	-0.82	8.99	0.11
	17.15	0.00	225	1b	0.82	8.99	0.11
	17.15	0.00	315	1c	2.25	32.58	-2.95
1.2D + 1.0Ev + 1.0Eh 45°	17.15	0.00	45	1	-3.05	37.46	-3.05
	17.15	0.00	135	1a	-2.03	20.78	1.04
	17.15	0.00	225	1b	0.02	4.11	0.02
	17.15	0.00	315	1c	1.04	20.78	-2.03
0.9D - 1.0Ev + 1.0Eh Normal	17.15	0.00	45	1	-1.75	25.82	-2.46
	17.15	0.00	135	1a	-0.32	2.25	-0.39
	17.15	0.00	225	1b	0.32	2.25	-0.39
	17.15	0.00	315	1c	1.75	25.82	-2.46
0.9D - 1.0Ev + 1.0Eh 45°	17.15	0.00	45	1	-2.55	30.70	-2.55
	17.15	0.00	135	1a	-1.53	14.04	0.54
	17.15	0.00	225	1b	-0.48	-2.63	-0.48
	17.15	0.00	315	1c	0.54	14.04	-1.53
1.0D + 1.0W Service Normal	17.15	0.00	45	1	-2.95	47.24	-5.81
	17.15	0.00	135	1a	0.52	-11.31	-3.34
	17.15	0.00	225	1b	-0.61	-11.97	-3.28
	17.15	0.00	315	1c	3.04	46.37	-5.66
1.0D + 1.0W Service 45°	17.15	0.00	45	1	-5.79	61.28	-5.98
	17.15	0.00	135	1a	-3.32	18.32	-0.84
	17.15	0.00	225	1b	-3.50	-26.02	-3.41
	17.15	0.00	315	1c	-0.75	16.75	-3.14

Max Uplift:	144.73 (kip)	Moment Ice:	1693.43 (kip-ft)	Moment:	5510.68 (kip-ft)
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Max Down:	181.85 (kip)	Total Down Ice:	171.97 (kip)	Total Down:	84.4 (kip)
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Max Shear:	26.26 (kip)	Total Shear Ice:	22.13 (kip)	Total Shear:	69.54(kip)
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1.2D + 1.0W 45°

## DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W Normal 115 mph wind with no ice	25.00	0.0187	-0.0035	0.0620	0.0621
1.2D + 1.0W Normal 115 mph wind with no ice	37.50	0.0334	-0.0043	0.0767	0.0767
1.2D + 1.0W Normal 115 mph wind with no ice	50.00	0.053	-0.0057	0.0966	0.0966
1.2D + 1.0W Normal 115 mph wind with no ice	75.00	0.1044	-0.0089	0.1420	0.142
1.2D + 1.0W Normal 115 mph wind with no ice	87.50	0.1373	-0.0105	0.1550	0.1551
1.2D + 1.0W Normal 115 mph wind with no ice	97.67	0.1655	-0.0127	0.1651	0.1653
1.2D + 1.0W Normal 115 mph wind with no ice	107.84	0.1955	-0.0134	0.1698	0.1704
1.2D + 1.0W Normal 115 mph wind with no ice	116.42	0.2215	-0.0150	0.1949	0.1955
1.2D + 1.0W Normal 115 mph wind with no ice	125.00	0.2473	-0.0142	0.1573	0.158
1.2D + 1.0W 45° 115 mph wind with no ice	25.00	0.0198	-0.0051	0.0672	0.0673
1.2D + 1.0W 45° 115 mph wind with no ice	37.50	0.0354	-0.0029	0.0809	0.0809
1.2D + 1.0W 45° 115 mph wind with no ice	50.00	0.0557	-0.0082	0.1022	0.1022
1.2D + 1.0W 45° 115 mph wind with no ice	75.00	0.1102	-0.0130	0.1495	0.1495
1.2D + 1.0W 45° 115 mph wind with no ice	87.50	0.1446	-0.0112	0.1630	0.1634
1.2D + 1.0W 45° 115 mph wind with no ice	97.67	0.1741	-0.0148	0.1744	0.1748
1.2D + 1.0W 45° 115 mph wind with no ice	107.84	0.2061	-0.0192	0.1841	0.1847
1.2D + 1.0W 45° 115 mph wind with no ice	116.42	0.2336	-0.0199	0.1907	0.1917
1.2D + 1.0W 45° 115 mph wind with no ice	125.00	0.2611	-0.0200	0.2135	0.2143
0.9D + 1.0W Normal 115 mph wind with no ice	25.00	0.0187	-0.0035	0.0619	0.0619
0.9D + 1.0W Normal 115 mph wind with no ice	37.50	0.0333	-0.0043	0.0767	0.0767
0.9D + 1.0W Normal 115 mph wind with no ice	50.00	0.053	-0.0057	0.0966	0.0966
0.9D + 1.0W Normal 115 mph wind with no ice	75.00	0.1044	-0.0089	0.1421	0.1421
0.9D + 1.0W Normal 115 mph wind with no ice	87.50	0.1373	-0.0105	0.1551	0.1552
0.9D + 1.0W Normal 115 mph wind with no ice	97.67	0.1655	-0.0127	0.1653	0.1655
0.9D + 1.0W Normal 115 mph wind with no ice	107.84	0.1956	-0.0134	0.1703	0.1708
0.9D + 1.0W Normal 115 mph wind with no ice	116.42	0.2217	-0.0150	0.1953	0.1959
0.9D + 1.0W Normal 115 mph wind with no ice	125.00	0.2476	-0.0142	0.1580	0.1586
0.9D + 1.0W 45° 115 mph wind with no ice	25.00	0.0198	-0.0051	0.0672	0.0673
0.9D + 1.0W 45° 115 mph wind with no ice	37.50	0.0354	-0.0029	0.0809	0.0809
0.9D + 1.0W 45° 115 mph wind with no ice	50.00	0.0557	-0.0082	0.1021	0.1021
0.9D + 1.0W 45° 115 mph wind with no ice	75.00	0.1102	-0.0129	0.1494	0.1494
0.9D + 1.0W 45° 115 mph wind with no ice	87.50	0.1445	-0.0112	0.1629	0.1633
0.9D + 1.0W 45° 115 mph wind with no ice	97.67	0.174	-0.0148	0.1743	0.1746
0.9D + 1.0W 45° 115 mph wind with no ice	107.84	0.206	-0.0192	0.1839	0.1845
0.9D + 1.0W 45° 115 mph wind with no ice	116.42	0.2334	-0.0199	0.1905	0.1916
0.9D + 1.0W 45° 115 mph wind with no ice	125.00	0.2609	-0.0200	0.2132	0.214
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	25.00	0.0083	-0.0011	0.0253	0.0253
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	37.50	0.0126	-0.0012	0.0243	0.0243
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	50.00	0.0182	-0.0016	0.0297	0.0297
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	75.00	0.0332	-0.0023	0.0412	0.0412
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	87.50	0.0423	-0.0025	0.0440	0.0441
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	97.67	0.0499	-0.0030	0.0459	0.046
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	107.84	0.0581	-0.0033	0.0461	0.0462
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	116.42	0.0649	-0.0035	0.0516	0.0518
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	125.00	0.0718	-0.0033	0.0408	0.0409
1.2D + 1.0Di + 1.0Wi 45° 50 mph wind with 1" radial ice	25.00	0.0089	-0.0016	0.0268	0.0268
1.2D + 1.0Di + 1.0Wi 45° 50 mph wind with 1" radial ice	37.50	0.0135	-0.0007	0.0259	0.0259
1.2D + 1.0Di + 1.0Wi 45° 50 mph wind with 1" radial ice	50.00	0.0194	-0.0022	0.0313	0.0313
1.2D + 1.0Di + 1.0Wi 45° 50 mph wind with 1" radial ice	75.00	0.0352	-0.0034	0.0440	0.044
1.2D + 1.0Di + 1.0Wi 45° 50 mph wind with 1" radial ice	87.50	0.0449	-0.0028	0.0477	0.0478
1.2D + 1.0Di + 1.0Wi 45° 50 mph wind with 1" radial ice	97.67	0.0533	-0.0037	0.0504	0.0505
1.2D + 1.0Di + 1.0Wi 45° 50 mph wind with 1" radial ice	107.84	0.0623	-0.0046	0.0529	0.053
1.2D + 1.0Di + 1.0Wi 45° 50 mph wind with 1" radial ice	116.42	0.07	-0.0047	0.0545	0.0547
1.2D + 1.0Di + 1.0Wi 45° 50 mph wind with 1" radial ice	125.00	0.0779	-0.0047	0.0602	0.0604
1.2D + 1.0Ev + 1.0Eh Normal Seismic	25.00	0.0015	0.0002	0.0057	0.0057
1.2D + 1.0Ev + 1.0Eh Normal Seismic	37.50	0.003	0.0003	0.0088	0.0089
1.2D + 1.0Ev + 1.0Eh Normal Seismic	50.00	0.0053	0.0003	0.0112	0.0112
1.2D + 1.0Ev + 1.0Eh Normal Seismic	75.00	0.0114	0.0004	0.0175	0.0175
1.2D + 1.0Ev + 1.0Eh Normal Seismic	87.50	0.0156	0.0004	0.0200	0.02
1.2D + 1.0Ev + 1.0Eh Normal Seismic	97.67	0.0193	0.0003	0.0222	0.0222
1.2D + 1.0Ev + 1.0Eh Normal Seismic	107.84	0.0233	0.0002	0.0238	0.0238
1.2D + 1.0Ev + 1.0Eh Normal Seismic	116.42	0.027	0.0001	0.0245	0.0245
1.2D + 1.0Ev + 1.0Eh Normal Seismic	125.00	0.0305	0.0000	0.0240	0.024
1.2D + 1.0Ev + 1.0Eh 45° Seismic	25.00	0.0015	0.0003	0.0057	0.0057

## DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Ev + 1.0Eh 45° Seismic	37.50	0.003	0.0004	0.0089	0.0089
1.2D + 1.0Ev + 1.0Eh 45° Seismic	50.00	0.0053	0.0004	0.0113	0.0113
1.2D + 1.0Ev + 1.0Eh 45° Seismic	75.00	0.0114	0.0006	0.0176	0.0176
1.2D + 1.0Ev + 1.0Eh 45° Seismic	87.50	0.0156	0.0006	0.0202	0.0202
1.2D + 1.0Ev + 1.0Eh 45° Seismic	97.67	0.0194	0.0005	0.0223	0.0223
1.2D + 1.0Ev + 1.0Eh 45° Seismic	107.84	0.0234	0.0003	0.0238	0.0238
1.2D + 1.0Ev + 1.0Eh 45° Seismic	116.42	0.027	0.0002	0.0245	0.0245
1.2D + 1.0Ev + 1.0Eh 45° Seismic	125.00	0.0305	0.0000	0.0240	0.024
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	25.00	0.0014	0.0002	0.0056	0.0056
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	37.50	0.003	0.0003	0.0088	0.0088
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	50.00	0.0053	0.0003	0.0111	0.0112
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	75.00	0.0113	0.0004	0.0175	0.0175
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	87.50	0.0155	0.0004	0.0199	0.0199
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	97.67	0.0193	0.0003	0.0221	0.0221
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	107.84	0.0233	0.0002	0.0237	0.0237
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	116.42	0.0269	0.0001	0.0244	0.0244
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	125.00	0.0305	0.0000	0.0238	0.0238
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	25.00	0.0015	0.0003	0.0056	0.0056
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	37.50	0.003	0.0004	0.0088	0.0088
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	50.00	0.0053	0.0004	0.0112	0.0112
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	75.00	0.0113	0.0006	0.0175	0.0175
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	87.50	0.0156	0.0006	0.0201	0.0201
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	97.67	0.0193	0.0005	0.0220	0.022
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	107.84	0.0233	0.0003	0.0238	0.0238
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	116.42	0.0269	0.0002	0.0244	0.0244
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	125.00	0.0305	0.0000	0.0238	0.0238
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	25.00	0.0052	-0.0010	0.0171	0.0171
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	37.50	0.0091	-0.0011	0.0207	0.0207
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	50.00	0.0144	-0.0015	0.0261	0.0261
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	75.00	0.0282	-0.0024	0.0382	0.0382
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	87.50	0.0371	-0.0028	0.0416	0.0416
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	97.67	0.0446	-0.0034	0.0442	0.0442
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	107.84	0.0526	-0.0037	0.0448	0.0449
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	116.42	0.0594	-0.0040	0.0517	0.0519
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	125.00	0.0662	-0.0039	0.0408	0.041
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	25.00	0.0054	-0.0014	0.0183	0.0183
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	37.50	0.0096	-0.0007	0.0220	0.022
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	50.00	0.0151	-0.0023	0.0277	0.0277
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	75.00	0.0299	-0.0036	0.0406	0.0406
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	87.50	0.0393	-0.0030	0.0444	0.0445
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	97.67	0.0473	-0.0041	0.0474	0.0475
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	107.84	0.056	-0.0052	0.0501	0.0503
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	116.42	0.0635	-0.0054	0.0519	0.0522
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	125.00	0.0709	-0.0055	0.0585	0.0587

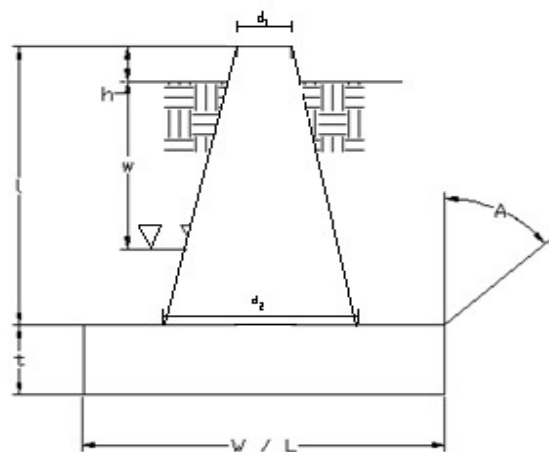
Site No.:	88154
Engineer:	F.WAKID
Date:	Wednesday, November 10, 2021
Carrier:	VERIZON WIRELESS

## Pyramidal Pad & Pier

### Design Loads

Compression/Leg:	181.9	k
Uplift/Leg:	144.7	k

Face Width @ Top of Pier ( $d_1$ ):	3	ft
Face Width @ Bottom of Pier ( $d_2$ ):	6.5	ft
Total Length of Pier (l):	7	ft
Height of Pedestal Above Ground (h):	0.5	ft
Width of Pad (W):	15	ft
Length of Pad (L):	15	ft
Thickness of Pad (t):	2	ft
Water Table Depth (w):	99	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil (Above Water Table):	115	pcf
Unit Weight of Soil (Below Water Table):	52.6	pcf
Friction Angle of Uplift (A):	30	°
Ultimate Compressive Bearing Pressure:	9,750	psf



Volume Pier Above Gnd:	4.9	ft <sup>3</sup>
Pier & Soil Below WT:	0.0	ft
Pier FW @ WT:	6.5	ft
Soil Pyramid Projection @ Surface:	3.8	ft
Soil Pyramid Projection @ WT:	0.0	ft
Pad Below WT:	0.0	ft
Volume Pier:	165.1	ft <sup>3</sup>
Volume Pad:	450.0	ft <sup>3</sup>
Volume Soil:	2130.0	ft <sup>3</sup>
Volume Pier (Buoyant):	0.0	ft <sup>3</sup>
Volume Pad (Buoyant):	0.0	ft <sup>3</sup>
Volume Soil (Buoyant):	0.0	ft <sup>3</sup>
Weight Pier:	24.8	k
Weight Pad:	67.5	k
Weight Soil:	244.9	k

### Uplift Resistance

$\phi_s$ Uplift (k)	252.91	0.57	OK
---------------------	--------	------	----

### Axial Resistance

$\phi_s$ Axial (k)	1645.31	0.11	OK
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# Exhibit D



# Non-Ionizing Electromagnetic Radiation (NIER) Study

American Tower Site ID 88166

*Location:*

South Salem, New York

*Tenant:*

ATC

October 30<sup>th</sup>, 2022

36111 P-369939

---

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([www.tepgroup.net](http://www.tepgroup.net))

105 W Caswell Street | Kinston, NC 28501





## Contents

Disclaimer Notice.....	3
<b>INTRODUCTION.....</b>	<b>4</b>
<b>SITE AND FACILITY CONSIDERATIONS.....</b>	<b>4</b>
<b>ANTENNA INVENTORY.....</b>	<b>5</b>
<b>POWER DENSITY CALCULATIONS.....</b>	<b>6</b>
<b>COMPLIANCE DETERMINATION.....</b>	<b>6</b>
<b>APPENDIX 1 FCC OET-65 MPE Limit Study.....</b>	<b>7</b>
<b>APPENDIX 2 INFORMATION PERTAINING TO MPE STUDIES.....</b>	<b>8</b>
<b>APPENDIX 3 MPE STANDARDS METHODOLOGY.....</b>	<b>10</b>

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105 W Caswell Street | Kinston, NC 28501



## Disclaimer Notice

This work is based upon our best interpretation of available information. However, these data and their interpretation are constantly changing. Therefore, we do not warrant that any undertaking based on this report will be successful, or that others will not require further research or actions in support of this proposal or future undertaking. In the event of errors, our liability is strictly limited to replacement of this document with a corrected one. Liability for consequential damages is specifically denied. Any use of this document constitutes an agreement to hold Tower Engineering Professionals and its employees harmless and indemnify it for all liability, claims, demands, and litigation expenses and attorney's fees arising out of such use.

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TOWER ENGINEERING PROFESSIONALS

RALIEGH, NORTH CAROLINA

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105 W Caswell Street | Kinston, NC 28501



## Non-ionizing Electromagnetic Radiation (NIE) Study

American Tower Site ID # 88166

South Salem, NY

### INTRODUCTION

Tower Engineering Professionals RF Design & Services Division (TEP-RF) of Raleigh, NC has been retained by American Tower ATC to evaluate the contribution of RF emissions to the Maximum Permissible Exposure (MPE) limit for an existing facility on an existing tower at this location.

### SITE AND FACILITY CONSIDERATIONS

ATC # 88166 is located at Route 35 in South Salem, NY at coordinates 41.258479, -73.534704. The support structure is a 126' monopole. This facility consists of antenna levels with radiation centers of 129.4', 129.3', 128', 125', 121.3', 104', 99.2 & 93', above ground level. All data used in this study was provided by one or more of the following sources:

1. ATC furnished data.
2. Compiled from carrier and manufacturer standard configurations.
3. Empirical data collected by TEP.

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## ANTENNA INVENTORY

Customer	RAD Height (ft)	Equipment Quantity	Equipment Type	Manufacturer	Model Number	Azimuths	TX Frequency	RX Frequency
VERIZON WIRELESS	129.4	2	PANEL	Commscope	JAHH-65B-R3B	229.0 230.54	3700-3980	3700-3980
VERIZON WIRELESS	129.3	4	PANEL	Commscope	JAHH-65B-R3B	112.42 111.74 322.85 326.51	3700-3980	3700-3980
VERIZON WIRELESS	128	3	PANEL	Commscope	SBNNH-1D65B	110/222/330	880-890, 891-894	835-845, 846-849
VERIZON WIRELESS	128	6	PANEL	Commscope	JAHH-65B-R3B	45/120/222/330	3700-3980	3700-3980
T-MOBILE	125	3	PANEL	RFS	APX16DWV- 16DWVS-E-A20	30/150/280	1710-2170	1710-2170
T-MOBILE	125	3	PANEL	RFS	APXVFW24-C-A20	30/150/280	728-734	698-704
T-MOBILE	121.3	3	PANEL	Generic	94" x 16" Panel	34.98 126.3 268.67		
AT&T MOBILITY	104	9	PANEL	Commscope	NNHH-65C-R4	140/240/340	1900, 700, 850	1900, 2300, 700, 850
AT&T MOBILITY	99.2	9	PANEL	Commscope	NNHH-65C-R4	340.5 145.75 138.86 138.83 225.62 230.82 239.46 332.77 333.23	1900, 700, 850	1900, 2300, 700, 850
DISH WIRELESS L.L.C.	93	3	PANEL	JMA Wireless	MX08FRO665-21	0/120/240	1995-2000, 2000-2020, 2155- 2160, 2160-2165, 2180-2200, 632-637, 637-642, 642-647, 647- 652	1695-1700, 1700- 1710, 1755-1760, 1760-1765, 1915- 1920, 678-683, 683-688, 688-693, 693-698

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### POWER DENSITY CALCULATIONS

Power densities were calculated based on Federal Communications Commission (FCC) MPE limits for both General Population/Uncontrolled and Occupational/Controlled environments. For the purpose of this study, a radius of 110' from the base of the monopole with a height of 6' above ground level was used. The results of this study are located in Appendix 1. A discussion regarding the FCC limits may be located in Appendix 2. Study methodology describing Non-ionizing Radiation Prediction Models used in this study may be found in Appendix 3.

### COMPLIANCE DETERMINATION

This installation **WILL BE** in compliance with current FCC MPE limits.

#### Prepared By:

Adam Carlson MS, CBRS, CPI CBRE  
Program Manager  
Tower Engineering Professionals

#### Approved By:

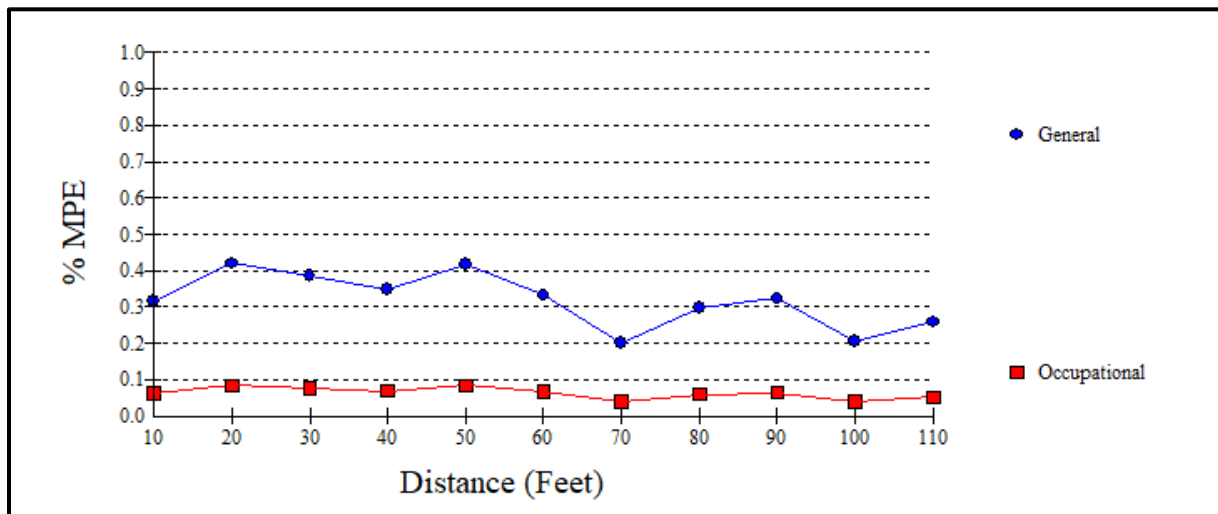
Scott Brantley P.E.  
Tower Engineering Professionals  
License No. 105653



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## APPENDIX 1 FCC OET-65 MPE Limit Study



Maximum Power Density (@20'):	0.0026 mW/cm <sup>2</sup>
General Population MPE (@20'):	0.4197%
Occupational MPE (@20'):	0.0839%



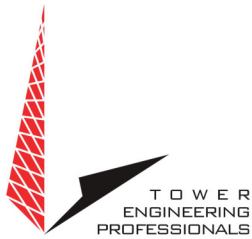
## APPENDIX 2 INFORMATION PERTAINING TO MPE STUDIES

In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The new guidelines incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz.

The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits were developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist, they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk.

The FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies, whole-body absorption is less efficient, and consequently, the MPE limits are less restrictive.



MPE limits are defined in terms of power density (units of milliwatts per centimeter squared:  $\text{mW}/\text{cm}^2$ ), electric field strength (units of volts per meter:

$\text{V}/\text{m}$ ) and magnetic field strength (units of amperes per meter:  $\text{A}/\text{m}$ ). The far-field of a transmitting antenna is where the electric field vector (E), the magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions).

**Occupational/controlled exposure** limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

**General population/uncontrolled exposure** limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area. Additional details can be found in FCC OET 65.

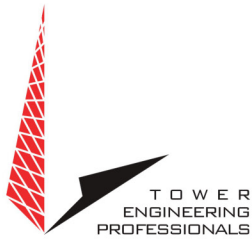




## APPENDIX 3 MPE STANDARDS METHODOLOGY

This study predicts RF field strength and power density levels that emanate from communications system antennae. It considers all transmitter power levels (less filter and line losses) delivered to each active transmitting antenna at the communications site. Calculations are performed to determine power density and MPE levels for each antenna as well as composite levels from all antennas. The calculated levels are based on where a human (Observer) would be standing at various locations at the site. The point of interest where the MPE level is predicted is based on the height of the Observer.

Compliance with the FCC limits on RF emissions are determined by spatially averaging a person's exposure over the projected area of an adult human body, that is approximately six-feet or two-meters, as defined in the ANSI/IEEE C95.1 standard. The MPE limits are specified as time-averaged exposure limits. This means that exposure is averaged over an identifiable time interval. It is 30 minutes for the general population/uncontrolled RF environment and 6 minutes for the occupational/controlled RF environment. However, in the case of the general public, time averaging should not be applied because the general public is typically not aware of RF exposure and they do not have control of their exposure time. Therefore, it should be assumed that any RF exposure to the general public will be continuous.



The FCC's limits for exposure at different frequencies are shown in the following Tables.

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3 - 3.0	614	1.63	100*	6
3.0 - 30	1842/f	4.89/f	900/F <sup>2</sup>	6
30 - 300	61.4	0.163	1.0	6
300 - 1500	--	--	f/300	6
1500 - 100,000	--	--	5	6

f = frequency

\* = Plane-wave equivalent power density



Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3 - 1.34	614	1.63	100*	30
1.34 - 30	824/f	2.19/f	180/F <sup>2</sup>	30
30 -300	27.5	0.073	0.2	30
300 -1500	--	--	f/1500	30
1500 -100,000	--	--	1.0	30

f = frequency

\* = Plane-wave equivalent power density

General population/uncontrolled exposures apply in situations in which the general public may be exposed or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

It is important to understand that these limits apply cumulatively to all sources of RF emissions affecting a given area. For example, if several different communications system antennas occupy a shared facility such as a tower or rooftop, then the total exposure from all systems at the facility must be within compliance of the FCC guidelines.



The field strength emanating from an antenna can be estimated based on the characteristics of an antenna radiating in free space. There are basically two field areas associated with a radiating antenna. When close to the antenna, the region is known as the Near Field. Within this region, the characteristics of the RF fields are very complex and the wave front is extremely curved. As you move further from the antenna, the wave front has less curvature and becomes planar. The wave front still has a curvature but it appears to occupy a flat plane in space (plane-wave radiation). This region is known as the Far Field.

Two models are utilized to predict Near and Far field power densities. They are based on the formulae in FCC OET 65. As this study is concerned only with Near Field calculations, we will only describe the model used for this study. For additional details, refer to FCC OET Bulletin 65.

#### **Cylindrical Model (Near Field Predictions)**

Spatially averaged plane-wave equivalent power densities parallel to the antenna may be estimated by dividing the antenna input power by the surface area of an imaginary cylinder surrounding the length of the radiating antenna. While the actual power density will vary along the height of the antenna, the average value along its length will closely follow the relation given by the following equation:

$$S = P \div 2\pi RL$$

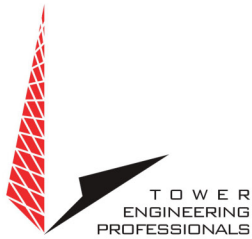
Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length



For directional-type antennas, power densities can be estimated by dividing the input power by that portion of a cylindrical surface area corresponding to the angular beam width of the antenna. For example, for the case of a 120-degree azimuthal beam width, the surface area should correspond to 1/3 that of a full cylinder. This would increase the power density near the antenna by a factor of three over that for a purely omni-directional antenna. Mathematically, this can be represented by the following formula:

$$S = (180 / \theta_{BW}) P \div \pi RL$$

Where:

S = Power Density

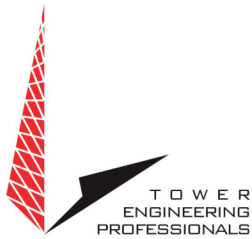
$\theta_{BW}$  = Beam width of antenna in degrees (3 dB half-power point)

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

If the antenna is a 360-degree omni-directional antenna, this formula would be equivalent to the previous formula.



### Spherical Model (Far Field Predictions)

Spatially averaged plane-wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, if the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\pi R^2$$

Where:

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

R = Distance from the antenna

The EIRP includes the antenna gain. If the antenna pattern is considered, the antenna gain is relative based on the horizontal and vertical pattern gain values at that particular location in space, on a rooftop or on the ground. However, it is recommended that the antenna radiation pattern characteristics not be considered to provide a conservative "worst case" prediction. This is the equation is utilized for the Far Field exposure predictions herein.

# Exhibit E







# Exhibit F

**RESOLUTION  
LEWISBORO PLANNING BOARD**

**RENEWAL OF SPECIAL USE PERMIT APPROVAL**

**SPRINT-NEXTEL  
NYS ROUTE 35 AND NYS ROUTE 123**

Sheet 40, Block 10263, Lot 62  
Cal. # 4-14 P.B.

**November 21, 2017**

**WHEREAS**, by Resolution adopted on November 27, 2012, the Planning Board issued a Renewal of Special Use Permit to Sprint Spectrum, L.P. ("Sprint") and Nextel Communications of New York, Inc. ("Nextel") authorizing the continued use of an approved collocated telecommunications facility situated on a +/-4.0 acre landlocked parcel (owned by American Tower, Inc.), which is identified as Sheet 40, Block 10263, Lot 62 on the Tax Map of the Town of Lewisboro; and

**WHEREAS**, this property is surrounded by lands known as the Leon Levy Preserve, is accessed from NYS Route 35, and is located in the R-4A Zoning District; and

**WHEREAS**, the Renewal of Special Use Permit Approval was accompanied by the Planning Board's adoption of a Negative Declaration of Significance under the State Environmental Quality Review Act (see Cal. #7-98 PB); and

**WHEREAS**, under the terms of the November 27, 2012 Resolution, the Special Use Permit was effective for a period of five (5) years, expiring on November 27, 2017, subject to renewal or extension by the Planning Board; and

**WHEREAS**, by Resolution adopted on September 16, 2014, the Planning Board determined that a modification to the aforementioned telecommunications facility proposed by Sprint-Nextel was exempt from Special Use Permit requirements and subject to the issuance of a Building Permit as issued by the Town of Lewisboro Building Inspector; and

**WHEREAS**, such modifications were made and are part of the aforementioned approved telecommunications facility authorized under the Special Use Permit issued on November 27, 2017; and

**WHEREAS**, the term of this Special Use Permit is set to expire on November 27, 2017; and

**WHEREAS**, Sprint, by letter application dated November 14, 2017 from its attorney, Robert Gaudioso, Esq. of Snyder & Snyder, LLP, has requested a renewal of the Special Use Permit for a period of five (5) years; and

**WHEREAS**, under the November 27, 2012 Resolution, the renewal or extension of the Special Use Permit is a matter retained by the Planning Board for determination and within its sole jurisdiction; and

**WHEREAS**, under Section 220-41.1H(3) of the Lewisboro Town Code, the Planning Board may waive special permit application submission requirements which, in its judgment of the specific circumstances of a particular application or site, are not required in the interest of the public health, safety and general welfare; and

**WHEREAS**, Section 220-46D of the Lewisboro Town Code, which is addressed, in part, to applications for Special Use Permit Approvals, provides that the Planning Board may waive a public hearing if it determines one is unwarranted in light of the scale of improvements or the record of prior reviews and public hearings; and

**WHEREAS**, the requested five-year renewal does not involve any physical change to, or modification of, the aforementioned telecommunications facility; and

**WHEREAS**, there are no violations pending against the aforementioned telecommunications facility, and it is in conformity with the Special Use Permit issued by the Planning Board; and

**WHEREAS**, the extension request has been referred to the Antenna Advisory Board ("AAB");

**NOW, THEREFORE BE RESOLVED THAT**, the Planning Board hereby renews the Special Use Permit embodied in its November 27, 2017 Resolution for a period of five (5) years, which shall conclude on November 27, 2022.

**ADOPTION OF RESOLUTION**

**WHEREUPON**, the Resolution herein was declared adopted by the Planning Board of the Town of Lewisboro as follows:

The motion was moved by: Ron Tetelman

The motion was seconded by: Greg LaSorsa

The vote was as follows:

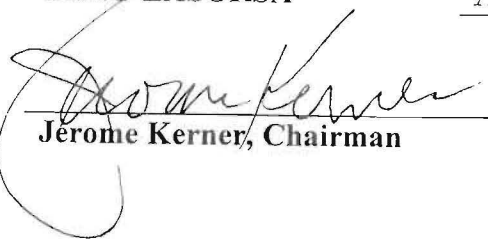
**JEROME KERNER** Aye

**JOHN O'DONNELL** Aye

**RON TETELMAN** Aye

**ED BUROUGHS** Aye

**GREG LASORSA** Aye

  
Jerome Kerner, Chairman

November 21, 2017

**STATE OF NEW YORK  
COUNTY OF WESTCHESTER  
TOWN OF LEWISBORO**

I, Ciorsdan Conran, Secretary to the Planning Board of the Town of Lewisboro, County of Westchester, State of New York, do hereby certify that I have compared the preceding copy of a resolution adopted by the Planning Board of the Town Lewisboro, County Westchester at a meeting held on the 21<sup>st</sup> day of November, 2017 and that the same is a true and correct copy of said original and of the whole thereof.

  
Ciorsdan Conran  
Ciorsdan Conran  
Planning Board Secretary

Dated at South Salem, New York  
This 29<sup>th</sup> day of November, 2017

# Exhibit G

Please Return to:  
Intercounty Clearance Corporation  
440 North Avenue  
New York, NY 10001-1686



862905

PIN # Sheet 40, Block 10263, Lot 62  
Town of Lewisboro (County of Westchester), *NY*

After Recordation, Return To:

Sullivan & Worcester LLP  
One Post Office Square  
Boston, Massachusetts 02109  
Attn: Sander Ash, Esq.

Transfer Tax Due:

STATE OF GEORGIA

COUNTY OF FULTON

NEW YORK  
QUITCLAIM DEED

Site: South Salem Code: NY3280

THIS INDENTURE is made this 14<sup>th</sup> day of January, 2008, between AT&T CORP., a New York corporation, formerly known as American Telephone and Telegraph Company, a New York corporation, having as its address 295 North Maple Avenue, Basking Ridge, NJ 07920-1002 ("Grantor"), and AMERICAN TOWERS, INC., a Delaware corporation, having as its address c/o American Tower Corporation, 116 Huntington Avenue, Boston, MA 02116 (hereinafter referred to as "Grantee") (the words "Grantor" and "Grantee" to include their respective heirs, successors, legal representatives and assigns where the context permits or requires).

WITNESSETH:

GRANTOR, for and in consideration of the sum of  
and other valuable consideration in hand paid at and before the sealing and delivery of these presents, the receipt, adequacy and sufficiency whereof are hereby acknowledged, does by these presents remise, release and quit-claim unto Grantee forever all of Grantor's right, title and interest in and to:

ALL THE TRACT(S) OR PARCEL(S) OF LAND being more particularly described on Exhibit "A" attached hereto and by this reference made a part hereof (hereinafter referred to as the "Property").

TO HAVE AND TO HOLD said Property unto Grantee forever, so that neither Grantor nor any entity or entities claiming under Grantor shall at any time, by any means or ways, have, claim, or demand any right, title, or interest in or to the Property or its appurtenances, or any rights thereof;

GRANTOR RESERVES UNTO ITSELF, and excepts from the above conveyance, the easements, rights and privileges hereinafter set forth:

(a) By its acceptance of this Deed, Grantee acknowledges and agrees Grantor has and hereby does reserve an exclusive, perpetual easement and right-of-way (the "Reserved Easement") for the benefit of Grantor, its Affiliates<sup>1</sup> and its and their respective transferees, successors and assigns, for the purpose of installing, operating, maintaining, repairing, removing and replacing underground telecommunication cables and conduits of Grantor, its Affiliates and its and their respective transferees, successors and assigns, together with manholes, markers and surface testing terminals and any regeneration huts or other above-surface improvements existing upon, over and under the Property as of the date first above written (collectively, the "Easement Area Equipment"), in such locations (the "Easement Area") where (i) the Easement Area Equipment is currently located and with respect to subsurface installations, as is marked by utility installation markers, and (ii) should there be no existing Easement Area Equipment installed on the date hereof, Easement Area Equipment may be installed within an Easement Area, the location of which Grantee may hereafter approve, which approval shall not be unreasonably withheld, conditioned or delayed (taking into account Grantee's then current use of the burdened Property and the reasonable future use thereof). By its acceptance of this Deed, the Grantee acknowledges its intent to find at least one location for the Reserved Easement. Such Easement Area shall be a minimum of sixteen and one-half (16½) feet in width and a maximum of thirty (30) feet in width. Should the Easement Area Equipment now installed (or that initially installed in the future) not encumber the maximum Easement Area, additional Easement Area Equipment may be constructed or installed within such Easement Area and, with respect to any underground cabling, conduits, wires, lines or similar improvements, such additional Easement Area Equipment shall be installed in a line parallel to and equidistant from the first cable laid; provided sufficient area is available for the installation of the additional Easement Area Equipment in the reasonable discretion of Grantee, taking into account Grantee's then current use

---

<sup>1</sup> Affiliates. Shall mean, with respect to any person or entity, any other person or entity that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such first person or entity. As used in this definition, "control" (including, with correlative meanings, "controlled by" and "under common control with") shall mean possession, directly or indirectly, of the power to direct or cause the direction of management or policies (whether through ownership of securities or partnership or other ownership interests, by contract or otherwise).

of the burdened Property and the reasonable future use thereof. Grantor shall install, maintain and replace, as appropriate, surface markers indicating the location of the Easement Area Equipment.

(b) Grantor further reserves the following rights and powers incidental to the Easement Area and the "Temporary Easement Area" (as hereinafter defined):

- (i) A non-exclusive temporary right-of-way and easement (the "Temporary Easement") to be used solely for the purpose of installing, repairing, removing or replacing Easement Area Equipment upon a strip of land ten (10) feet wide on either side of the Easement Area (the "Temporary Easement Area"), provided sufficient area is then available for the installation of the additional Easement Area Equipment, taking into account Grantee's then current use of the burdened Property. Subject to the foregoing limitation, Grantor shall be entitled to park its vehicles and store its materials in the Temporary Easement Area in connection with the Grantor's exercising its rights under the Temporary Easement.
- (ii) If the Easement Area or the Temporary Easement Area is not accessible other than by crossing over other portions of the Property, the right of vehicular and pedestrian ingress and egress over such portion of the Property as Grantee shall from time to time designate for such purposes to and from the Easement Area or the Temporary Easement Area, as the case may be, in connection with the exercise of the Temporary Easement rights or the Reserved Easement rights;
- (iii) The right to clear all trees, roots, brush, vines, overhanging limbs and other obstructions from the surface and subsurface of the Easement Area and, in connection with the exercise of the Temporary Easement rights, the surface or subsurface of the Temporary Easement Area.

(c) Except as provided in paragraph (a) above, no excavation, building, structure or obstruction will be constructed, erected, built or permitted in or on the surface of the Easement Area and no change will be made by grading or otherwise to the surface or subsurface of the Easement Area. Provided there is no interference with above ground installations located upon or across the Easement Area, Grantee shall have the right to use the surface of the Easement Area for vehicular and pedestrian ingress and egress, except that such use shall exclude heavy trucks, equipment and construction vehicles which could impair the use of or damage the Easement Area Equipment. Should Grantee or Grantee's designees desire to use a portion of the Easement Area, Grantor shall not unreasonably withhold, delay or condition its consent to a proposed use, taking into account Grantor's existing use and the planned reasonable future use thereof; and provided, further, Grantor may condition its consent to Grantee's use of the Easement Area being subject to the same conditions respecting the use thereof by Grantor as are set forth in subparagraph (e) hereinbelow.



(d) Any party seeking to construct, install or maintain any subsurface installations shall call the appropriate utility line location service (e.g., Miss Dig) to determine the location of any Grantor- or Grantee-installed communications systems and utilities prior to the commencement of any work on the Property.

(e) The foregoing reservations are intended to benefit Grantor, its Affiliates, and its and their respective transferees, successors and assigns, and are subject to the following terms and conditions, each of which shall be binding upon Grantor, its Affiliates, and its transferees, successors and assigns, as the case may be (each of which of the foregoing parties is for the purpose of this subparagraph (e) referred to as a "Beneficiary" or collectively, if applicable, the "Beneficiaries;" and each Beneficiary by its exercising of any right reserved to it hereunder shall have agreed to be bound by the following), and each of which shall be effective only from and after the date hereof:

- (i) Except to the extent caused by or resulting from the negligence or willful misconduct of Grantee, from and after the date hereof, the Beneficiaries shall defend, indemnify and hold harmless Grantee, its officers, directors, employees, partners, tenants, invitees, licensees and contractors from all costs, damages, expenses (including, without limitation, reasonable attorneys' fees and disbursements), foreseen or unforeseen, arising (directly or indirectly) after the date hereof from or in connection with the exercise by any Beneficiary of any right reserved unto the Beneficiaries in this reservation, including, but not limited to, the installation, maintenance, operation, removal, replacement or presence, in each case after the date hereof, of the Easement Area Equipment and other property at the Property, any work or thing done or condition created by Beneficiary after the date hereof at the Property, and any and all costs (including attorneys' fees) of enforcing the terms of subparagraphs (a) through (e) hereof.
- (ii) Except in the case of emergency when notice reasonable under the circumstances shall be given and except in the case of normal patrols of the Easement Area for the purpose of observing the presence of surface markers or erosion for which no notice is required, Beneficiary shall give reasonable prior written notice before entering upon the Property. Such notice(s) shall set forth in reasonable detail any and all work and actions to be undertaken in connection with such entry.
- (iii) Beneficiary shall not suffer or permit any lien to be filed, or shall promptly bond over such lien, against the Property relating to, or arising out of, work performed or materials supplied by or for Beneficiary after the date hereof.
- (iv) All work performed by Beneficiary relating to the Easement shall be reasonably coordinated with Grantee and with other work being performed at the Property

(taking into account any emergency conditions which may exist). Beneficiary shall promptly repair any damage to the Property occasioned by its exercise of any of its rights related to the Reserved Easement or the Temporary Easement.

- (v) Beneficiary shall secure all necessary licenses, permits and other governmental approvals before performing any work at the Property and shall, from and after the date hereof, comply with all applicable laws governing its use of the Easement Area, and shall carry, if required by applicable law, and cause each of its contractors and subcontractors to carry, workers' compensation insurance in statutory amounts.
- (vi) The agreements, easements, covenants, conditions, undertakings, restrictions, rights, privileges made, granted or assumed, or reserved, as the case may be, by Grantee, the Beneficiaries or Grantor, as the case may be, are made not only personally for the benefit of the other parties hereto but also shall run with the land and constitute an equitable servitude on the portion of the land owned by such party appurtenant to the Property, the Easement Area, or the Temporary Easement Area, as the case may be. Any transferee of all or any portion of the Property or all or any portion of the Easement Area or Temporary Easement Area shall be deemed automatically by acceptance of the same, to have assumed all obligations herein set forth and to have agreed with the party then burdened by the rights herein created and reserved to execute any and all instruments and to do any and all things reasonably required to carry out the intention of the agreements herein set forth, and the transferor shall, upon completion of such transfer involving all of its interest in the Easement Area or the Temporary Easement Area and upon the giving of written notice of such transfer to the other, be relieved of all further liability with respect to the Property, Easement Area and/or the Temporary Easement Area transferred, except liability with respect to matters that may have arisen from and after the date hereof and prior to the date of said transfer. The written notice of transfer shall include the name and address of the transferee.
- (vii) If the consolidated net worth of the Beneficiaries who are obligated under the indemnity contained in this subparagraph (e) is at any time less than as determined by generally accepted accounting principles consistently applied, the within reservations shall terminate unless at all times thereafter the Beneficiaries maintain for the benefit of Grantee evidence of insurance reasonably satisfactory to Grantee. In such case, the Beneficiaries shall maintain and deliver from time to time as reasonably requested by Grantee evidence of such insurance reasonably satisfactory to Grantee so long as such party is a Beneficiary of the Easement. By acceptance of this Deed, the Grantee acknowledges that evidence of commercial general liability insurance in the

minimum amount of (as such amount shall be reasonably adjusted from time to time to account for inflation) shall be a reasonable amount of commercial general liability insurance acceptable to Grantee. Unless the stock of Beneficiary or, if Beneficiary is a subsidiary of the Grantor, the stock of its parent company shall then be publicly traded, Beneficiary shall provide evidence of its net worth to Grantee from time to time upon Grantee's request.

IN WITNESS WHEREOF, Grantor has signed and sealed this deed, the day and year first above written.

In the presence of:  
Virginia N. Gross  
Virginia N. Gross

GRANTOR:

AT & T Corp., a New York corporation,  
Formerly known as American Telephone  
And Telegraph Company

BY: R S Adler

Richard S. Adler

Manager, Network Services Infrastructure  
Program Management (ANS Real Estate)

State of Georgia

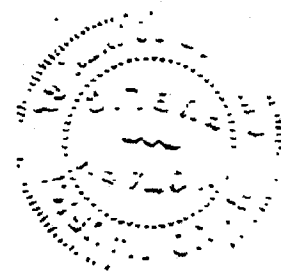
County of Fulton

On the 14<sup>th</sup> day of January in the year, 2000, before me, the undersigned, personally appeared Richard S. Adler, Manager, Network Services Infrastructure Program Management (ANS Real Estate), personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument, and that such individual made such appearance before the undersigned in the City of Atlanta, State of Georgia.

Maurice Mario  
Notary Public  
Print Name: MAURICE MARIO  
My Commission Expires:

Notary Public, Gwinnett County, Georgia  
My Commission Expires October 3, 2003

(NOTARIAL SEAL)



SITE NAME: SOUTH SALEM, NY

GLC: NY3280

LINE NO: A1046

Page 1 of 3

EXHIBIT "A"

ALL that certain plot, piece or parcel of land, ~~with the buildings and improvements thereon~~, situate, lying and being in the Town of Lewisboro, County of Westchester and State of New York, bounded and described as follows:

BEGINNING at a point <sup>south</sup> of the southerly side of Old Post Road (Route 35) measured and located as follows:

BEGINNING at a point on the southerly side of Old Post Road (Route 35) where the same is intersected by the center line of a 33 foot right of way which point of beginning is distant westerly as measured along said southerly side of said Old Post Road (Route 35) distant 279.31 feet from the intersection of the southwesterly side of Smith Ridge Road (Route 123) and the southerly side of Old Post Road (Route 35); thence along said center line of the 33 foot right of way the following courses and distances: South 14° 32' West 105.71 feet; South 4° 57' East 19.15 feet; South 12° 13' East 49.86 feet; South 19° 43' East 23.73 feet; South 27° 48' East 19.78 feet; South 32° 31' East 22.95 feet; South 36° 23' East 71.21 feet; South 27° 10' East 28.54 feet; South 19° 42' East 26.88 feet; South 12° 58' East 20.80 feet; South 7° 16' East 39.37 feet; South 6° 11' West 119.97 feet; South 10° 09' West 28.82 feet; South 20° 36' West 57.93 feet; South 11° 51' West 29.56 feet; South 9° 06' West 275.83 feet; South 16° 58' West 24.63 feet; South 25° 10' West 23.95 feet; South 47° 29' West 18.17 feet; South 51° 46' West 122.25 feet; South 57° 20' West 19.91 feet; South 66° 27' West 82.48 feet; South 22° 14' West 49.76 feet; South 12° 06' West 208.30 feet; South 18° 17' West 184.73 feet; South 20° 22' West 174.86 feet; South 27° 22' West 69.54 feet; South 33° 55' West 61.86 feet; South 25° 09' West 53.97 feet; South 31° 00' West 54.24 feet; South 37° 35' West 78.87 feet; South 31° 04' West 32.86 feet; South 31° 25' West 69.48 feet; South 73° 31' West 159.44 feet; South 44° 02' West 46.93 feet; South 52° 48' West 24.56 feet; South 67° 33' West 18.88 feet, and South 84° 14' West 14.53 feet to the point of beginning of the premises herein described; thence from said point of beginning South 30° 19' 10" West 199.91 feet to the northerly boundary line of lands now or formerly of Edward Lasus and Helen Lasus; thence along the last mentioned boundary line, North 74°

SITE NAME: SOUTH SALEM, NY

GLC: NY3280

LINE NO: A1046

Page 2 of 3

57' 50" West 251.04 feet and North 66° 24' 35" West 166.16 feet; thence through lands now or formerly of Lewisboro Associates, North 30° 45' 20" East 427.00 foot to the northwesterly corner of the premises herein described; thence continuing through lands now or formerly of Lewisboro Associates, South 70° 33' 50" East 411.32 feet to the northeasterly corner of the premises herein described; thence continuing through lands now or formerly of Lewisboro Associates, South 30° 19' 10" West 219.09 feet to the point of beginning.

TOGETHER with a 33 foot right of way and easement for ingress and egress, the center line of which is bounded and described as follows:

BEGINNING at a point on the southeasterly side of the premises hereinabove described distant North 30° 19' 10" East 199.91 feet from the southeasterly corner of the premises hereinabove described; thence from said point of beginning the following courses and distances: North 84° 14' East 14.53 feet; North 67° 33' East 18.88 feet; North 52° 48' East 24.56 feet; North 44° 02' East 46.93 feet; North 73° 31' East 159.44 feet; North 31° 25' East 69.48 feet; North 31° 04' East 32.86 feet; North 37° 35' East 78.87 feet; North 31° 00' East 54.24 feet; North 25° 09' East 53.97 feet; North 33° 55' East 61.86 feet; North 27° 22' East 69.54 feet; North 20° 22' East 174.86 feet; North 18° 17' East 184.73 feet; North 12° 06' East 208.30 feet; North 22° 14' East 49.76 feet; North 66° 27' East 82.48 feet; North 57° 20' East 19.91 feet; North 51° 46' East 122.25 feet; North 47° 29' East 18.17 feet; North 25° 10' East 23.95 feet; North 16° 58' East 24.63

SITE NAME: SOUTH SALEM, NY

GLC: NY3280

LINE NO: A1046

Page 3 of 3

feet; North 9° 06' East 275.83 feet; North 11° 51' East 29.56 feet; North 20° 36' East 57.93 feet; North 10° 09' East 28.82 feet; North 6° 11' East 119.97 feet; North 7° 16' West 39.37 feet; North 12° 58' West 20.80 feet; North 19° 42' West 26.88 feet; North 27° 10' West 28.54 feet; North 36° 23' West 71.21 feet; North 32° 31' West 22.95 feet; North 27° 48' West 19.78 feet; North 19° 43' West 23.73 feet; North 12° 13' West 49.86 feet; North 4° 57' West 19.15 feet; and North 14° 32' East 105.71 feet to the southerly side of Old Post Road (Route 35).

TOGETHER with the right to improve, widen, install culverts and realign existing roads and trails along the above described right of way.

Being the same parcel as conveyed to American Telephone and Telegraph Company by Robert C. Bell, Jr. and John M. Lyden d/b/a Lewisboro Associates Company by Warranty Deed dated February 5, 1968 and recorded in the Westchester County Clerk's Office, Division of Land Records, Westchester County, New York, on February 9, 1968 in Liber 6762 of Deeds, Page 141.



\*401290869DEDS\*

Control Number  
401290869

WIID Number  
2000129-000376

Instrument Type  
DED



WESTCHESTER COUNTY RECORDING AND ENDORSEMENT PAGE  
(THIS PAGE FORMS PART OF THE INSTRUMENT)  
\*\*\* DO NOT REMOVE \*\*\*

THE FOLLOWING INSTRUMENT WAS ENDORSED FOR THE RECORD AS FOLLOWS:

TYPE OF INSTRUMENT DED - DEED

FEE PAGES 11

TOTAL PAGES 11

RECORDING FEES

STATUTORY CHARGE  
RECORDING CHARGE  
RECORD MGT. FUND  
RP 5217  
TP-584  
CROSS REFERENCE  
MISCELLANEOUS  
  
TOTAL FEES PAID

TRANSFER TAXES

CONSIDERATION  
  
TAX PAID  
TRANSFER TAX #

MORTGAGE TAXES

MORTGAGE DATE  
MORTGAGE AMOUNT  
EXEMPT  
  
YONKERS  
BASIC  
ADDITIONAL  
SUBTOTAL  
MTA  
SPECIAL  
  
TOTAL PAID

SERIAL NUMBER  
DWELLING

RECORDING DATE 05/18/2000  
TIME 05:05:00

THE PROPERTY IS SITUATED IN  
WESTCHESTER COUNTY, NEW YORK IN THE:  
TOWN OF LEWISBORO

WITNESS MY HAND AND OFFICIAL SEAL

LEONARD N. SPANO  
WESTCHESTER COUNTY CLERK

Record & Return to:  
SULLIVAN & WORCHESTER LLP  
ONE POST OFFICE SQUARE  
  
BOSTON, MA 02109

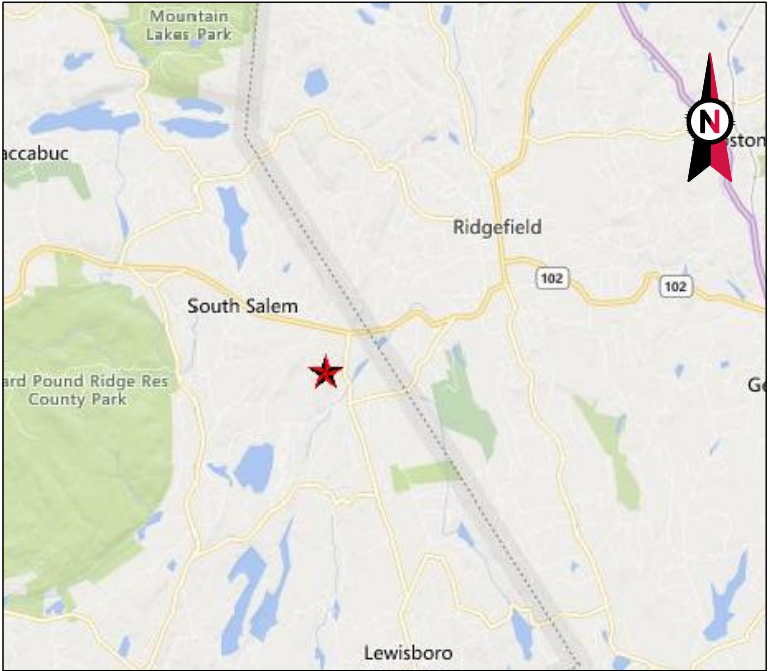
DATE OF NEW YORK COUNTY OF WESTCHESTER

LEONARD N. SPANO, CLERK OF THE COUNTY OF WESTCHESTER, NEW YORK, DO HEREBY CERTIFY THAT THE ABOVE INSTRUMENT WAS RECORDED IN MY OFFICE ON MAY 18, 2000, AT 5:05:00 PM.

AND THAT THE SAME IS A CORRECT COPY OF THE INSTRUMENT AS RECORDED IN MY OFFICE.

41



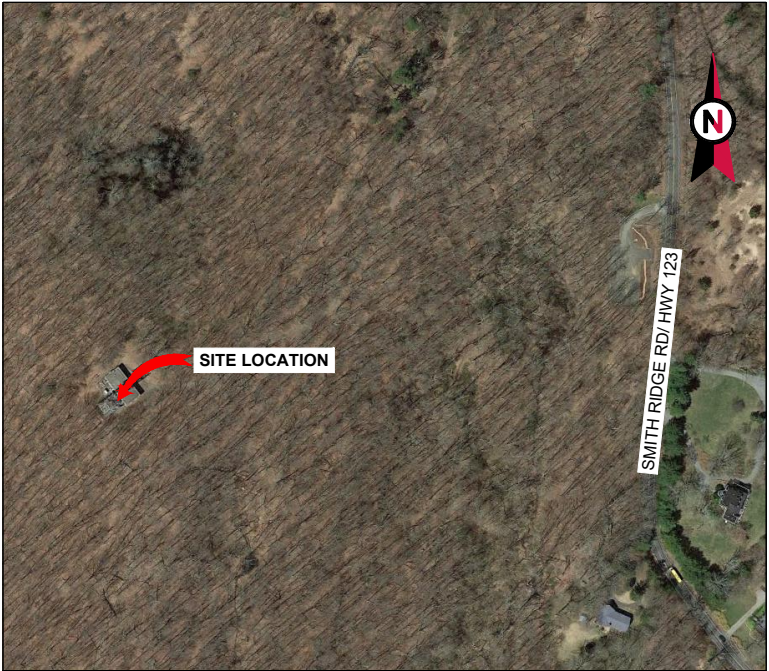


VICINITY MAP



AMERICAN TOWER®

SITE NAME: SOUTH SALEM NY  
SITE NUMBER: 88166  
SITE ADDRESS: ROUTE 35  
SOUTH SALEM, NY 10590



LOCATION MAP

CONDITIONAL USE PERMIT RENEWAL

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
<p>ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.</p> <div><div>1.</div><div>2020 INTERNATIONAL BUILDING CODE (IBC)</div></div> <div><div>2.</div><div>2017 NATIONAL ELECTRIC CODE (NEC)</div></div> <div><div>3.</div><div>LOCAL BUILDING CODE</div></div> <div><div>4.</div><div>CITY/COUNTY ORDINANCES</div></div>	<p><u>SITE ADDRESS:</u></p> <p>ROUTE 35 SOUTH SALEM, NY 10590 COUNTY: WESTCHESTER</p> <p><u>GEOGRAPHIC COORDINATES:</u></p> <p>LATITUDE: 41.25847894 LONGITUDE: -73.53470446 GROUND ELEVATION: 760' AMSL</p> <p><u>ZONING INFORMATION:</u></p> <p>JURISDICTION: WESTCHESTER PARCEL NUMBER: N/A SECTION: 40 BLOCK: 10263 LOT: 62</p>	<p>THIS SUBMITTAL IS FOR RE-PERMITTING WITH WESTCHESTER COUNTY. THIS SET OF DRAWINGS IS INTENDED TO DEPICT EXISTING SITE CONDITIONS. NO CHANGES TO EXISTING ARE PROPOSED.</p>	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
		G-001	TITLE SHEET	0	10/26/22	EB	
		C-101	DETAILED SITE PLAN	0	10/26/22	EB	
		C-102	TOWER ELEVATION	0	10/26/22	EB	
		C-501	SIGNAGE	0	10/26/22	EB	

**AMERICAN TOWER®**  
A.T. ENGINEERING SERVICE, PLLC  
3500 REGENCY PARKWAY  
SUITE 100  
CARY, NC 27518  
PHONE: (919) 468-0112  
COA: 0012746

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	10/26/22

ATC SITE NUMBER:  
**88166**

ATC SITE NAME:  
**SOUTH SALEM NY**

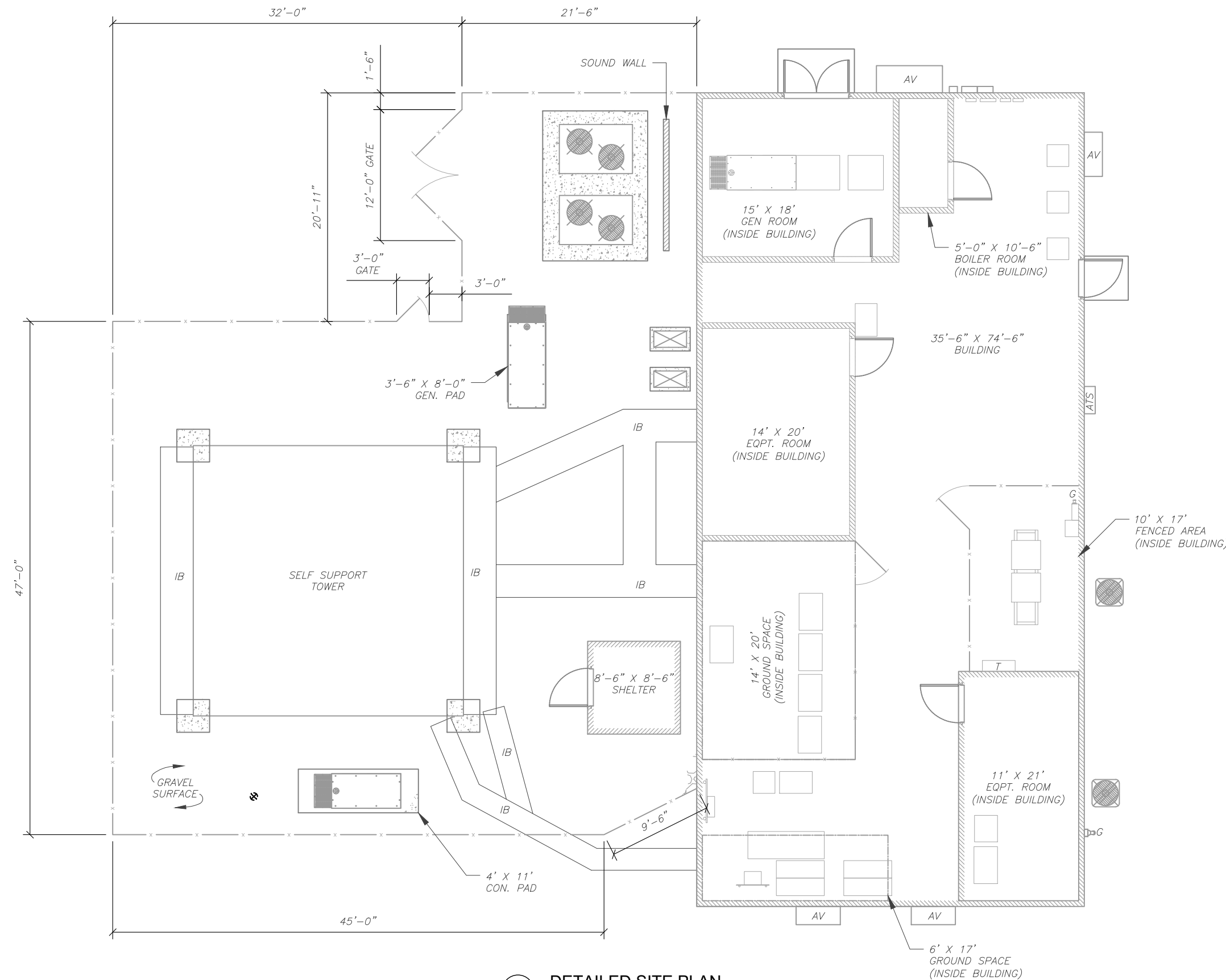
SITE ADDRESS:  
ROUTE 35  
SOUTH SALEM, NY 10590

SEAL:

DATE DRAWN:	10/26/22
ATC JOB NO:	14174748_E1

**TITLE SHEET**

SHEET NUMBER: <b>G-001</b>	REVISION: <b>0</b>
-------------------------------	-----------------------



**1 DETAILED SITE PLAN**

0 10' 20'

SCALE: 1"=10' (11X17)  
1"=5' (22X34)



**AMERICAN TOWER®**  
**A.T. ENGINEERING SERVICE, PLLC**  
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	10/26/22

ATC SITE NUMBER:  
**88166**  
ATC SITE NAME:  
**SOUTH SALEM NY**

SITE ADDRESS:  
ROUTE 35  
SOUTH SALEM, NY 10590



DATE DRAWN:	10/26/22
ATC JOB NO:	14174748_E1

## DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
<b>C-101</b>	<b>0</b>

TOP OF EXISTING  
HIGHEST APPURTENANCE  
ELEV. 138'

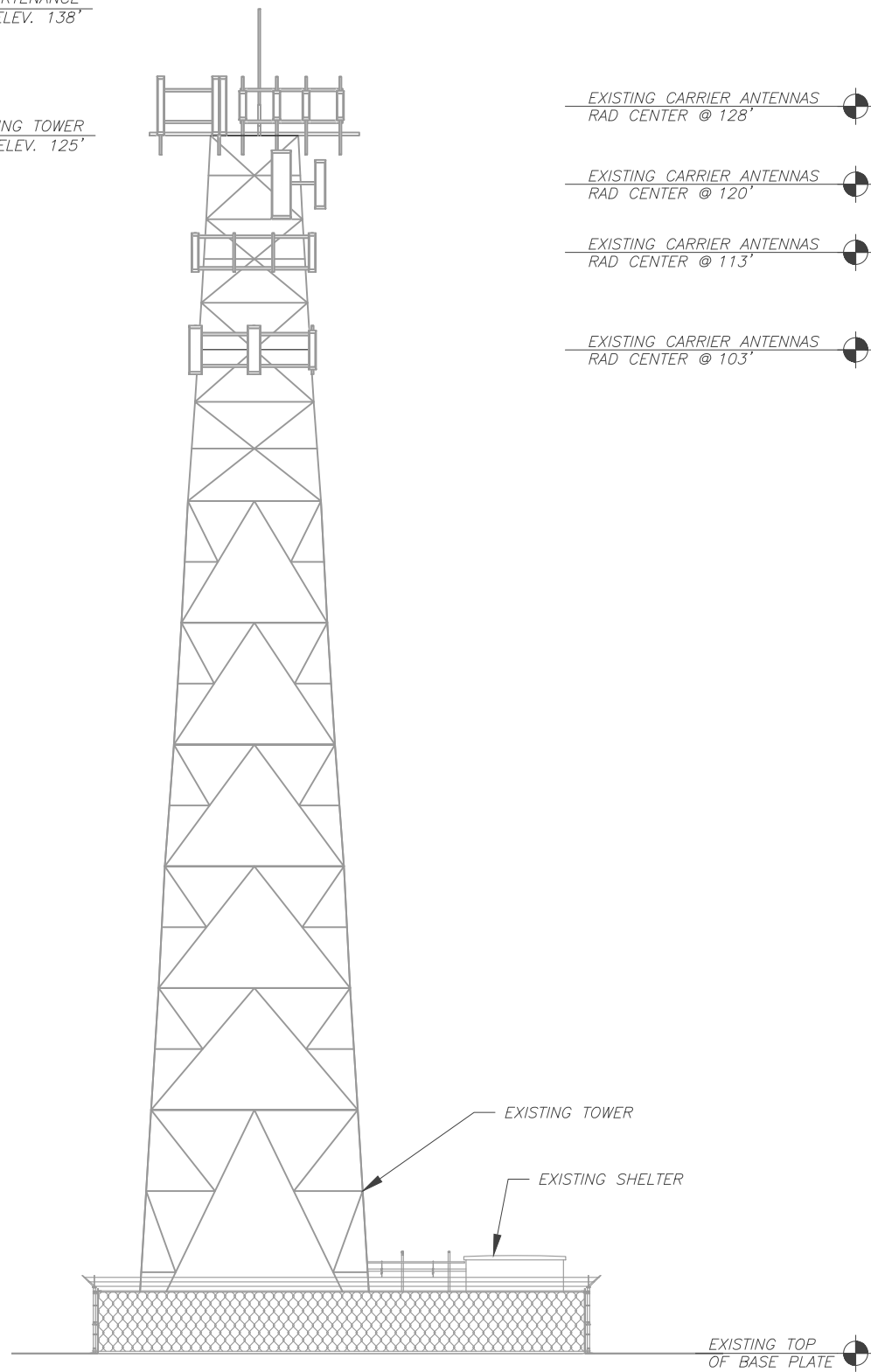
TOP OF EXISTING TOWER  
ELEV. 125'

EXISTING CARRIER ANTENNAS  
RAD CENTER @ 128'

EXISTING CARRIER ANTENNAS  
RAD CENTER @ 120'

EXISTING CARRIER ANTENNAS  
RAD CENTER @ 113'

EXISTING CARRIER ANTENNAS  
RAD CENTER @ 103'



1 TOWER ELEVATION  
SCALE: NOT TO SCALE



**AMERICAN TOWER®**  
**A.T. ENGINEERING SERVICE, PLLC**  
3500 REGENCY PARKWAY  
SUITE 100  
CARY, NC 27518  
PHONE: (919) 468-0112  
COA: 0012746

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	10/26/22

ATC SITE NUMBER:

88166

ATC SITE NAME:

SOUTH SALEM NY

SITE ADDRESS:

ROUTE 35  
SOUTH SALEM, NY 10590

SEAL:



DATE DRAWN:	10/26/22
ATC JOB NO:	14174748_E1

TOWER ELEVATION

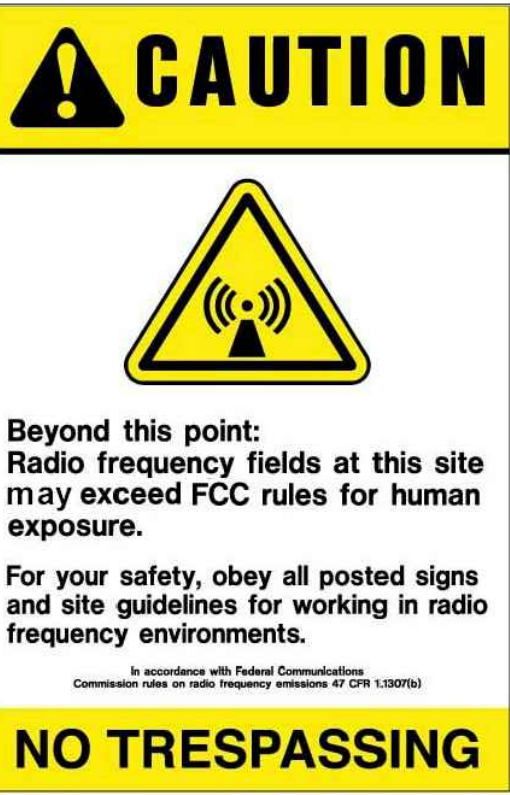
SHEET NUMBER:

C-102

REVISION:

0





ATC CAUTION AND NO TRESPASSING SIGN



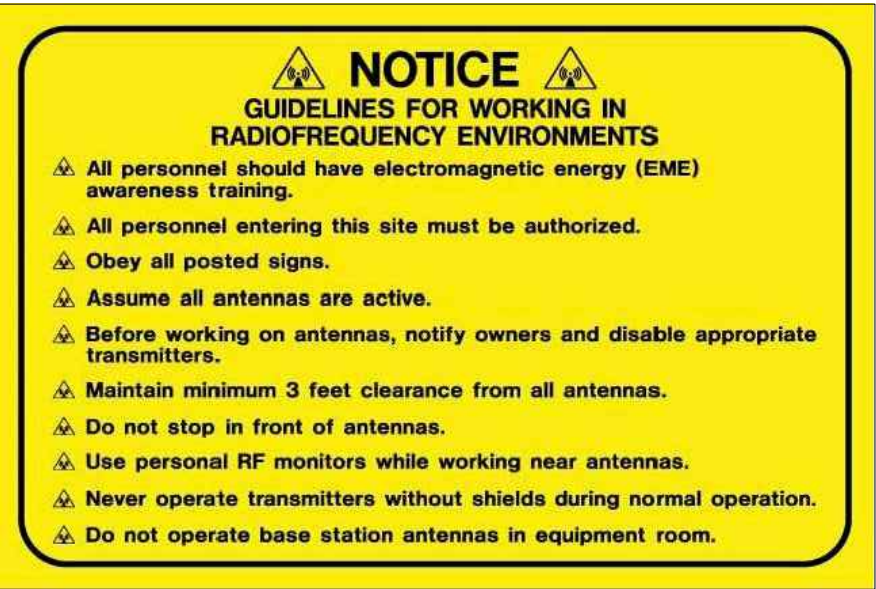
ATC RF WARNING AND FCC NUMBER SIGN



ATC STAND-ALONE FCC TOWER REGISTRATION SIGN



EXISTING SIGNAGE PHOTO



ATC RF PROGRAM NOTICE SIGN



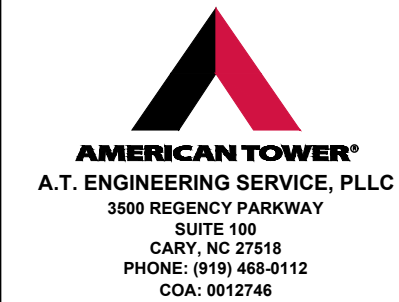
ATC SITE SIGN

REPLACEMENT OF SIGNAGE:

AS SIGNAGE BECOMES STOLEN, DAMAGED, BRITTLE OR FADED, IT SHOULD BE REPLACED WITH SIGNAGE PER THIS SPECIFICATION. ANY ACQUIRED SITE SHOULD HAVE NEW SIGNS POSTED WITHIN 60 DAYS UNLESS OTHERWISE SPECIFIED. ANY SITE SOLD SHOULD HAVE THE ATC SIGNS REMOVED WITHIN 30 DAYS UNLESS OTHERWISE SPECIFIED. ALL FCC OR REGULATORY SIGNAGE MUST BE INSTALLED OR REPLACED AS REQUIRED TO MEET OUR STANDARD. SIGNS SHOULD BE REPLACED ON NORMAL, QUARTERLY MAINTENANCE VISITS BY CONTRACTORS OR SITE MANAGERS, UNLESS OTHERWISE REQUIRED ON A CASE-BY-CASE BASIS.

NOTE:

EXTERIOR SIGNS ARE NOT PROPOSED EXCEPT AS REQUIRED BY THE FCC. ALL EXISTING SIGNAGE AND ANY FUTURE SIGNAGE WILL BE COMPLIANT WITH STATUTE 164-43.4 NO HIGH-VOLTAGE SIGNAGE IS NECESSARY. NO HIGH-VOLTAGE EQUIPMENT PRESENT.



THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
△	FOR CONSTRUCTION	EB	10/26/22
△			
△			
△			
△			

ATC SITE NUMBER:

88166

ATC SITE NAME:

SOUTH SALEM NY

SITE ADDRESS:

ROUTE 35  
SOUTH SALEM, NY 10590

SEAL:



DATE DRAWN:	10/26/22
ATC JOB NO:	14174748_E1

SIGNAGE

SHEET NUMBER:

C-501

REVISION:

0

TO: The Town of Lewisboro Planning Board  
FROM: Lewisboro Conservation Advisory Council  
SUBJECT: Maple Tree Farm, 400 Smith Ridge Road, wetland violation mitigation  
DATE: December 8, 2022

The Conservation Advisory Council (CAC) has reviewed the materials submitted by the applicant for the mitigation of a wetland violation at 400 Smith Ridge Road, South Salem, NY 10590. The CAC has the following:

- The plans discuss a 25 foot buffer while the DEC is 100 ft and the town is 150 ft. The plans need to show these buffer lines and the plan needs to address issue within the state and town wetland buffer areas.
- The fence that borders the mitigation are should be along the 150 foot buffer and not the arbitrary 25 foot buffer.
- The plan does not indicate that the offending chips are to be removed.
- The grass driveway appears to be within the wetland buffer.
- In general, the wetland mitigation plan needs to be updated to address the proper wetland buffer area and the offending chips.



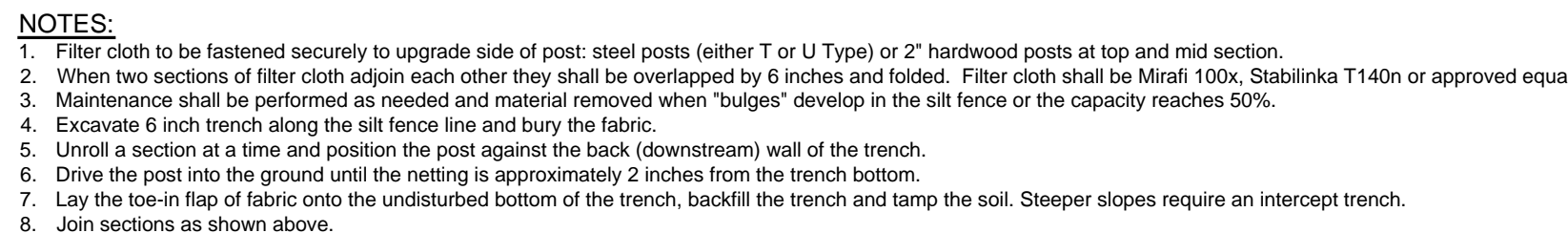
NOT TO SCALE



1. Site preparation:
  - 1.1. Install erosion control measures.
  - 1.2. Scarify compacted soil areas.
  - 1.3. Lime as required to pH 6.5.
  - 1.4. Fertilize with 10-6-4 4 lbs/1,000 S.F.
  - 1.5. Incorporate amendments into soil with disc harrow.

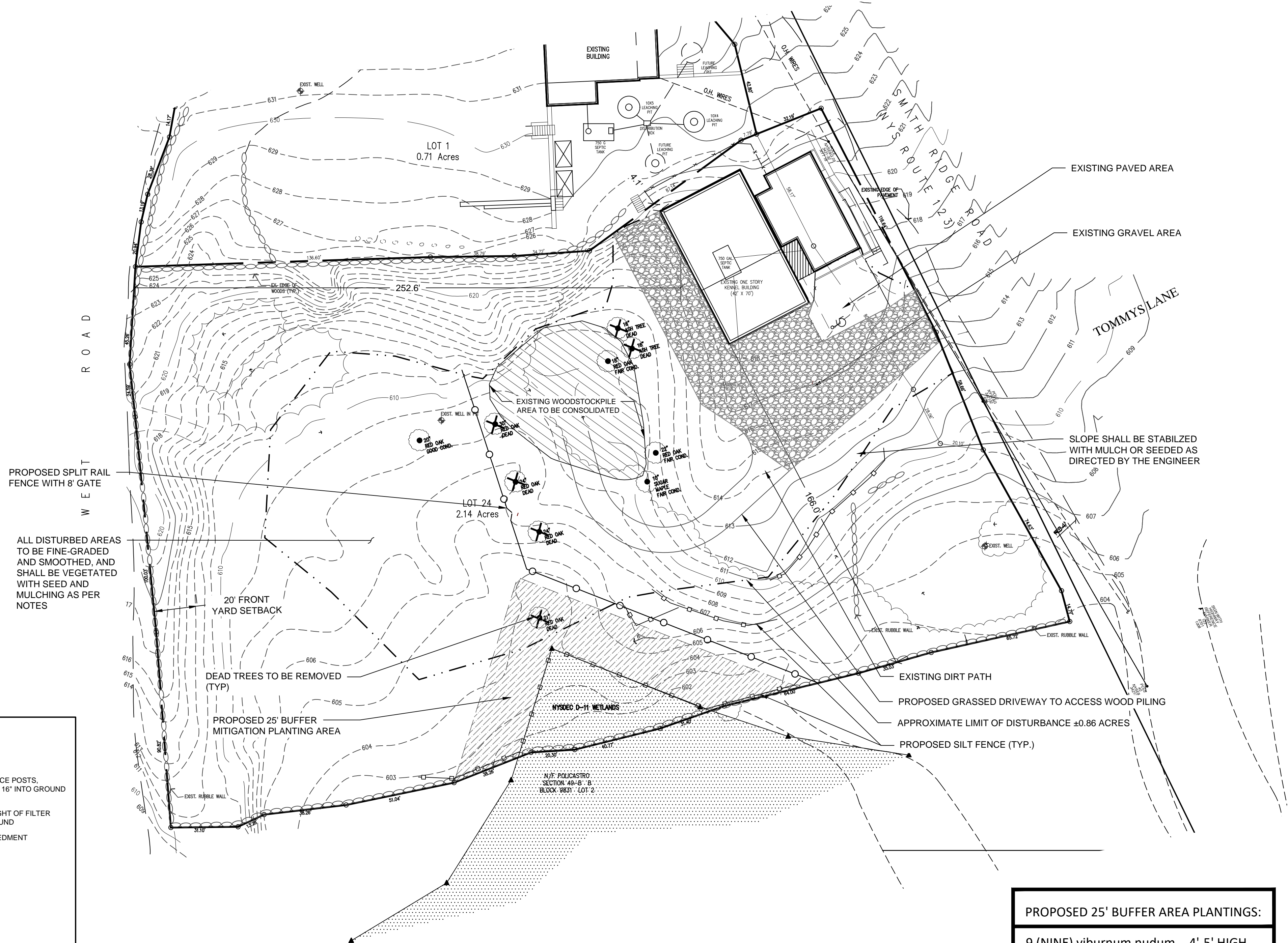
<u>MIXTURE</u>		<u>LBS./ACRE</u>
ALT. A	KENTUCKY BLUE GRASS	20
	CREeping RED FESCUE	28
	RYE GRASS OR REDTOP	5
ALT. B	CREeping RED FESCUE	20
	REDTOP	2
	TALL FESCUE/SMOOTH BLOOMGRASS	20

- 3.1. Prepare seed bed by raking to remove stones, twigs, roots and other foreign material.
- 3.2. Apply soil amendments and integrate into soil.
- 3.3. Apply seed uniformly by cyclone seeder culti-packer or hydro-seeder at rate indicated.
- 3.4. Stabilize seeded areas in drainage swales.
- 3.5. Irrigate to fully saturate soil layer, but not to dislodge planting soil.
- 3.6. Seed between April 1st and May 15th or August 15th and October 15th.
- 3.7. Seeding may occur May 15th and August 15th if adequate irrigation is provided.



NOT TO SCALE

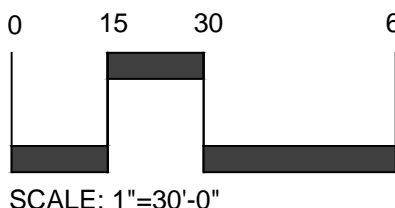
**NOTE:**  
1. THIS IS NOT A SURVEY. ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY KULHANEK & PLAN, LAND SURVEYORS, PC DATED 10/11/2001, LAST REVISED 12/20/2001. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.



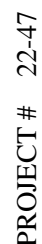
9 (NINE) viburnum nudum - 4'-5' HIGH  
2 (TWO) Amelanchier clump - 6'-7' HIGH  
3 (THREE) Ilex verticillata - 3'-4' HIGH  
2 (TWO) Quercus Bicolor - 1 ½"-2" CALIPER  
2 (TWO) Cornus florida - 2"-2 ½" CALIPER  
1 (ONE) Gleditsia triacanthos - 11.5" HIGH  
3 (THREE) Acer rubrum - 1.5" CALIPER

WATER FACILITIES:

GINA AND BRIAN COONEY  
COONEY TREE SERVICE  
400 SMITH RIDGE ROAD  
SOUTH SALEM, NY, 10590  
GB, GENERAL BUSINESS  
GB, GENERAL BUSINESS  
SECTION 77.4, BLOCK 2, LOT 2  
2.1 ACRES (93,141 SF)  
ON-SITE WELL

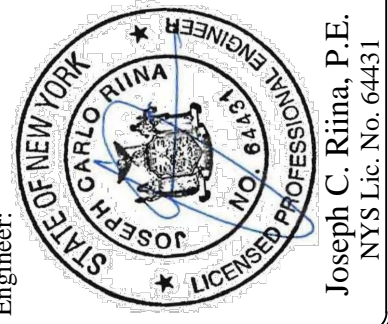


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 than ten days notice.  
[www.digsafetyny.com](http://www.digsafetyny.com)



# Site Design Consultants

Civil Engineers • Land Planners  
251-F Underhill Avenue, Yorktown Heights, NY 10598  
(914) 962-4488 - Fax: (914) 962-7386  
[www.sitedesignconsultants.com](http://www.sitedesignconsultants.com)

[illegible]

SCALE:  
1" = 30'

CS

DATE: 04/09/00

# MITIGATION PLAN

**SITE PLAN**  
**PREPARED FOR**

GINA AND BRIAN COONEY

400 SMITH RIDGE ROAD

Town of Lewisboro  
Westchester, NY

Sheet

of

1



NOTE: UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209 (2) OF THE NEW YORK STATE EDUCATION LAW.



**MEMORANDUM**

TO: Chairperson Janet Andersen and  
Members of Lewisboro Planning Board

CC: Ciorsdan Conran  
Judson Siebert, Esq.

FROM: Jan K. Johannessen, AICP   
Joseph M. Cermele, P.E., CFM   
Town Consulting Professionals

DATE: December 16, 2022

RE: Wetland Activity and Stormwater Permit Approval  
Susan Morrissey  
10 Hoyt Street  
Sheet 036C, Block 11172, Lot 005

**PROJECT DESCRIPTION**

The subject property consists of ±0.27 acre of land and is located at 10 Hoyt Street within the R-1/4A Zoning District. The subject property is developed with a single-family residence, asphalt driveway, walkways and other ancillary improvements. The residence is served by a community water system and on-site wastewater treatment system. The applicant is proposing to construct a sunroom/porch and stone terrace at the rear of the house as well as retaining walls, steps, generator, trash enclosure, drainage facilities, wetland mitigation and other ancillary improvements. The property has frontage on Truesdale Lake, which coincides with the wetland boundary, and the wetlands buffer covers most of the property.

**SEQRA**

The proposed action has been preliminarily identified as a Type II Action and is therefore categorically exempt from the State Environmental Quality Review Act (SEQRA).

Chairperson Janet Andersen

December 16, 2022

Page 2 of 4

**REQUIRED APPROVALS/REFERRALS**

1. A Wetland Activity Permit and a Town Stormwater Permit is required from the Planning Board; a public hearing is required to be held on the Wetland Permit.

**COMMENTS**

1. This office defers review of the plan for zoning compliance to the Building Inspector. It is recommended that the application be referred to the Building Inspector for review.
2. The wetland buffer impacts calculated on the site plan do not match the calculation on Figure 3. The Planning Board standard for mitigation on lake front properties includes the establishment of a planted buffer along the lake edge. Therefore, it is recommended that the planting areas provided along each side property line be extended to include more of the lake frontage; typically, a 10-foot wide planting area is recommended.
3. The Wetland Mitigation Plan shall specify proposed plant locations, specie type, size and quantity.
4. The plan shall illustrate the location of all existing and proposed utilities (electric, water).
5. The rear yard zoning setback line shall appear on the site plan; dimension all minimum required setbacks.
6. The Site Plan shall include a Bulk Zoning Table comparing the requirements of the underlying Zoning District to the existing and proposed condition; required variances and existing nonconformities shall be noted below the table. We note that the trash enclosure and egress window well is proposed with the side yard setback.
7. The plan shall demonstrate that the minimum required Westchester County Department of Health (WCDH) separation distances to the septic system and proposed stormwater management system are maintained. The Planning Board may wish to have the WCDH review the plan for "no objection."
8. Provide existing and proposed conditions floor plans.
9. The names of the adjacent property owners and the location of any neighboring driveways, structures, and buildings shall be illustrated on a plan and proposed building elevations.



Chairperson Janet Andersen

December 16, 2022

Page 3 of 4

10. The existing impervious cover calculation provided on Figure 1 should not include existing gravel areas as impervious cover; please adjust the Figure and associated net increase calculations and ensure that appropriate curve numbers for existing conditions are used in the drainage calculations.
11. Proposed erosion controls must be shown to be located within the proposed limits of disturbance line. Further the limits should not extend over the property line (concrete washout area). Please adjust the limits of disturbance as needed.
12. Land disturbance is proposed to exceed 5,000 s.f. and will therefore require conformance with New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit (GP-0-20-001) and filing of a Notice of Intent (NOI) and MS4 Acceptance Form with the NYSDEC. Submit draft copies to this office for review.
13. The plan shall illustrate a stabilized construction.
14. The proposed stormwater practice shall include an emergency overflow to a stabilized outfall. It is recommended that the outlet associated with the infiltration system be extended beyond the septic absorption trenches. Provide details of proposed outlet protection.
15. Where will the outdoor shower drain?
16. The applicant shall perform deep and percolation soil testing in the vicinity of the proposed mitigation system to be witnessed by the Town Engineer. The test locations and results shall be shown on the plan. Contact this office to schedule the testing.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

**PLANS REVIEWED, PREPARED BY ALP ENGINEERING, DATED NOVEMBER 18, 2022:**

- Site Plan (C-101)
- Erosion and Sediment Control Plan (C-102)
- Demolition and Removal Plan (C-103)
- Construction Details (C-111)
- Construction Details (C-112)
- Figure 1 Existing Conditions Impervious Surfaces
- Figure 2 Future Conditions Impervious Surfaces
- Figure 3 Existing and New Wetland Buffer Impacts

Chairperson Janet Andersen

December 16, 2022

Page 4 of 4

**DOCUMENTS REVIEWED:**

- Letter, prepared by ALP Engineering, dated November 18, 2022
- Wetland Permit Application
- Septic System Mapping Document
- Stormwater Management Report, prepared by ALP Engineering, dated October 12, 2022
- Topographic Survey

JKJ/dc

[https://kellardsessionsconsulti.sharepoint.com/sites/Kellard/Municipal/Lewisboro/Correspondence/2022-12-16\\_LWPB\\_Morrissey- 10 Hoyt Street\\_Review Memo.docx](https://kellardsessionsconsulti.sharepoint.com/sites/Kellard/Municipal/Lewisboro/Correspondence/2022-12-16_LWPB_Morrissey-10%20Hoyt%20Street_Review%20Memo.docx)

TO: The Town of Lewisboro Planning Board  
FROM: Lewisboro Conservation Advisory Council  
SUBJECT: Morrissey Residence, 10 Hoyt Street, South Salem, NY 10590  
DATE: December 8, 2022

The Conservation Advisory Council (CAC) has reviewed the materials submitted by the applicant for the construction of a sun room, patio, walkways and driveway extension. The impact to the wetland buffer is 1000 sq ft and the increase in impervious surfaces is 315 sq ft. The entire property is in the 150 foot town wetland buffer.

The plan shows the addition of a stormwater management system and two wetland mitigation areas that cover 1,135 sq ft. The CAC would like to see a detailed list of plantings for the mitigation areas and would also like to see some of the mitigation plantings down by the waterfront to impede runoff.

Application No.: #39-201P  
Fee: \_\_\_\_\_ Date: \_\_\_\_\_

**TOWN OF LEWISBORO  
WETLAND PERMIT APPLICATION**

79 Bouton Road, South Salem, NY 10590  
Phone: (914) 763-5592  
Fax: (914) 875-9148

Project Address: 10 Hoyt Street, South Salem

Sheet: 036C Block: 11172 Lot(s): 005

Project Description (Identify the improvements proposed within the wetland/wetland buffer and the approximate amount of wetland/wetland buffer disturbance): Construction of a sunroom/porch, stone terrace, new wall and steps from stone terrace to grade, and new walk from driveway to sunroom/porch.  
Wetland buffer disturbance is calculated to be 927 square feet.

Owner's Name: Susan Morrissey Phone: (917) 991-6732

8A 239 Central Park West

Owner's Address: New York, NY 10024 Email: SusanW@whiteandwarren.com

Applicant's Name (if different): \_\_\_\_\_ Phone: \_\_\_\_\_

Applicant's Address: \_\_\_\_\_ Email: \_\_\_\_\_

Agent's Name (if applicable): Alan L. Pilch, PE, RLA Phone: Direct: (475) 215-5343  
Cell: (203) 710-0587

Agent's Address: P.O. Box 843, Ridgefield, CT 06877 Email: alan@eaec-inc.com

**TO BE COMPLETED BY OWNER/APPLICANT**

What type of Wetland Permit is required? (see §217-5C and §217-5D of the Town Code)

☐ Administrative ☒ Planning Board

Is the project located within the NYCDEP Watershed? ☒ Yes ☐ No

Total area of proposed disturbance: ☒ < 5,000 s.f. ☐ 5,000 s.f. - < 1 acre ☐ ≥1 acre

Does the proposed action require any other permits/approvals from other agencies/departments? (Planning Board, Town Board, Zoning Board of Appeals, Building Department, Town Highway, ACARC, NYSDEC, NYCDEP, WCDOH, NYSDOT, etc): Identify all other permits/approvals required: \_\_\_\_\_  
Building Permit (Building Department)

Note: Initially, all applications shall be submitted with a plan that illustrates the existing conditions and proposed improvements. Said plan must include a line which encircles the total area of proposed land disturbance and the approximate area of disturbance must be calculated (square feet). The Planning Board and/or Town Wetland Inspector may require additional materials, information, reports and plans, as determined necessary, to review and evaluate the proposed action. If the proposed action requires a Planning Board Wetland Permit, the application materials outlined under §217-7 of the Town Code must be submitted, unless waived by the Planning Board. The Planning Board may establish an initial escrow deposit to cover the cost of application/plan review and inspections conducted by the Town's consultants.

**For administrative wetland permits, see attached Administrative Wetland Permit Fee Schedule.**

Owner Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## TOWN OF LEWISBORO PLANNING BOARD

79 Bouton Road, South Salem, NY 10590  
Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)  
Tel: (914) 763-5592 Fax: (914) 875-9148

### Tax Payment Affidavit Requirement

*This form must accompany all applications to the Planning Board.*

*Under regulations adopted by the Town of Lewisboro, the Planning Board may not accept any application unless an affidavit from the Town of Lewisboro Receiver of Taxes is on file in the Planning Board office. The affidavit must show that all amounts due to the Town of Lewisboro as real estate taxes and special assessments on the total area encompassed by the application, together with all penalties and interest thereon, have been paid.*

*Under New York State law, the Westchester County Clerk may not accept any subdivision map for filing unless the same type of affidavit from the Town of Lewisboro Receiver of Taxes is submitted by the applicant at the time of filing.*

This form must be completed by the applicant and must accompany all applications to the Planning Board. Upon receipt, the Planning Board Secretary will send the form to the Receiver of Taxes for signature and notarization. If preferred, the applicant may directly obtain the signature of the Receiver of Taxes and notarization prior to submission.

#### To Be Completed by Applicant (Please type or print)

SUSAN MORRISSEY MORRISSEY - 10 HOYT  
Name of Applicant Project Name

Property Description Property Assessed to: 239 CENTRAL PARK WEST

Tax Block(s): 11172 SUSAN MORRISSEY APT 8A  
Tax Lot(s): 005 Name 10 HOYT STREET NY, NY 10024  
Tax Sheet(s): 036C Address SOUTH SALEM NY 10590  
City LEWISBORO State Zip

The undersigned, being duly sworn deposes and says that a search of the tax records in the office of the Receiver of Taxes, Town of Lewisboro, reveals that all amounts due to the Town of Lewisboro as real estate taxes and special assessments, together with all penalties and interest thereon, affecting the premises described below, have been paid.

Signature - <sup>Deputy</sup> Receiver of Taxes: Ann Bant 10/25/22  
Date

Sworn to before me this 25 day of October, 2022

Janet L. Donohue  
Signature - Notary Public (affix stamp)

JANET L. DONOHUE  
NOTARY PUBLIC, STATE OF NEW YORK  
No. 01DO6259627  
Qualified in Westchester County  
Commission Expires April 16, 2020

# TOWN OF LEWISBORO PLANNING BOARD

79 Bouton Road, South Salem, NY 10590

Email: [planning@lewisborogov.com](mailto:planning@lewisborogov.com)

Tel: (914) 763-5592

Fax: (914) 875-9148

## Affidavit of Ownership

State of: NEW YORK

County of: WEST CHESTER

SUSAN MORRISSEY, being duly sworn, deposes and says that he/she  
resides at 10 HOYT Street 239 CENTRAL PARK W  
in the County of ~~WEST CHESTER~~ NEW YORK State of NEW YORK  
and that he/she is (check one) ☒ the owner, or ☐ the \_\_\_\_\_  
of \_\_\_\_\_ Title  
\_\_\_\_\_  
*Name of corporation, partnership, or other legal entity*

which is the owner, in fee of all that certain log, piece or parcel of land situated, lying and being in the  
Town of Lewisboro, New York, aforesaid and know and designated on the Tax Map in the Town of  
Lewisboro as:

Block 11172, Lot 005, on Sheet 036C.

Susan Morrissey  
Owner's Signature

Sworn to before me this

2 day of October, 2022

KARL LEWIS  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01LE6360247  
Qualified in Bronx County  
My Commission Expires 06-19-2025

Karl Lewis  
Notary Public - affix stamp



**ALP Engineering**  
& Landscape Architecture, PLLC

November 18, 2022

Hon. Janet Andersen, Chairwoman and Members of the Planning Board  
Town of Lewisboro  
79 Bouton Road  
South Salem, NY 10590

**Re: 10 Hoyt Street**  
**Sheet 036C, Block 11172, Lot 005**  
**Application for Wetland Activity Permit and Stormwater Management Permit**

Dear Chairwoman Andersen and Members of the Planning Board:

We are pleased to submit four (4) copies of the following drawings and report in support of this application by Susan Morrissey, owner of the property located at 10 Hoyt Street for Wetlands and Stormwater Management Permits:

<u>Drawing No.:</u>	<u>Drawing Title:</u>	<u>Date:</u>
Dwg. C-101	Stormwater Management Plan	11/18/2022
Dwg. C-102	Erosion and Sediment Control Plan	11/18/2022
Dwg. C-103	Demolition and Removals Plan	11/18/2022
Dwg. C-111	Erosion and Sediment Control Plan Details	11/18/2022
Dwg. C-112	Construction Details	11/18/2022

Also enclosed are four copies of the drawing entitled "Topographic Survey Prepared for Susan Morrissey, prepared by TC Merritts Land Surveyors, dated February 10, 2022.

Previously for the submission with the Environmental Questionnaire and Wetland Permit forms, we had submitted two copies of the Stormwater Management Report, dated 10/12/2022.

Also previously, we had submitted the following permit applications and supporting documentation. Figures 2 and 3 have been updated for this submission:

- Exhibit 1, Existing Condition Impervious Surfaces, 09/30/2022.
- Exhibit 2, Future Condition Impervious Surfaces, 11/18/2022.
- Exhibit 3, Wetland Buffer Impacts, dated 11/18/2022.





The Affidavit of Ownership Form and Tax Payment Affidavit Requirement form have been submitted the applicant / owner previously.

This application is being made for a Wetland Permit in order to construct a sunroom/porch addition to the existing residence on the property. A new stone terrace is also being proposed in the rear yard to replace the existing gravel walk/patio and wood steps to grade in the back of the house.

With the proposed modifications to the house and site, the impervious surfaces on the project site will increase from 3,458 square feet to 3,773 square feet, or a total increase of 315 square feet.

Existing Conditions - The 10 Hoyt Street property is 11,739.577 square feet (0.270 acres) in size and is located on the south side of Hoyt Street. The property is shaped roughly like a trapezium, with 58.48 feet of frontage on Hoyt Street. Existing residential properties are located to the west and east, as well as to the north. Truesdale Lake is to the south. At present, there is an L-shaped frame residence in the north central portion of the property, with driveway access on the east side of the house. The subject property is zoned R-1/4A, One Family Residence ¼ acre minimum lot area. At present, there are 3,458 square feet of impervious surfaces on the property (see **Figure 1**).

The house obtains its potable water from the Truesdale Lake Property Owner's Association wells and distribution system. There is a septic system in the rear yard consisting of a 1,000 gallon septic tank and leaching trenches, all of which were located in the field by Cassese Construction.

The regulated wetland (Truesdale Lake) is located generally to the south of the property (a portion of the lake lies within the subject property). The wetland boundary was identified (but not flagged) since the property has a concrete retaining wall which along its boundary. The wetland boundary coincides with the lake-facing concrete wall according to Mary Jaehnig, who delineated the wetland boundary on 01/26/2022.

The Town 150-foot wetland buffer encompasses the entire lot, including all of the existing house. Most of the property features the typical residential landscape of lawn, trees and shrubs.

Project Proposal - It is proposed to remove the following (see drawing C-100): (i) the gravel walk which serves as a patio space in the rear yard; (ii) existing stone walls and steps off the rear "patio" space, and (iii) existing stone steps which provides access to the gravel walk.





New construction includes: (i) a 272 square foot sunroom/porch on the rear façade of the house, (ii) a new 395-foot stone terrace replacing the gravel walk noted above, (iii) a new wall and steps from the stone terrace to grade, (iv) a small extension of the existing driveway to the south to house an enclosed bin for trash and recyclables, and (v) new stone steps from the driveway up to the sunroom/porch. With the proposed construction, the amount of impervious surfaces will increase to 3,749 square feet (see **Figure 2**).

Wetland Permit Application – Since the entire subject lot lies within the Town regulated wetland buffer, any modifications on the property will require a permit from the Town. Therefore, all of the proposed construction will take place within the Town regulated 150-foot buffer.

At present, the impacts within the wetland buffer total 3,458 square feet consisting of the house, driveway, walls, patio, steps, etc. (see **Figure 3**). The new impact to the wetland buffer will total 1,000 square feet. The new impacts include the new sun room / porch addition, extension to the driveway, walkways, addition to the existing patio space, and the stormwater management area.

To mitigate the impact, it is proposed to remove existing lawn in the southern portion of the property and replace it with native understory trees, shrubs and herbaceous species in order to create a riparian buffer between the residential landscape of the house and the lake (see **Sheet C-101** for the location of the proposed mitigation area). The proposed mitigation areas are located on the east side and west side of the property. The easterly mitigation area covers 425 square feet; the westerly mitigation area would cover 710 square feet, for a total of 1,135 square feet, for a ratio of mitigation area to impacted wetland buffer of 1.13 to 1.

Stormwater Permit Application – As is noted above, the project will result in an increase in impervious surfaces amounting to 315 square feet. At present, the runoff from the entire property, including the house and driveway is conveyed across the lawn in the rear yard and discharges into the lake without any treatment whatsoever.

In order to provide management of the increase in flows from the property from the new impervious surfaces, it is proposed to convey runoff from portion of the existing house roof to a stormwater management practice to consist of 5 Cultec 180HD chambers in the northern portion (i.e. front yard) of the property. The chambers will provide peak rate attenuation of the flows as well as treatment of runoff from the impervious surfaces which will convey flows to the practice.

The proposed wetland mitigation area will also provide some treatment of the runoff from the yard, including the existing driveway, since runoff from the driveway is conveyed to the



existing concrete swale which runs along the eastern property line. This runoff will now be directed into a planted mitigation area, instead of across an existing lawn.

We look forward to your review of the plans and applications. If you have any questions regarding this submission, please feel free to call me on my direct line at (475) 215-5343 or my cell at (203) 710-0587, or by email at [alan@eaec-inc.com](mailto:alan@eaec-inc.com).

Sincerely,

ALP ENGINEERING & LANDSCAPE ARCHITECTURE, PLLC

A handwritten signature in black ink, appearing to read "Alan L. Pilch". The signature is fluid and cursive, with a large initial "A" and "P".

Alan L. Pilch, P.E.,/R.L.A.  
Principal

cc: Susan Morrissey (via email)  
Darren Mercer, Architect (via email)



PLANT LIST FOR MITIGATION AREA

Botanical Name	Common Name
Amelanchier canadensis	Shadblow
Arctostaphylos uva-ursi	Bearberry
Betula nigra	River Birch
Carex pensylvanica	Pennsylvania Sedge
Clethra alnifolia	Summersweet Clethra
Comptonia peregrina	Sweetfern
Dennstaedtia punctiloba	Hay Scented Fern
Fothergilla gardenii	Dwarf Fothergilla
Ilex verticillata	Winterberry
Itea virginica	Virginia Sweetspire
Juniperus horizontalis 'Bar Harbor'	Bar Harbor Juniper
Juniperus horizontalis 'Wiltonii'	Wilton Juniper
Sambucus canadensis	Elderberry
Schizachyrium scoparium	Little Bluestem



SITE LOCATION MAP

NOTES:

1. WETLAND BUFFER IMPACTS ARE CALCULATED TO BE 961 SQUARE FEET.
2. FOR MITIGATION OF THESE IMPACTS, IT IS PROPOSED TO REMOVE EXISTING LAWN AND PLANT THESE AREAS WITH NATIVE TREES, SHRUBS AND HERBACEOUS SPECIES. THE AREA OF THE PROPOSED MITIGATION COVERS 1,135 SQUARE FEET.

LEGEND

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- WATER VALVE
- FENCE
- CHAIN LINK FENCE
- EXISTING STONE WALL
- WETLAND BUFFER

PROPERTY OWNER:  
Susan Morrissey  
8A 239 Central Park West  
New York, NY 10024

CONSULTANTS:  
ARCHITECT:  
Darren P. Mercer, Architect, PLLC  
32 Flintlock Ridge Road  
Katonah, NY 10536  
Tel: (914) 391-4490

SURVEYOR:  
TC Merritts Land Surveyors  
394 Bedford Road  
Pleasantville, NY 10570  
Tel: (914) 769-8003

ISSUED:

Submission to Planning Board 11/18/2022

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SEAL:



PROJECT NAME:  
**MORRISSEY RESIDENCE**  
10 Hoyt Street  
South Salem, New York 10590

ENGINEER & LANDSCAPE ARCHITECT:  
**ALP ENGINEERING & LANDSCAPE ARCHITECTURE, PLLC**  
P.O. Box 843 Ridgefield, CT 06877  
Direct Tel: (475) 215-5343 Cell (203) 710-0587

Drawing Title:

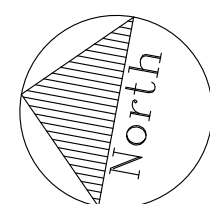
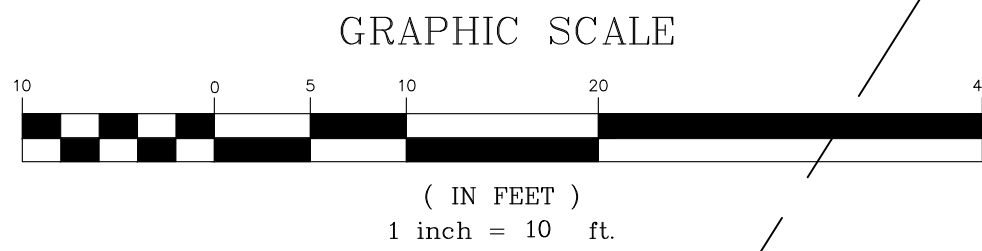
**Site Plan**

Date: October 12, 2022

Own. by: alp

ID: 10 Hoyt St Site\_11-18-2022

**C-101**





EROSION & SEDIMENT  
CONTROL PLAN LEGEND

- SF SILT FENCE  
CF CONSTRUCTION/TREE  
PROTECTION FENCE  
SS SOIL STOCKPILE  
CW CONCRETE WASHOUT  
CM CONSTRUCTION MATERIALS STORAGE  
LD LIMIT OF DISTURBANCE LINE  
SP STEEL PLATE  
IP INLET PROTECTION  
CA CONSTRUCTION ACCESS ROUTE

NOTES:

- DISTURBANCE AREA IS CALCULATED TO BE 3,350 SQUARE FEET (0.077 ACRES).
- TWO AREAS OF PLANTED MITIGATION ARE PROPOSED. AREA #1 IS 425 SQUARE FEET IN SIZE. AREA #2 IS 710 SQUARE FEET IN SIZE FOR A TOTAL AREA OF 1,135 SQUARE FEET. THE RATIO OF PLANTED MITIGATION TO IMPACTS IN THE WETLAND BUFFER IS 1.18 TO 1.
- DISTURBANCE LIMITS SHALL BE STAKED IN THE FIELD PRIOR TO CONSTRUCTION BY A QUALIFIED PROFESSIONAL.

LEGEND

- PROPERTY LINE  
--- EXISTING CONTOUR  
--- PROPOSED CONTOUR  
+502.0 PROPOSED SPOT GRADE  
W WATER VALVE  
--- FENCE  
--- CHAIN LINK FENCE  
--- EXISTING STONE WALL  
--- WETLAND BUFFER

PROPERTY OWNER:  
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New York, NY 10024

CONSULTANTS:

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Tel: (914) 391-4490

SURVEYOR:  
TC Merritts Land Surveyors  
394 Bedford Road  
Pleasantville, NY 10570  
Tel: (914) 769-8003

ISSUED:

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SEAL:



PROJECT NAME:  
**MORRISSEY RESIDENCE**  
10 Hoyt Street  
South Salem, New York 10590

ENGINEER & LANDSCAPE ARCHITECT:  
**ALP ENGINEERING**  
& LANDSCAPE ARCHITECTURE, PLLC

P.O. Box 843 Ridgefield, CT 06877  
Direct Tel: (475) 215-5343 Cell (203) 710-0587

Drawing Title:

**Erosion and Sediment  
Control Plan**

Date: October 12, 2022

Dwn. by: alp

ID: 10 Hoyt St Site\_11-18-2022

C-102

HOYT STREET

50' WIDE RIGHT OF WAY

UP Pole

CATCHBASIN  
RIM=526.35

Asphalt Swale

DRAIN INLET  
RIM=526.01

Stormwater Management Practice  
5 Cultiac 180HD chambers  
Top of Chambers 520.20  
Bottom of Chambers 518.50  
Stone Invert 518.00

Asphalt Drive

Stone Pier (typ.)

Concrete Swale

Stone Masonry Retaining Wall

Asphalt Drive

Stone Pier (typ.)

Concrete Swale

Stone Masonry Retaining Wall

Asphalt Drive

Stone Pier (typ.)

Concrete Swale

Stone Masonry Retaining Wall

Asphalt Drive

Stone Pier (typ.)

Concrete Swale

Stone Masonry Retaining Wall

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Stone Masonry Retaining Wall

Asphalt Drive

Stone Pier (typ.)

Concrete Swale

Stone Masonry Retaining Wall

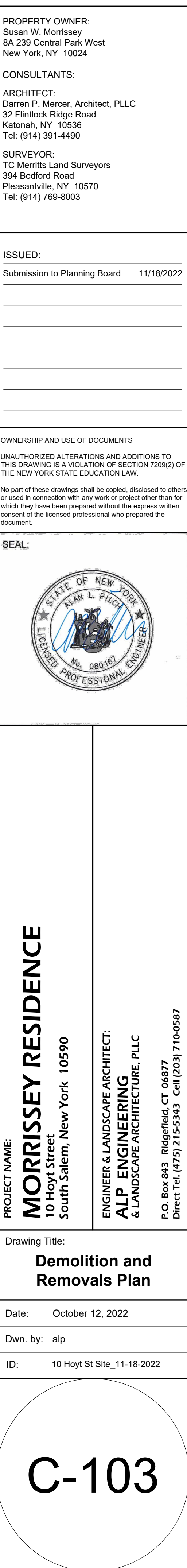
Asphalt Drive

Stone Pier (typ.)

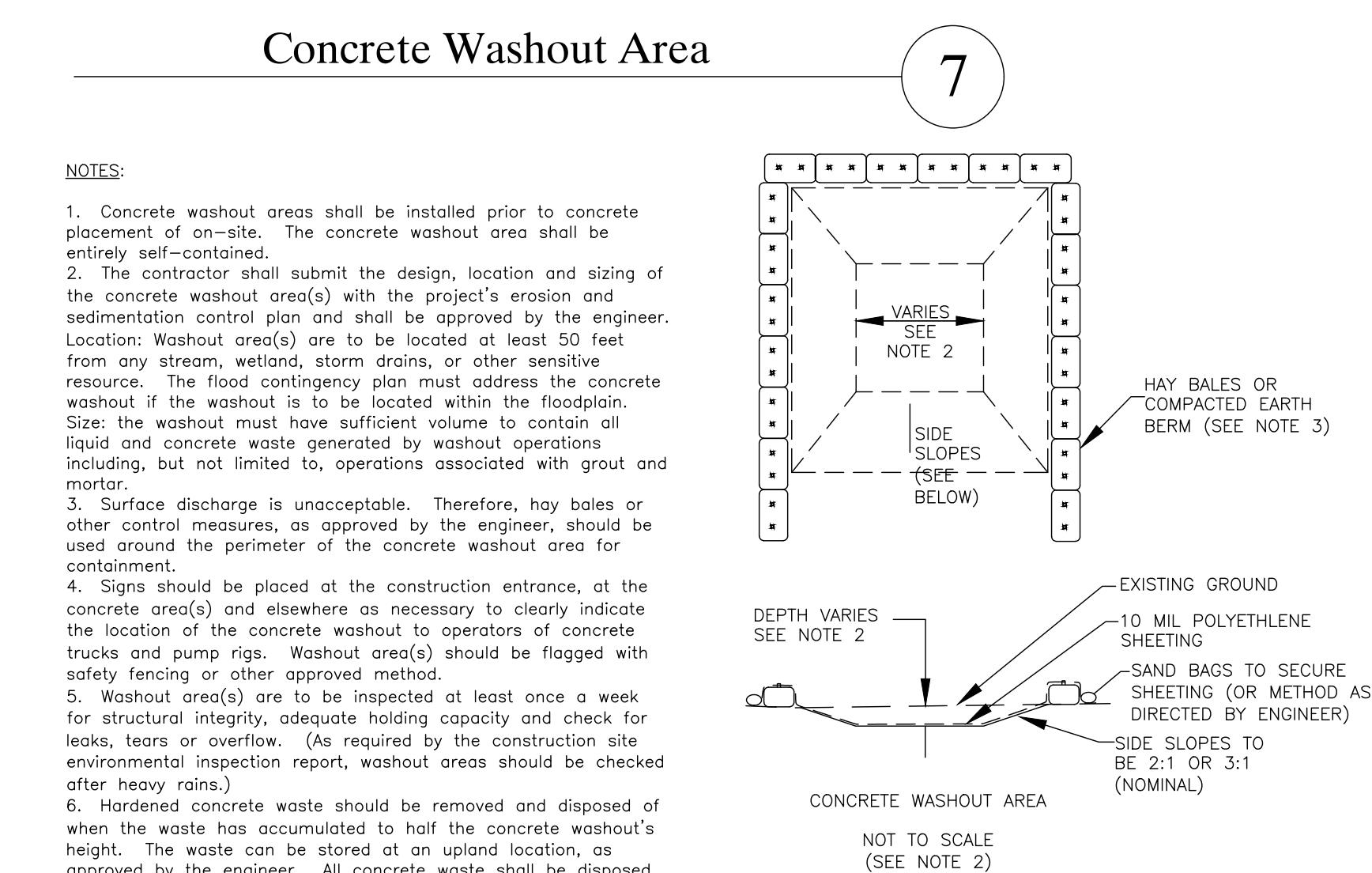
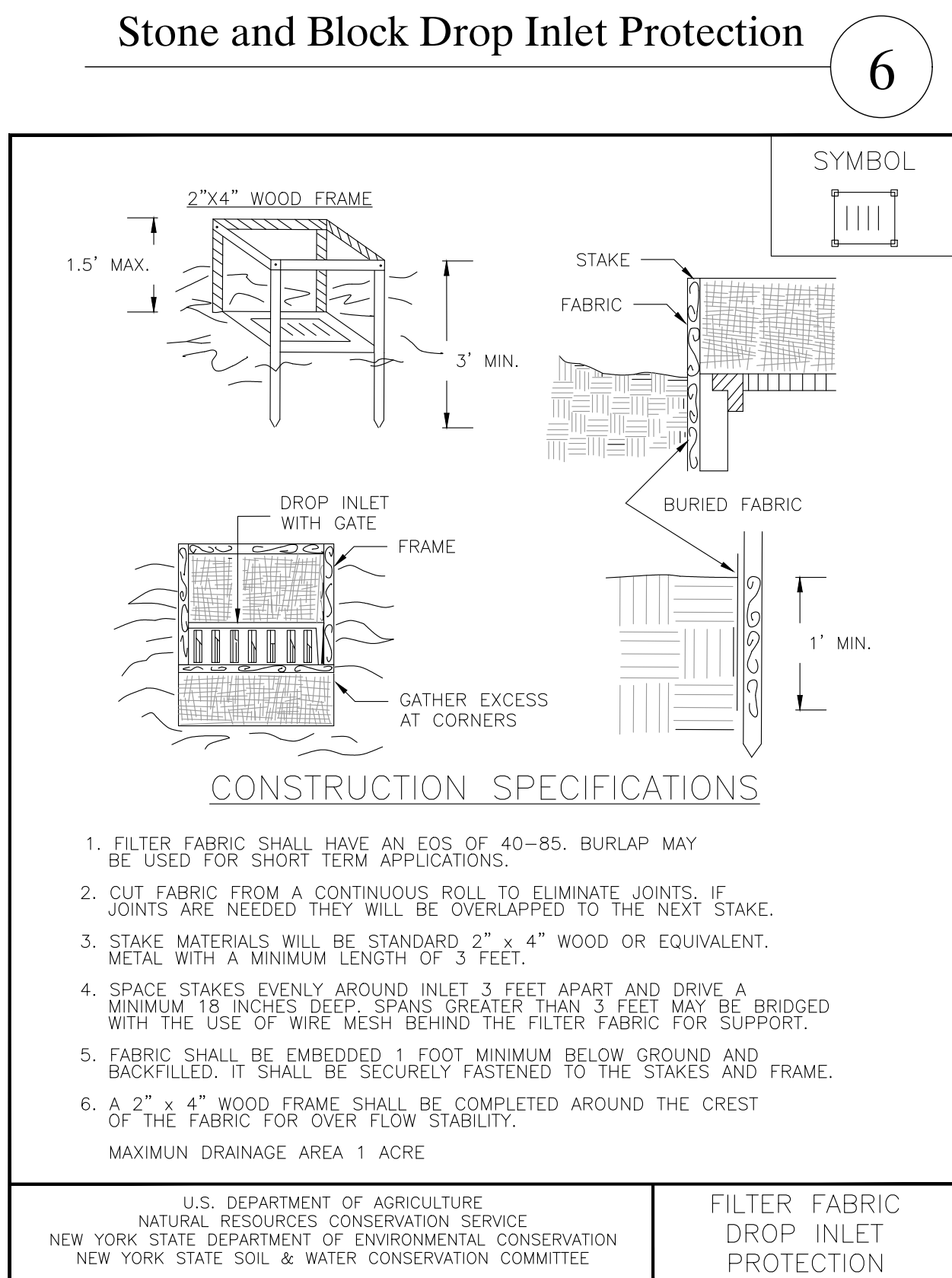
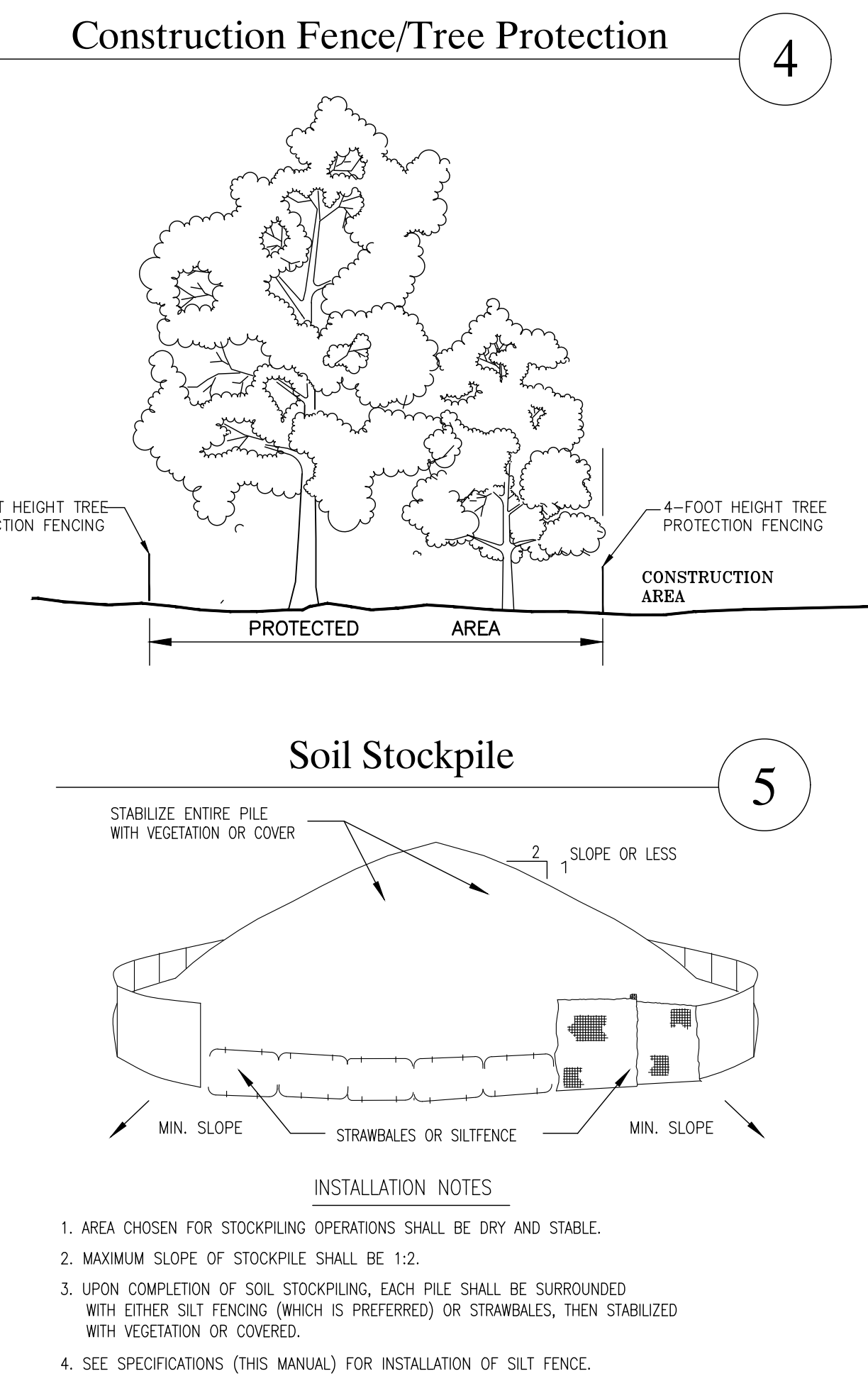
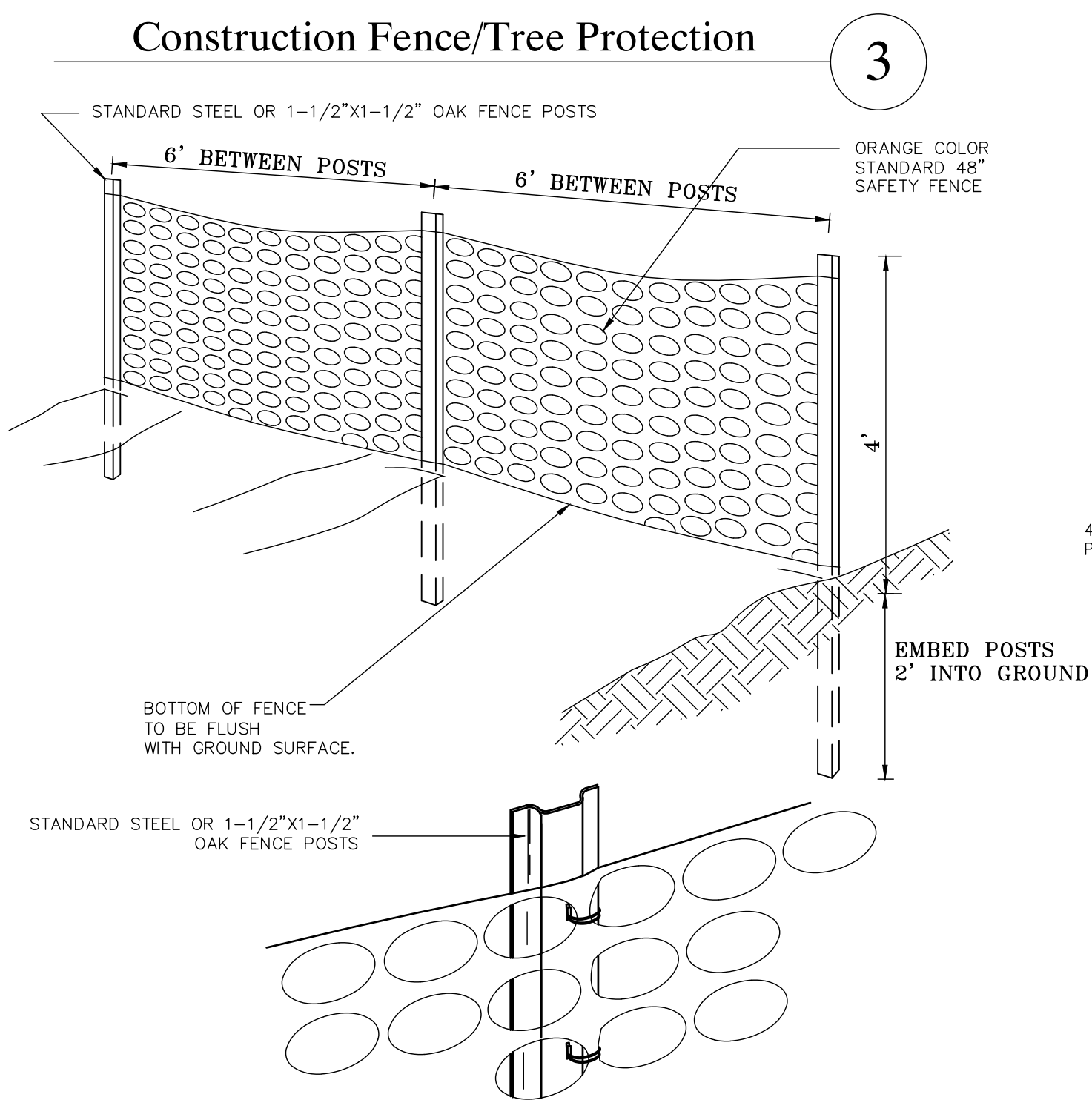
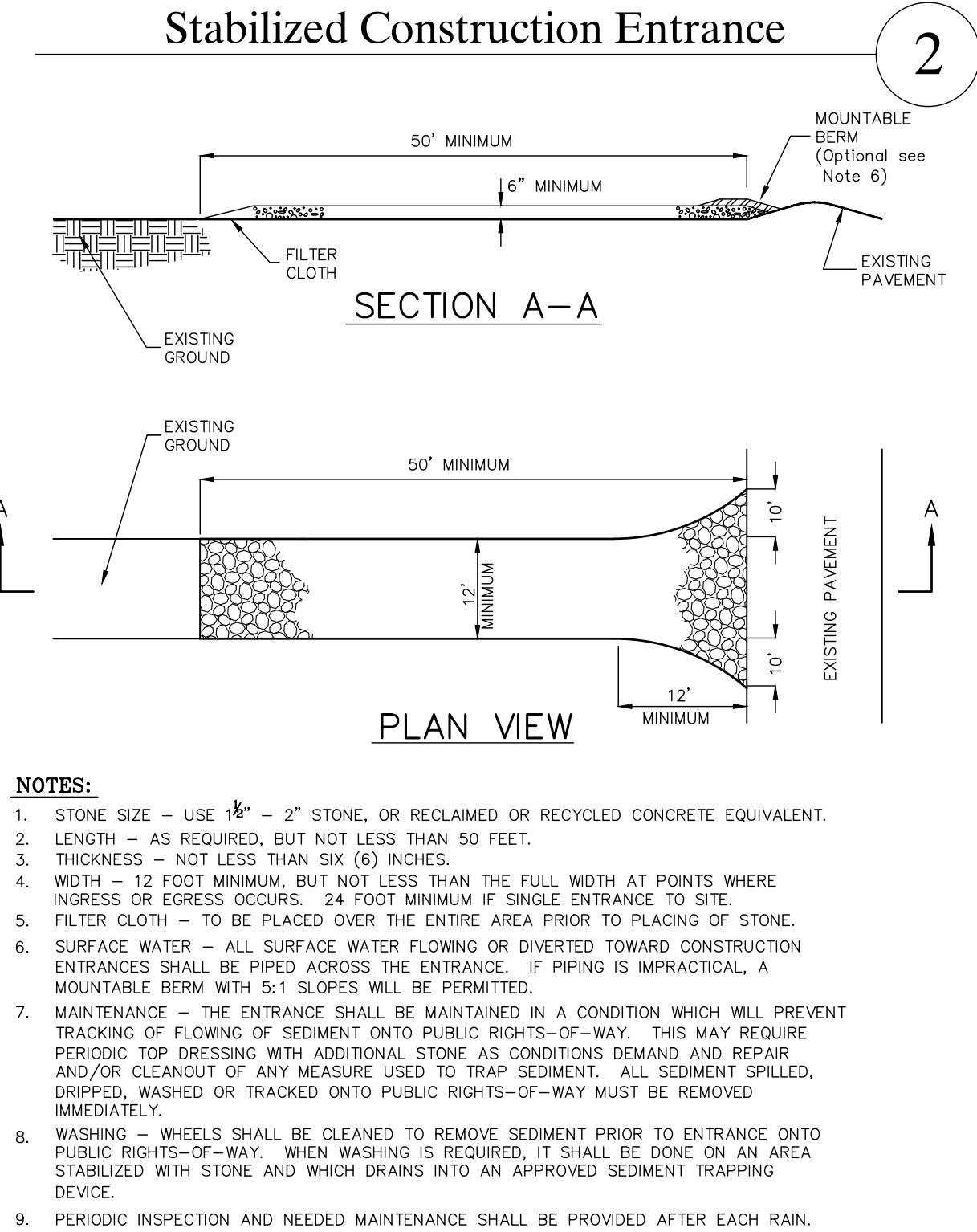
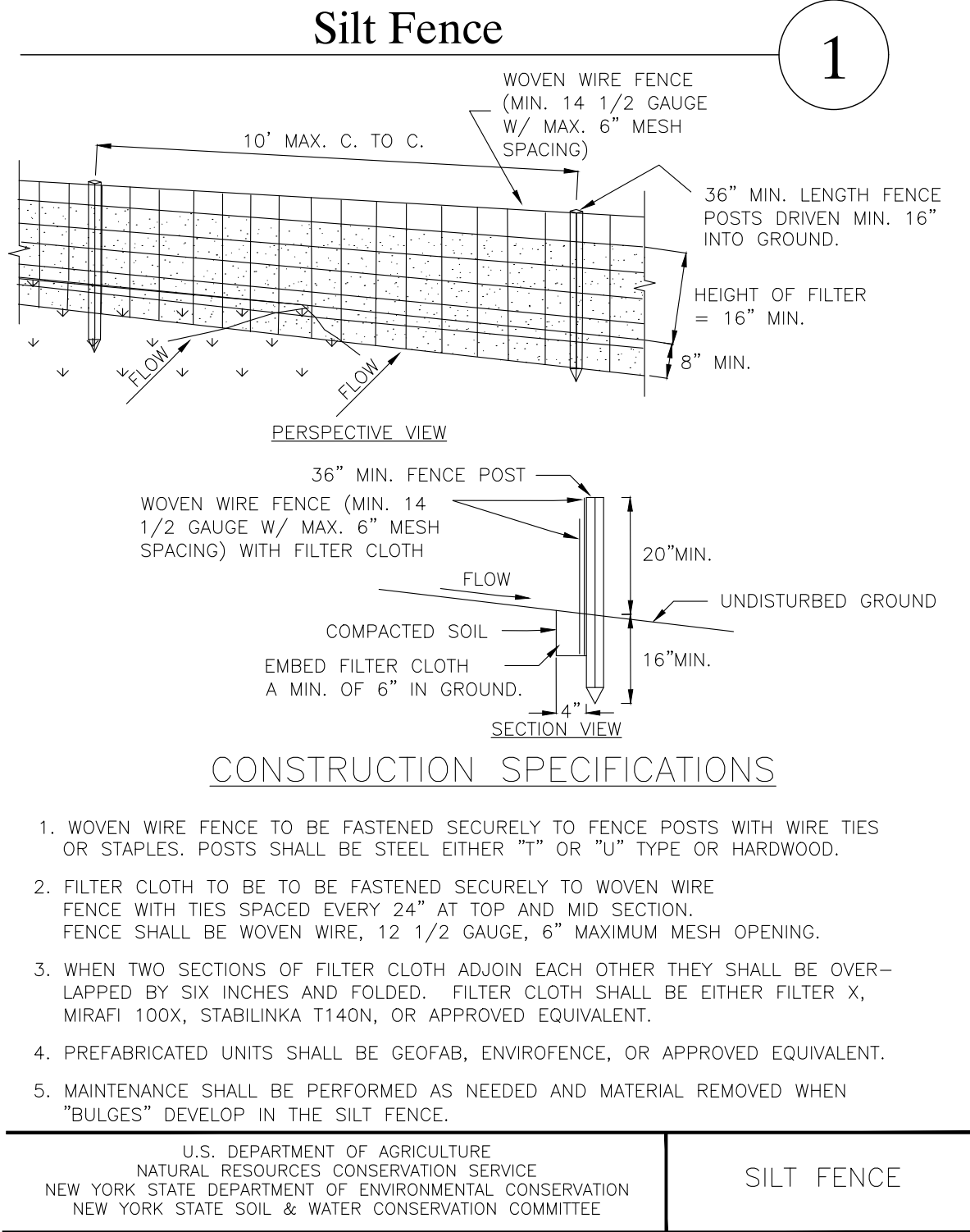
Concrete Swale

Stone Masonry Retaining Wall









PROPERTY OWNER:  
Susan Morrissey  
8A 239 Central Park West  
New York, NY 10024

CONSULTANTS:

ARCHITECT:  
Darren P. Mercer, Architect, PLLC  
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Katonah, NY 10536  
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ISSUED:

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10 Hoyt Street  
South Salem, New York 10590

ENGINEER & LANDSCAPE ARCHITECT:  
**ALP ENGINEERING & LANDSCAPE ARCHITECTURE, PLLC**  
P.O. Box 843 Ridgefield, CT 06877  
Direct Tel: (475) 215-5343 Cell (203) 710-0587

Drawing Title:

**Construction Details**

Date: October 12, 2022

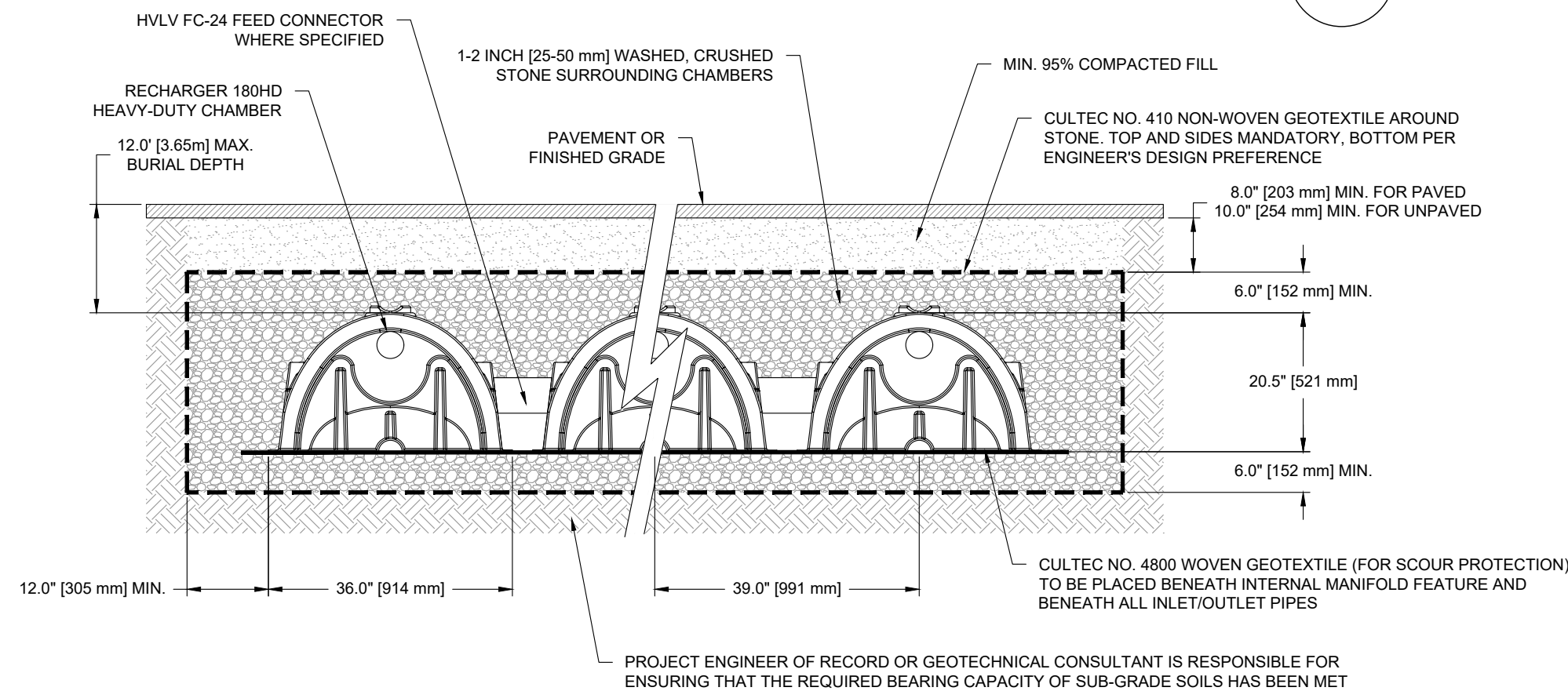
Dwn. by: alp

ID: 10 Hoyt St Site\_11-18-2022

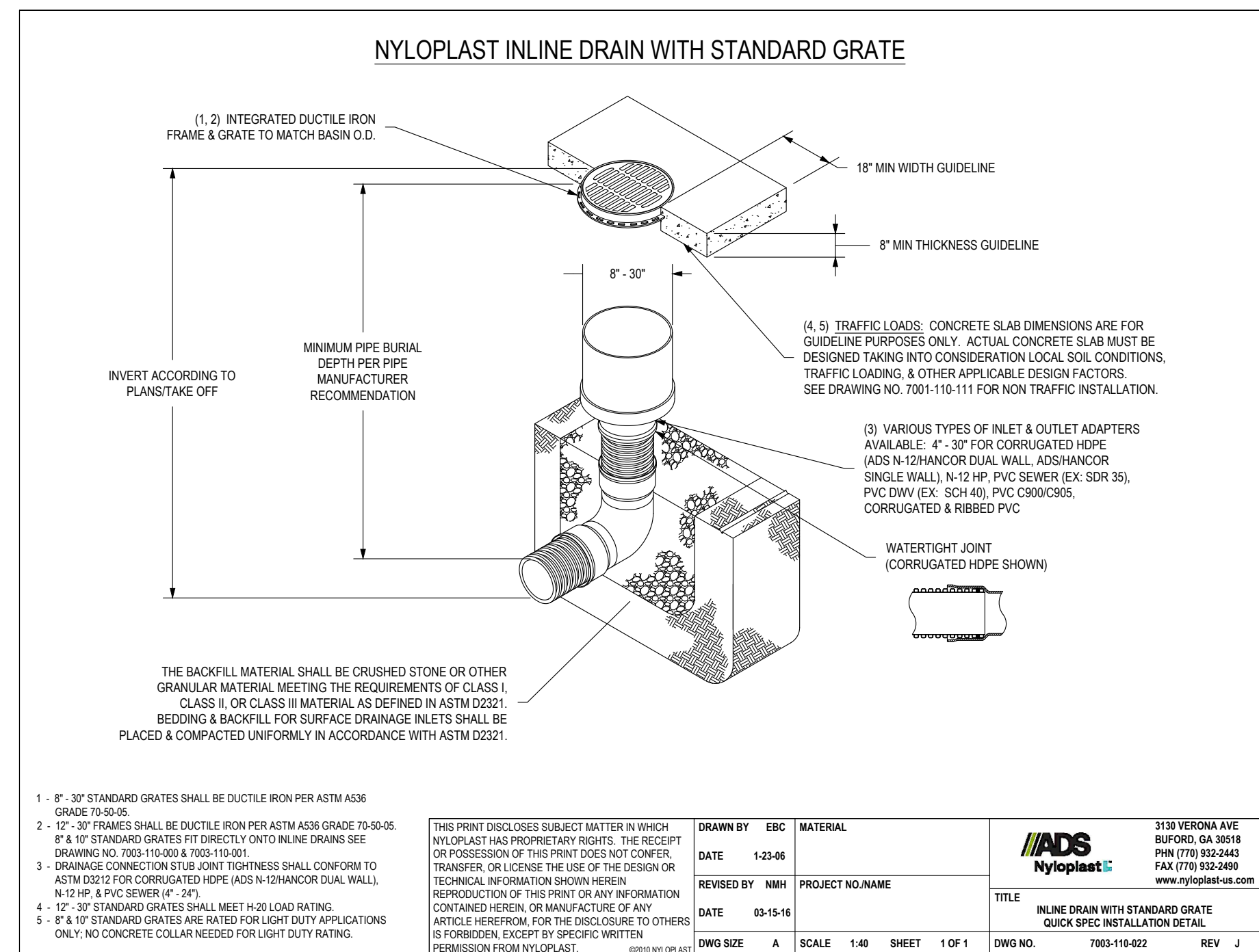
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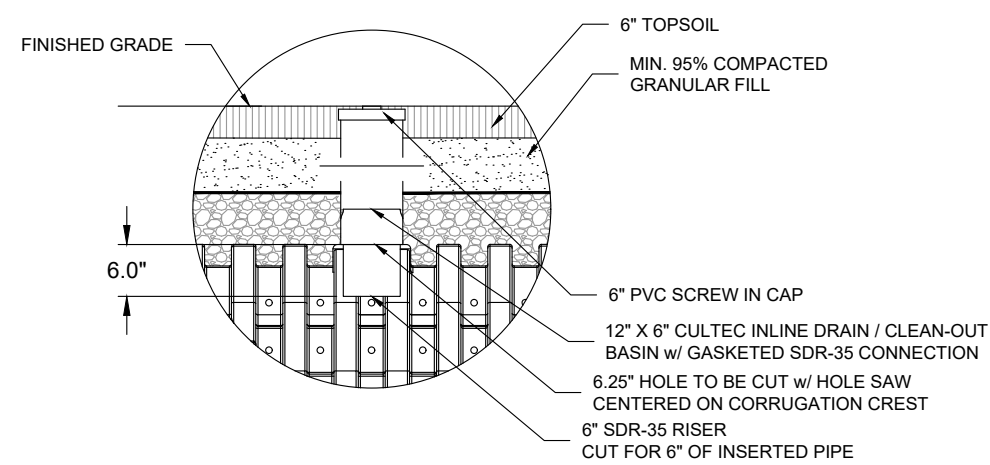
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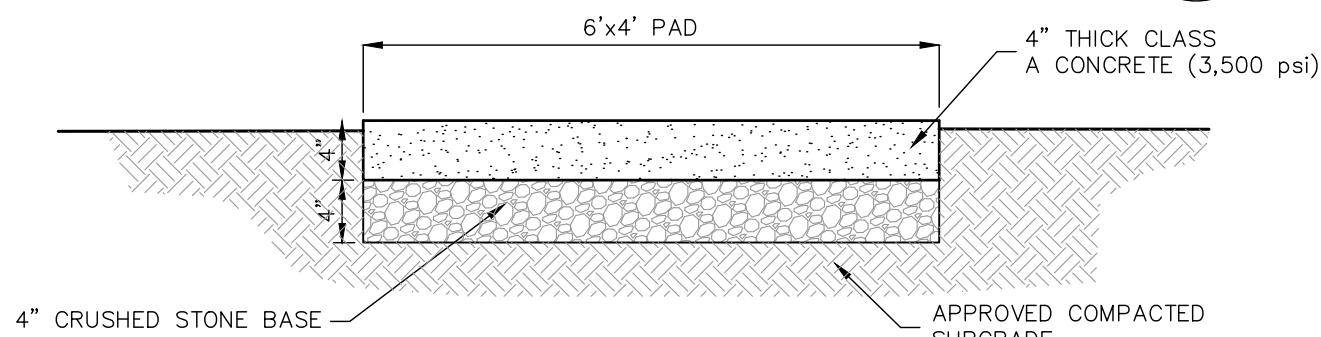
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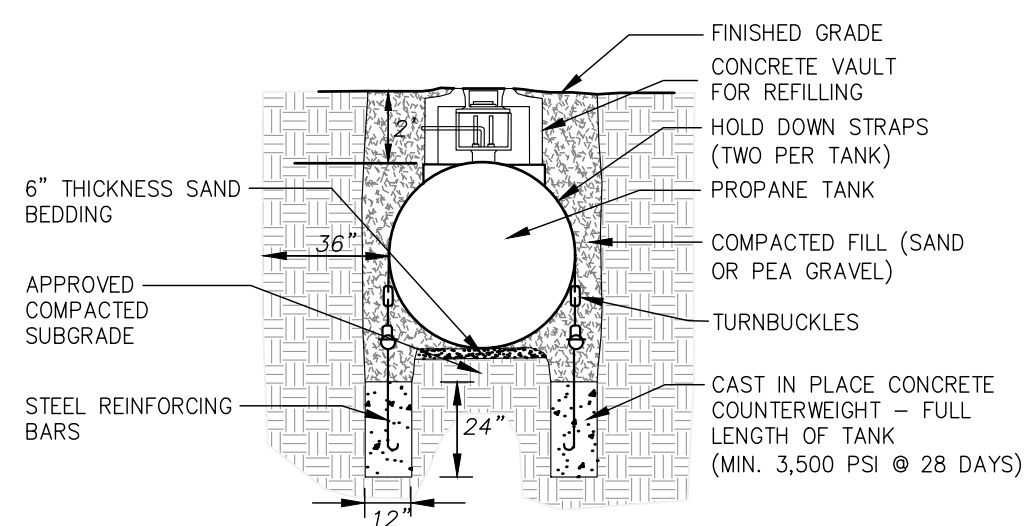
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## 5



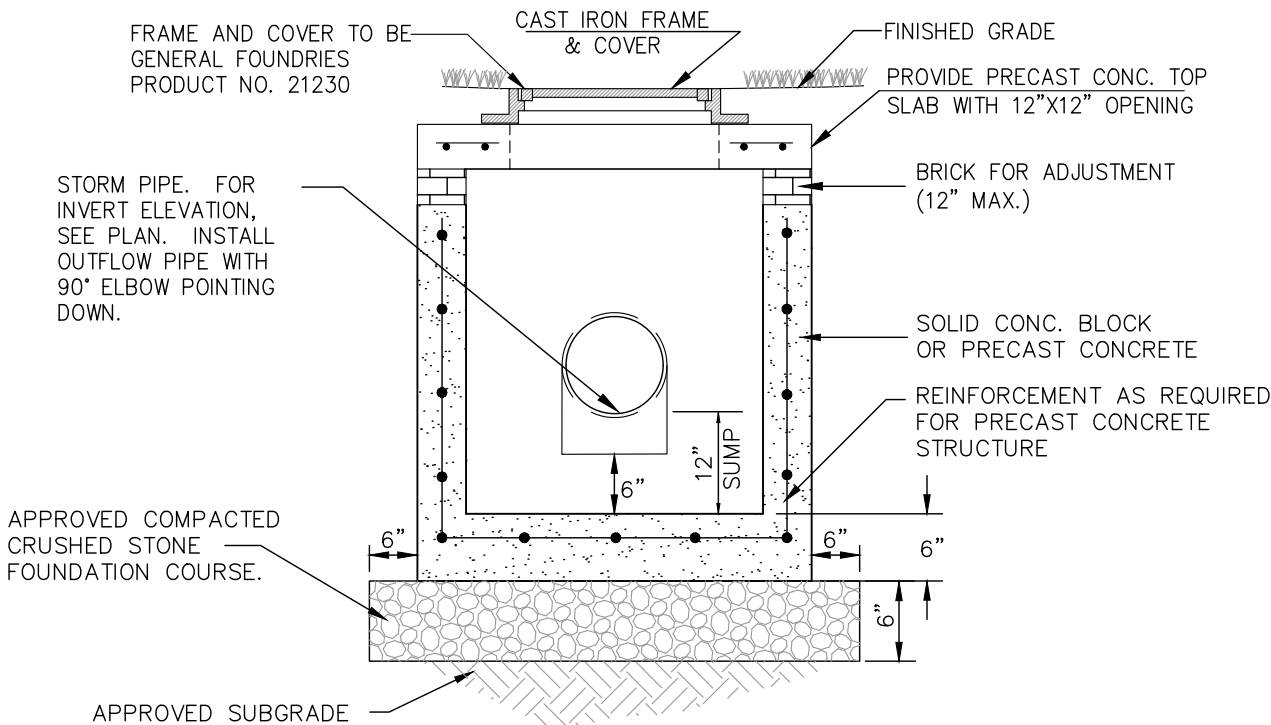
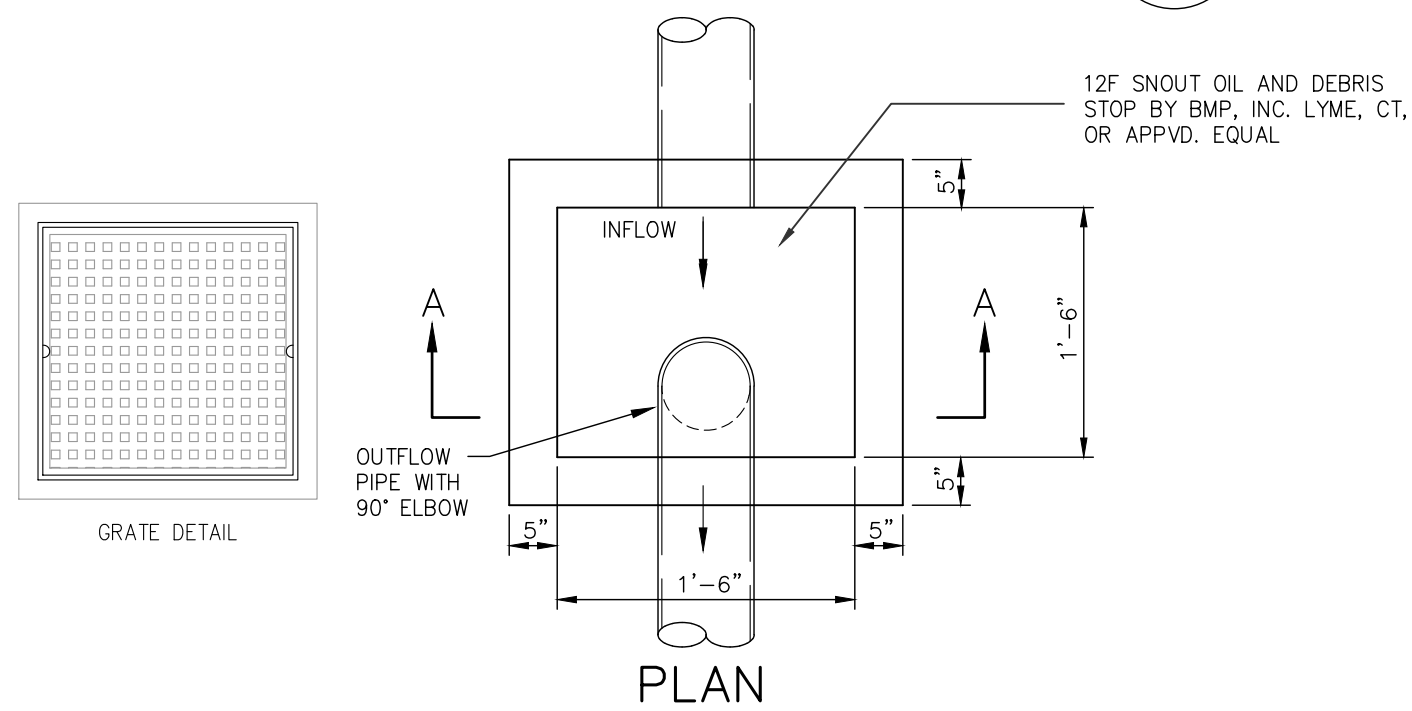
## 6



NOTE:

1. INSTALLATION OF TANK MUST MEET ALL TANK MANUFACTURER REQUIREMENTS, UTILITY COMPANY REQUIREMENTS AND OSHA REGULATIONS.
2. REFILLING APPURTENANCES SHALL BE IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS.

## 3



SECTION A-A

NOTES

1. CONCRETE: 4,000 PSI @ 28 DAYS.
2. REINFORCING: AS PER ASTM A-185 6"x6" W4/W4 W.W.M.
3. SNOUT INSTALLATION ON STORM PIPE EXITING THE CATCH BASIN STRUCTURE ONLY.

PROPERTY OWNER:  
Susan Morrissey  
8A 239 Central Park West  
New York, NY 10024

CONSULTANTS:

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SEAL:



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& LANDSCAPE ARCHITECTURE, PLLC

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Drawing Title:

## Construction Details

Date: October 12, 2022

Dwn. by: alp

ID: 10 Hoyt St Site\_11-18-2022

C-112



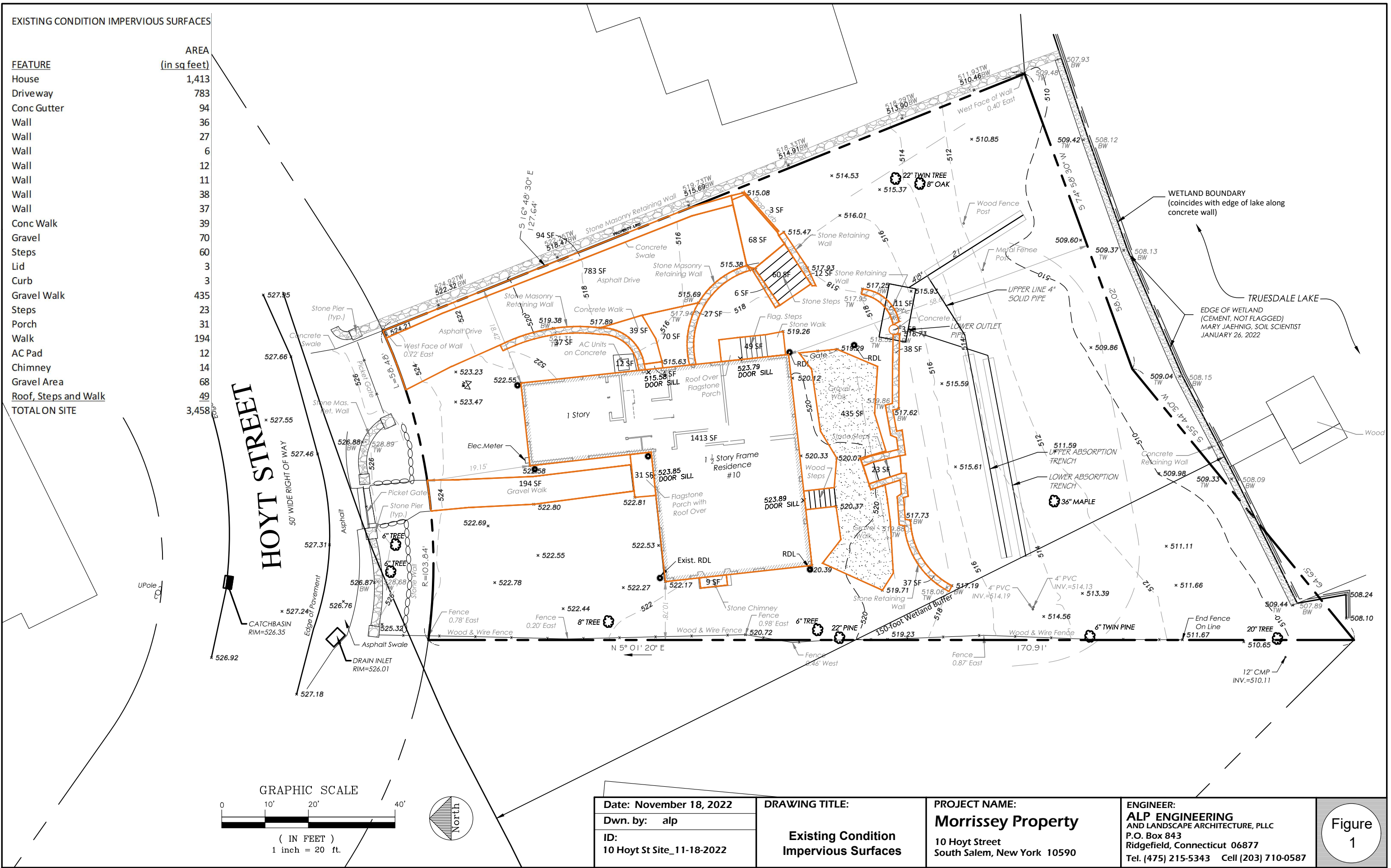


Figure 1

FUTURE CONDITION IMPERVIOUS SURFACES

FEATURE	AREA (in s.f.)
House	1,413
Driveway	983
Sunroom/Porch	272
Terrace	394
Conc Gutter	103
Wall	37
Wall	34
Wall	7
Wall	4
Wall	11
Trash Enclosure	18
Conc Walk	117
Wall/Steps	75
Lid	3
Walk	194
Porch	31
AC Pads	12
Generator Pad	24
Chimney	14
Window well	27
TOTAL	3,773

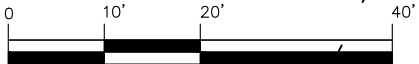
CHANGE (INCREASE)

315

HOYT STREET

50' WIDE RIGHT OF WAY

GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.



Date: November 18, 2022

Dwn. by: alp

ID:  
10 Hoyt St Site\_11-18-2022

DRAWING TITLE:

Future Condition  
Impervious Surfaces

PROJECT NAME:

Morrissey Property

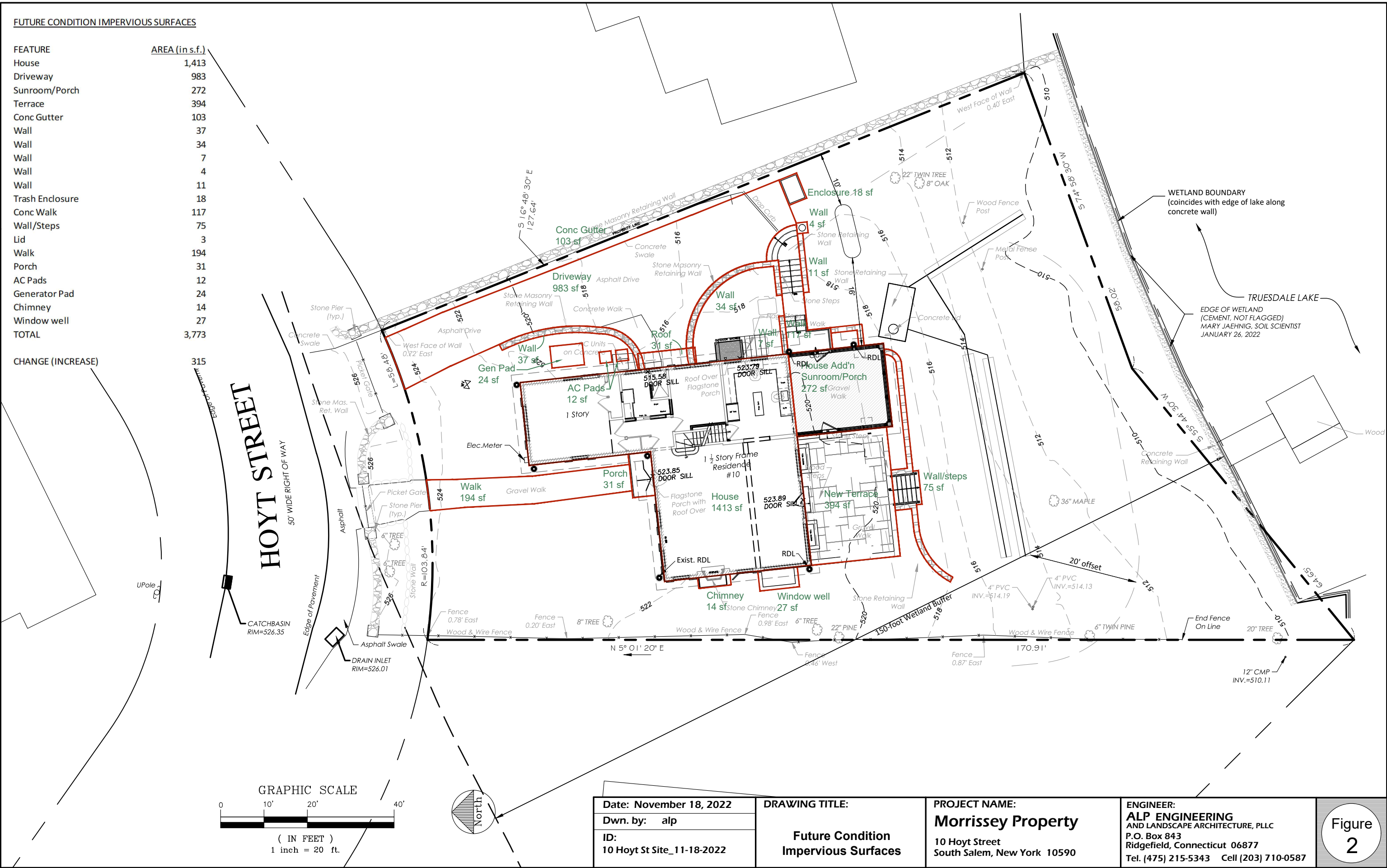
10 Hoyt Street  
South Salem, New York 10590

ENGINEER:

ALP ENGINEERING  
AND LANDSCAPE ARCHITECTURE, PLLC

P.O. Box 843  
Ridgefield, Connecticut 06877  
Tel. (475) 215-5343 Cell (203) 710-0587

Figure  
2



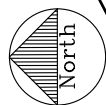
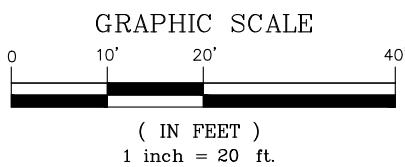


### EXISTING WETLAND BUFFER IMPACTS

FEATURE	AREA (in s. f.)
House	1,413
Driveway	783
Conc Gutter	94
Wall	36
Wall	27
Wall	6
Wall	12
Wall	11
Wall	38
Wall	37
Conc Walk	39
Gravel	70
Steps	60
Lid	3
Curb	3
Gravel Walk	435
Steps	23
Porch	31
Walk	194
AC Pad	12
Chimney	14
Gravel Area	68
<u>Roof, Steps and Walk</u>	<u>49</u>
TOTAL	3,458

## NEW WETLAND BUFFER IMPACTS

<u>NEW WETLAND BUFFER IMPACTS</u>	<u>AREA (in s.f.)</u>
Driveway (extension)	47
Enclosure	18
Steps & Landing/Sun Room	295
Walk	24
Wall	23
Generator Pad	24
Terrace (added to ex patio)	52
Window Well	27
Stormwater Management	451
Roof Drain Leader	3
<u>Roof Drain Leader</u>	<u>36</u>
<b>TOTAL</b>	<b>1000</b>



Date: November 18, 2022
Dwn. by: alp
ID: 10 Hoyt St Site_11-18-2022

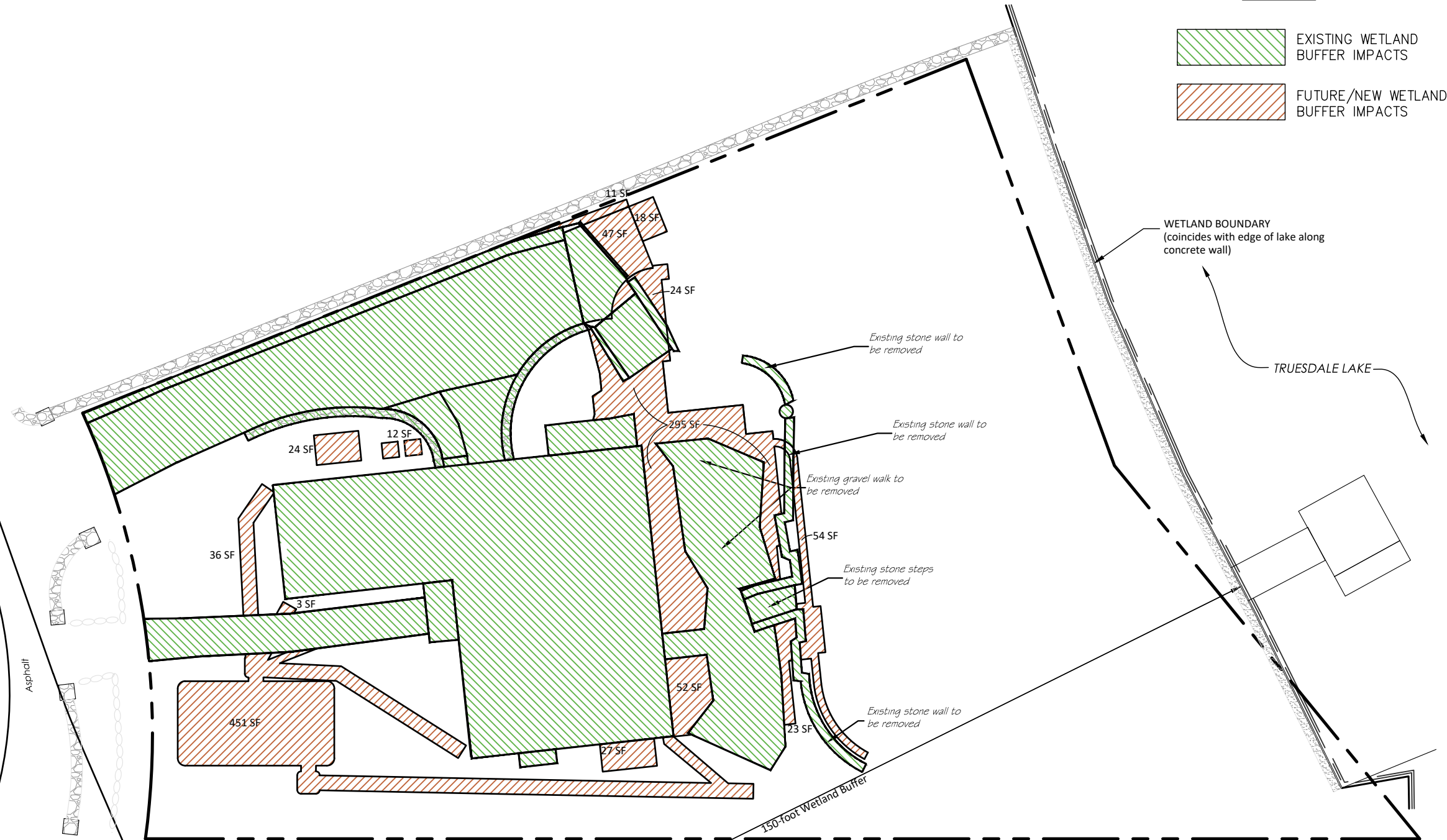
**DRAWING TITLE:**

**Existing and New Wetland  
Buffer Impacts**

**PROJECT NAME:**  
**Morrissey Property**  
10 Hoyt Street  
South Salem, New York 10590

**ENGINEER:**  
**ALP ENGINEERING**  
AND LANDSCAPE ARCHITECTURE, PLLC  
P.O. Box 843  
Ridgefield, Connecticut 06877  
Tel. (475) 215-5343 Cell (203) 710-0587

Figure 3



**STORMWATER MANAGEMENT REPORT  
FOR 10 HOYT STREET  
SOUTH SALEM, NEW YORK**

Rev. Date: October 12, 2022

PREPARED BY: ALAN L. PILCH, PE, RLA  
ALP ENGINEERING & LANDSCAPE ARCHITECTURE, PLLC

Report Contents:

- 1) Existing Site Conditions
- 2) Stormwater Management Design Criteria and Plan
- 3) Stormwater Analysis
- 4) Stormwater Modeling – Peak Rate Attenuation

Figures

Supporting Documentation

Appendix A Hydrographs and Routings

---

This Stormwater Management Report is submitted in support of the application of the owners of the above-noted property, Susan White Morrissey, for the construction of a sunroom / porch addition to the house, as well as a stone patio in the rear yard.

1) Existing Site Conditions:

The subject property is 11,739.577 square feet (0.270 acres) in size and is located on the south side of Hoyt Street. The property is shaped roughly like a trapezium, with 58.48 feet of frontage on Hoyt Street. Existing residential properties are located to the west and east, as well as to the north. Truesdale Lake is to the south. At present, there is an L-shaped frame residence in the north central portion of the property, with driveway access on the east side of the house. The subject property is zoned R-1/4A, One Family Residence ¼ acre minimum lot area. The house obtains its potable water from the Truesdale Lake Property Owner's Association wells and distribution system. There is a septic system in the rear yard consisting of a 1,000 gallon septic tank and leaching trenches, all of which were located in the field by Cassese Construction.

The regulated wetland (Truesdale Lake) is located generally to the south of the property (a portion of the lake lies within the subject property).

The Town 150-foot wetland buffer encompasses the entire lot, including all of the existing house. Most of the property features the typical residential landscape of lawn, trees and shrubs. The property is located in the Waccabuc River Basin. Lake Truesdale discharges to Lake Waccabuc. The Waccabuc River flows into the Cross River, which eventually flows into the Cross River Reservoir.

*Soils* - According to the Web Soil Survey (Soil Survey of Putnam and Westchester Counties), two soil types are found on the property. These include Paxton fine sandy loam, 8 to 15 percent slopes over the entire property with the exception of the extreme southeast corner, where Ridgebury complex, 3 to 8 percent slopes are found (see **Figure 2**). Disturbance for construction is only proposed in the area of Paxton fine sandy loam soils; these soils are in hydrologic group C.

Paxton fine sandy loam soils consist of fine sandy loam and gravelly fine sandy loam. The depth to the restrictive feature is typically 20 to 39 inches below grade.

## 2) Stormwater Management Design Criteria and Plan

All of the runoff from the site discharges to Truesdale Lake. The stormwater management plan for the property has been designed to meet the requirements of the Town of Lewisboro. To this end, the project will provide peak rate attenuation for all storm events up to the 25-year storm in subsurface chambers.

The runoff from the northern portion of the house, an area of 871 square feet of roof (about 62% of the roof area) will be conveyed in storm drainage pipes to a subsurface stormwater management facility to consist of five Cultec 180HD chambers. The chambers will be located in the front yard in a level lawn area of that portion of the property.

## 3) Stormwater Analysis

The following describes the existing and future condition drainage areas that were modeled for this SWPPP report.

Existing Condition – In the existing condition, one drainage areas was defined as follows (see **Exhibit 1**).

*Existing Condition Drainage Area #1 (XDA-1)* is 13,121 square feet in area and consists of the entire property, from the edge of pavement of Hoyt Street to the wall on the north side of Truesdale Lake. Runoff from this drainage area is conveyed to the south, discharging into Truesdale Lake. A curve number of 82 was calculated for this drainage area.

Future Condition - The following describes the two future condition drainage areas that were analyzed (see **Exhibit 2**).

*Future Condition Drainage Area #1 (FDA-1)* is 871 square feet in size and encompasses the roof area of the northern portion of the house. A curve number of 98 was determined for this drainage area. As noted above, the runoff from this drainage area will be directed into five Cultec 180HD chambers.

*Future Condition Drainage Area #2 (FDA-2)* is 12,250 square feet in area and consists of the remainder of the drainage area which conveys runoff to the Design Line. This drainage area consist of mostly lawn areas (71% of the drainage area), as well as unconnected impervious

surfaces, including but not limited to the rest of the house, driveway, patio and house addition. A curve number of 81 was calculated for this drainage area.

#### 4) Stormwater Modeling – Peak Rate Attenuation

The peak rate of runoff has been calculated for the 1-year through 25-year storm events. The analysis was performed in accordance with the methodology of the United States Department of Agriculture Soil Conservation Service (now Natural Resources Conservation Service) publication *Urban Hydrology for Small Watersheds, Technical Release 55 (TR-55)*, 1986. To calculate the peak rate of runoff, the following information used in the analysis: (i) Runoff depths for the 24-hour design storms used in the calculations were as follows: 2.84" for the one-year storm, 3.41" for the 2-year storm, 5.09" for the ten-year storm, and 6.40" for the 25-year storm, based on the data from the Northeast Regional Climate Center for the property; (ii) A 24-hour rainfall duration was used in calculating the hydrographs, (iii) a Type III storm distribution was used in the analysis. Finally, hydrographs and pond routings were created using the computer program *HydroCAD* (ver. 10.20-2f), by HydroCAD Software Solutions, LLC.

The proposed chambers will be installed to provide peak rate attenuation (and water quality treatment) of the runoff from drainage area FDA-1. The analysis shows that for all modeled storm events to the design line, the peak rate of runoff is *less than or equal to the existing peak rate of runoff*.

**Table 1**, Peak Rates of Runoff summarizes the peak rates of flow at the design point in the existing and future conditions for the modeled storms.

**Table 1. Peak Rates of Runoff to Design Line**

(all flows in cubic feet per second)

<i>Drainage Area/ Storm Interval</i>	<i>1 year</i>	<i>2 year</i>	<i>10 year</i>	<i>25 year</i>
<i>Existing Condition</i>				
<i>Flows to Design Line</i>	0.44	0.60	1.11	1.52
<i>Future Condition</i>				
<i>Flows to Design Line</i>	0.32	0.46	0.92	1.29

The calculations also show that the chambers would contain a volume of 209.2 cubic feet at the discharge elevation (the horizontal grate). This volume is well in excess of the 70 cubic feet which is the water quality volume of the new impervious surfaces.



5) Summary:

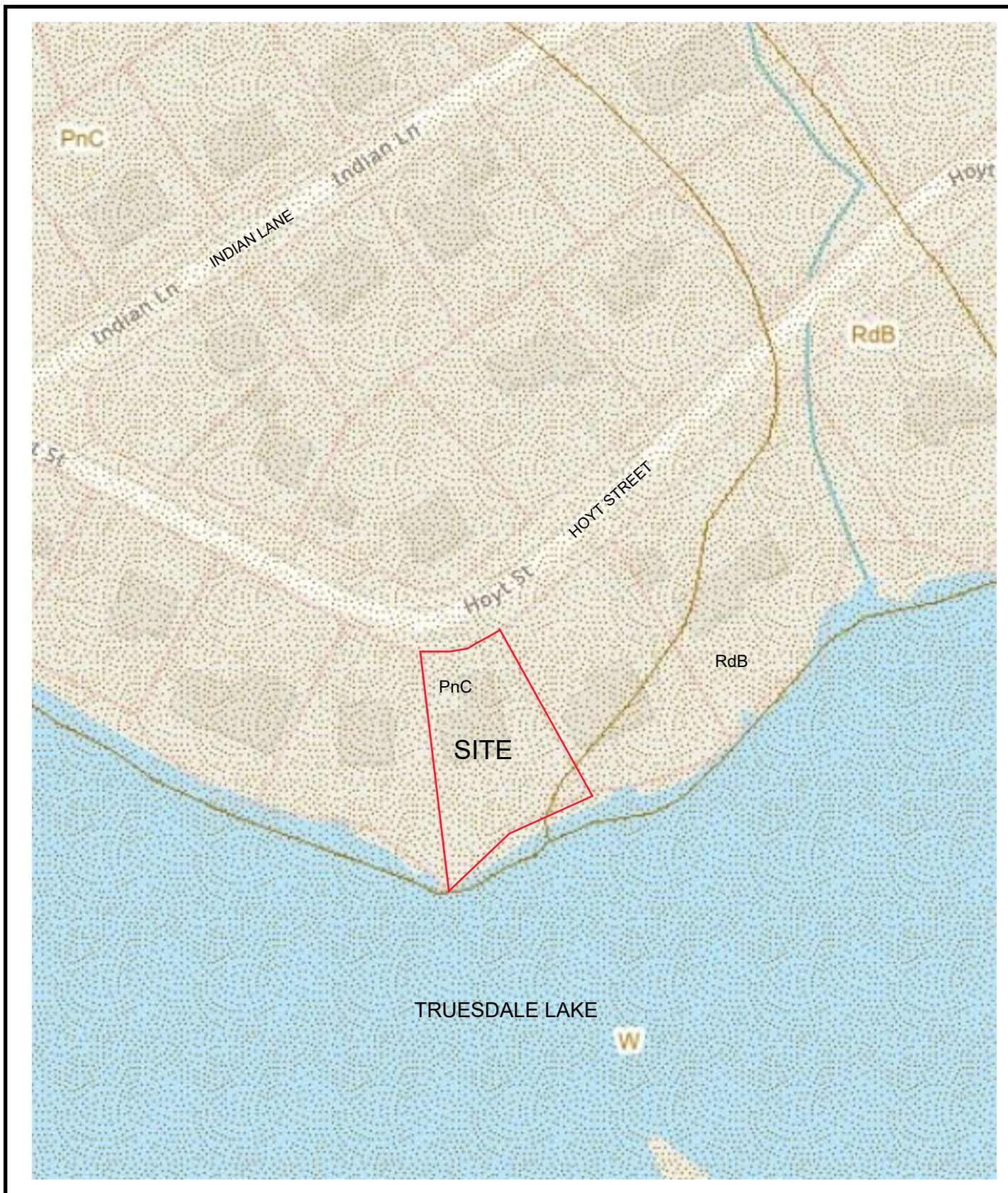
The proposed stormwater management facility to consist of a 5 Cultec 280HD chambers which will provide peak rate attenuation of runoff across all of the modeled storm events.

## ***FIGURES***



Figure 1  
***SITE LOCATION MAP***  
Scale: Not to Scale





**LEGEND:**

PnC—Paxton fine sandy loam, 8 to 15 percent slopes  
RdB—Ridgebury complex, 3 to 8 percent slopes

*Figure 2*

**SOILS MAP**

*Scale: Not to Scale*

## ***SUPPORTING DOCUMENTATION***

**Table 1**  
**10 Hoyt Street**  
**Water Quality Volume Calculation**

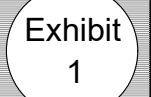
*Under the Watershed Regulations, the requirement is to capture and treat the runoff from the 1-year, 24 hour storm event which is equal to 2.82 inches of precipitation, or the water quality volume, whichever is greater. The following calculates the treatment volume of runoff from the 1-year storm (using TR-55 in accordance with the New York Stormwater Management Design Manual) and the Water Quality Volume - 1.5" of precipitation (using the 90% Rule).*

1-year, 24 hour precipitation =	<b>2.84</b>	inches
90% rule precipitation depth =	<b>1.5</b>	inches

**DRAINAGE AREA TO DESIGN LINE**

<i>Drainage Area</i>	<i>Area (in sq feet)</i>	<i>Area (in acres)</i>	<i>CN Value</i>	<i>Runoff Depth (inches)</i>	<i>1 yr, 24 hr storm Treatment Vol. (cu feet)</i>	<i>90% Rule Treatment Vol. (cu feet)</i>
<b>NEW IMPERVIOUS SURFACES</b>						
Net new impervious surfaces	322	0.007	98			
<b>TOTALS / WEIGHTED CN</b>	<b>322</b>	<b>0.007</b>	<b>98</b>	<b>2.61</b>	<b>70</b>	<b>38</b>

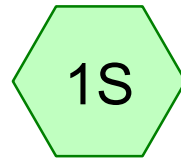






***Appendix A***

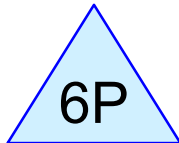
***Stormwater Management Report  
Hydrographs and Routings***



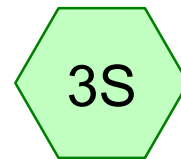
XDA-1 TO DESIGN  
LINE 1



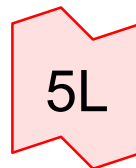
FDA-1 TO CHAMBERS



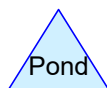
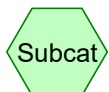
SW Chambers



FDA-2 TO DESIGN  
LINE



DESIGN LINE



Routing Diagram for 10 Hoyt St SW Mgmt\_09-30-2022

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## 10 Hoyt St SW Mgmt\_09-30-2022

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Page 2

### Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-year	Type III 24-hr		Default	24.00	1	2.84	2
2	2-year	Type III 24-hr		Default	24.00	1	3.41	2
3	10-year	Type III 24-hr		Default	24.00	1	5.09	2
4	25-year	Type III 24-hr		Default	24.00	1	6.40	2

## 10 Hoyt St SW Mgmt\_09-30-2022

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Page 3

### Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.387	74	>75% Grass cover, Good, HSG C (1S, 3S)
0.021	80	>75% Grass cover, Good, HSG D (1S, 3S)
0.020	98	Roofs, HSG C (2S)
0.174	98	Unconnected roofs, HSG C (1S, 3S)
<b>0.602</b>	<b>82</b>	<b>TOTAL AREA</b>



## 10 Hoyt St SW Mgmt\_09-30-2022

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Page 4

### Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.387	0.021	0.000	0.408	>75% Grass cover, Good	1S, 3S
0.000	0.000	0.020	0.000	0.000	0.020	Roofs	2S
0.000	0.000	0.174	0.000	0.000	0.174	Unconnected roofs	1S, 3S
<b>0.000</b>	<b>0.000</b>	<b>0.582</b>	<b>0.021</b>	<b>0.000</b>	<b>0.602</b>	<b>TOTAL AREA</b>	

**10 Hoyt St SW Mgmt\_09-30-2022***Type III 24-hr 1-year Rainfall=2.84"*

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Page 5

Time span=0.00-48.00 hrs, dt=0.02 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: XDA-1 TO DESIGN LINE** Runoff Area=13,121 sf 31.03% Impervious Runoff Depth=1.25"  
Tc=6.0 min CN=82 Runoff=0.44 cfs 0.031 af

**Subcatchment 2S: FDA-1 TO CHAMBERS** Runoff Area=871 sf 100.00% Impervious Runoff Depth=2.61"  
Tc=6.0 min CN=98 Runoff=0.05 cfs 0.004 af

**Subcatchment 3S: FDA-2 TO DESIGN LINE** Runoff Area=12,250 sf 28.76% Impervious Runoff Depth=1.02"  
Tc=6.0 min UI Adjusted CN=78 Runoff=0.32 cfs 0.024 af

**Pond 6P: SW Chambers** Peak Elev=518.67' Storage=55 cf Inflow=0.05 cfs 0.004 af  
Discarded=0.01 cfs 0.004 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.004 af

**Link 5L: DESIGN LINE** Inflow=0.32 cfs 0.024 af  
Primary=0.32 cfs 0.024 af

**Total Runoff Area = 0.602 ac Runoff Volume = 0.060 af Average Runoff Depth = 1.19"**  
**67.74% Pervious = 0.408 ac 32.26% Impervious = 0.194 ac**

### Summary for Subcatchment 1S: XDA-1 TO DESIGN LINE 1

Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 1.25"

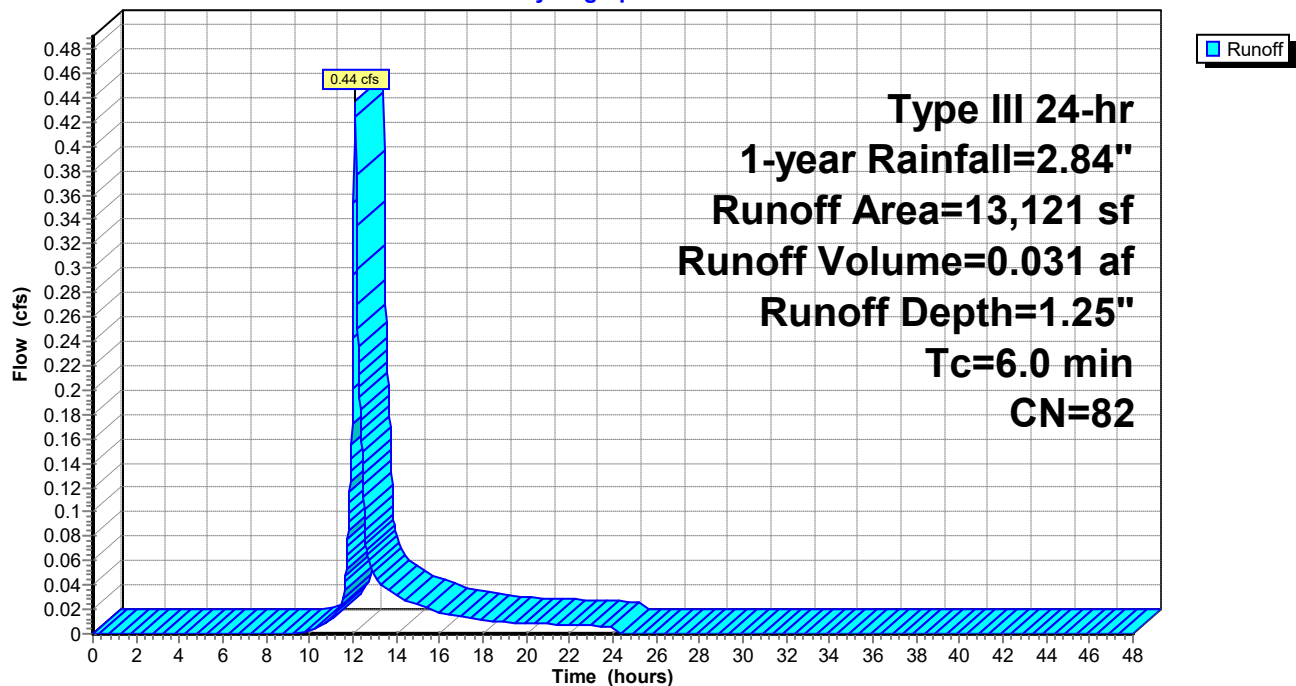
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
Type III 24-hr 1-year Rainfall=2.84"

Area (sf)	CN	Description
4,072	98	Unconnected roofs, HSG C
8,597	74	>75% Grass cover, Good, HSG C
452	80	>75% Grass cover, Good, HSG D
13,121	82	Weighted Average
9,049		68.97% Pervious Area
4,072		31.03% Impervious Area
4,072		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

### Subcatchment 1S: XDA-1 TO DESIGN LINE 1

Hydrograph



### Summary for Subcatchment 2S: FDA-1 TO CHAMBERS

Runoff = 0.05 cfs @ 12.08 hrs, Volume= 0.004 af, Depth= 2.61"  
 Routed to Pond 6P : SW Chambers

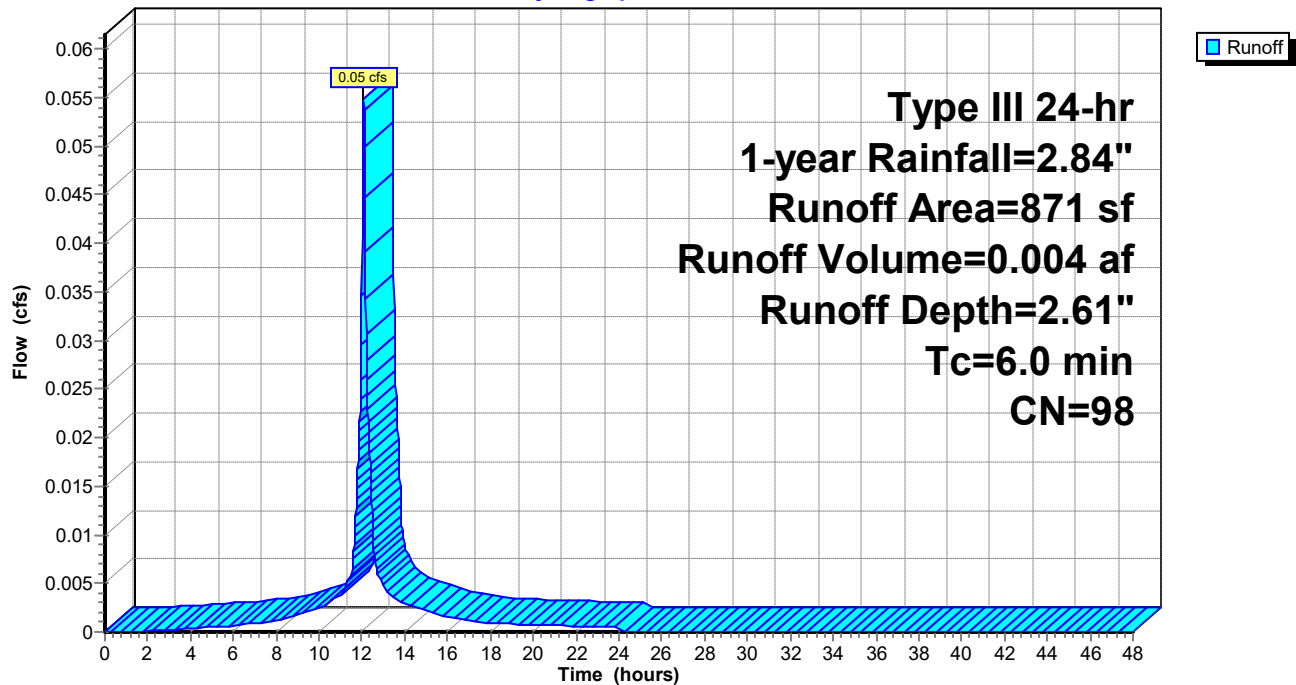
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
 Type III 24-hr 1-year Rainfall=2.84"

Area (sf)	CN	Description
871	98	Roofs, HSG C
871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

### Subcatchment 2S: FDA-1 TO CHAMBERS

Hydrograph



**Summary for Subcatchment 3S: FDA-2 TO DESIGN LINE**

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 1.02"  
 Routed to Link 5L : DESIGN LINE

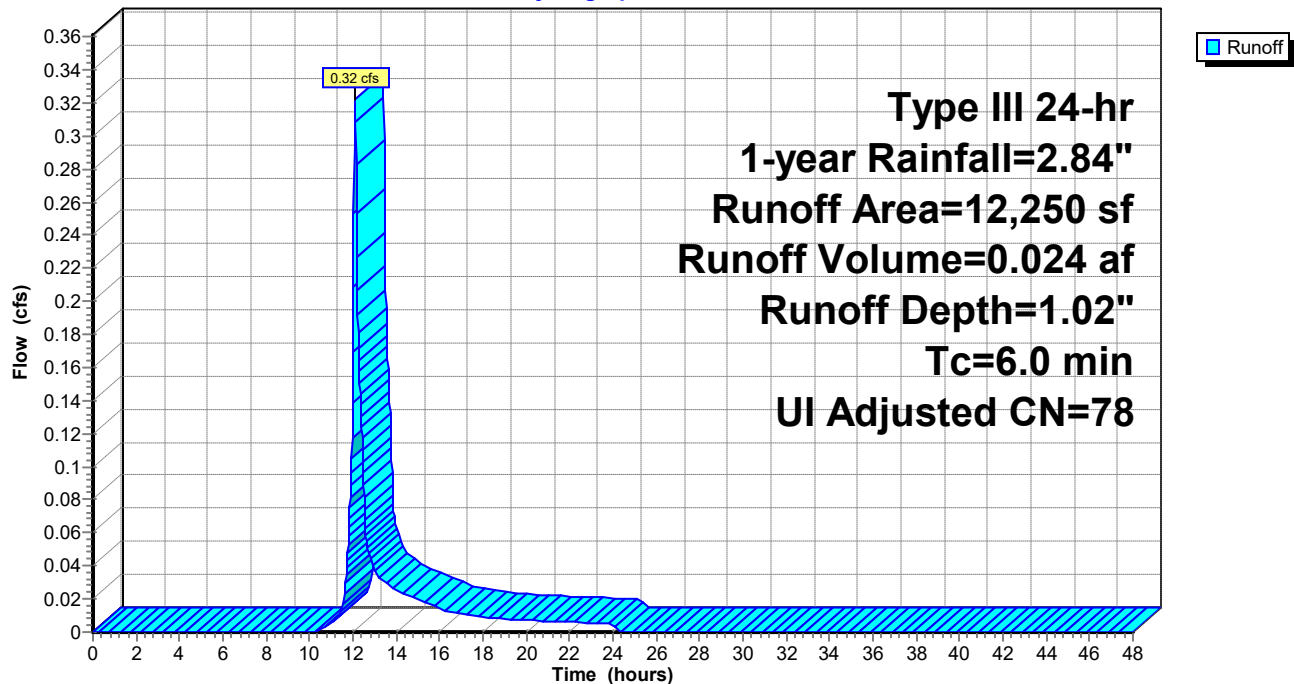
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
 Type III 24-hr 1-year Rainfall=2.84"

Area (sf)	CN	Adj	Description
3,523	98		Unconnected roofs, HSG C
8,275	74		>75% Grass cover, Good, HSG C
452	80		>75% Grass cover, Good, HSG D
12,250	81	78	Weighted Average, UI Adjusted
8,727			71.24% Pervious Area
3,523			28.76% Impervious Area
3,523			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 3S: FDA-2 TO DESIGN LINE**

Hydrograph



**Summary for Pond 6P: SW Chambers**

Inflow Area = 0.020 ac, 100.00% Impervious, Inflow Depth = 2.61" for 1-year event  
 Inflow = 0.05 cfs @ 12.08 hrs, Volume= 0.004 af  
 Outflow = 0.01 cfs @ 11.66 hrs, Volume= 0.004 af, Atten= 86%, Lag= 0.0 min  
 Discarded = 0.01 cfs @ 11.66 hrs, Volume= 0.004 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af  
 Routed to Link 5L : DESIGN LINE

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
 Peak Elev= 518.67' @ 12.58 hrs Surf.Area= 168 sf Storage= 55 cf

Plug-Flow detention time= 43.2 min calculated for 0.004 af (100% of inflow)  
 Center-of-Mass det. time= 43.1 min ( 802.1 - 759.0 )

Volume	Invert	Avail.Storage	Storage Description
#1A	518.00'	132 cf	<b>18.00'W x 9.33'L x 2.71'H Field A</b> 455 cf Overall - 126 cf Embedded = 329 cf x 40.0% Voids
#2A	518.50'	126 cf	<b>Cultec R-180</b> x 5 Inside #1 Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap Row Length Adjustment= +1.00' x 3.44 sf x 5 rows
		258 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	518.00'	<b>2.000 in/hr Exfiltration over Horizontal area</b>
#2	Primary	519.50'	<b>8.0" Round Culvert</b> L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 519.50' / 518.50' S= 0.0175 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#3	Device 2	520.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=0.01 cfs @ 11.66 hrs HW=518.03' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=518.00' (Free Discharge)

↑ **2=Culvert** ( Controls 0.00 cfs)

↑ **3=Orifice/Grate** ( Controls 0.00 cfs)



### Pond 6P: SW Chambers - Chamber Wizard Field A

**Chamber Model = Cultec R-180 (Cultec Recharger® 180HD)**

Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf

Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap

Row Length Adjustment= +1.00' x 3.44 sf x 5 rows

36.0" Wide + 3.0" Spacing = 39.0" C-C Row Spacing

1 Chambers/Row x 6.33' Long +1.00' Row Adjustment = 7.33' Row Length +12.0" End Stone x 2 = 9.33' Base Length

5 Rows x 36.0" Wide + 3.0" Spacing x 4 + 12.0" Side Stone x 2 = 18.00' Base Width

6.0" Stone Base + 20.5" Chamber Height + 6.0" Stone Cover = 2.71' Field Height

5 Chambers x 21.8 cf +1.00' Row Adjustment x 3.44 sf x 5 Rows = 126.1 cf Chamber Storage

454.8 cf Field - 126.1 cf Chambers = 328.8 cf Stone x 40.0% Voids = 131.5 cf Stone Storage

Chamber Storage + Stone Storage = 257.6 cf = 0.006 af

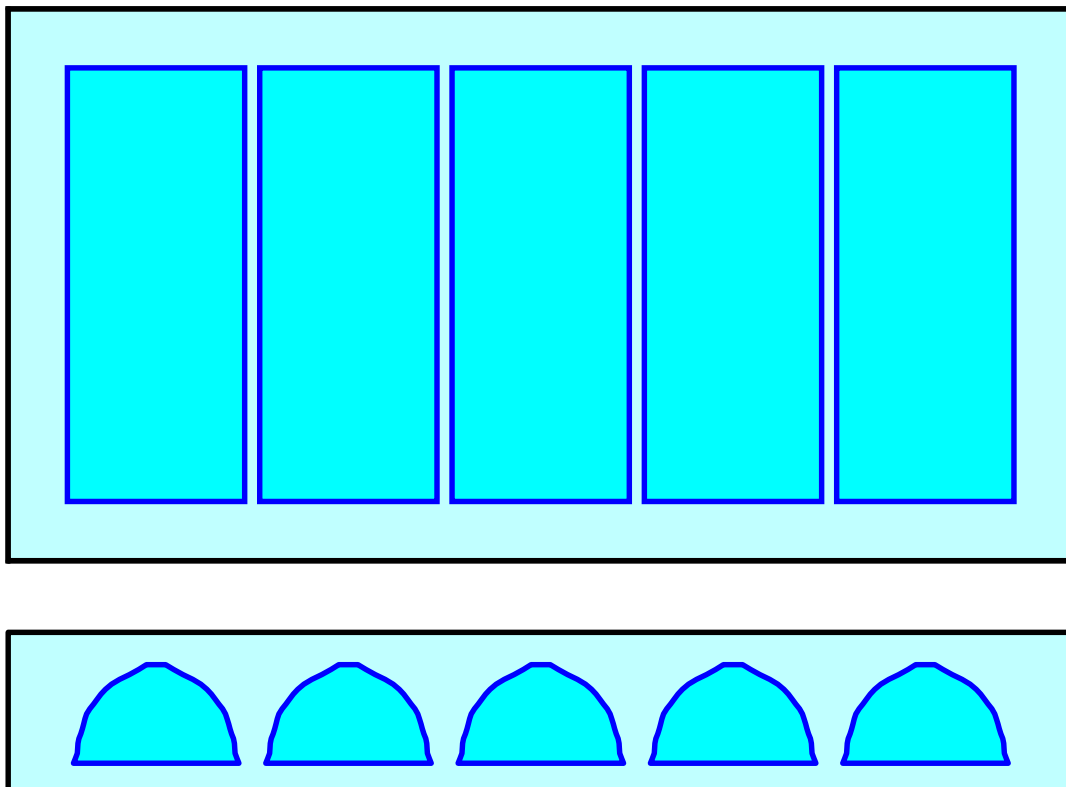
Overall Storage Efficiency = 56.6%

Overall System Size = 9.33' x 18.00' x 2.71'

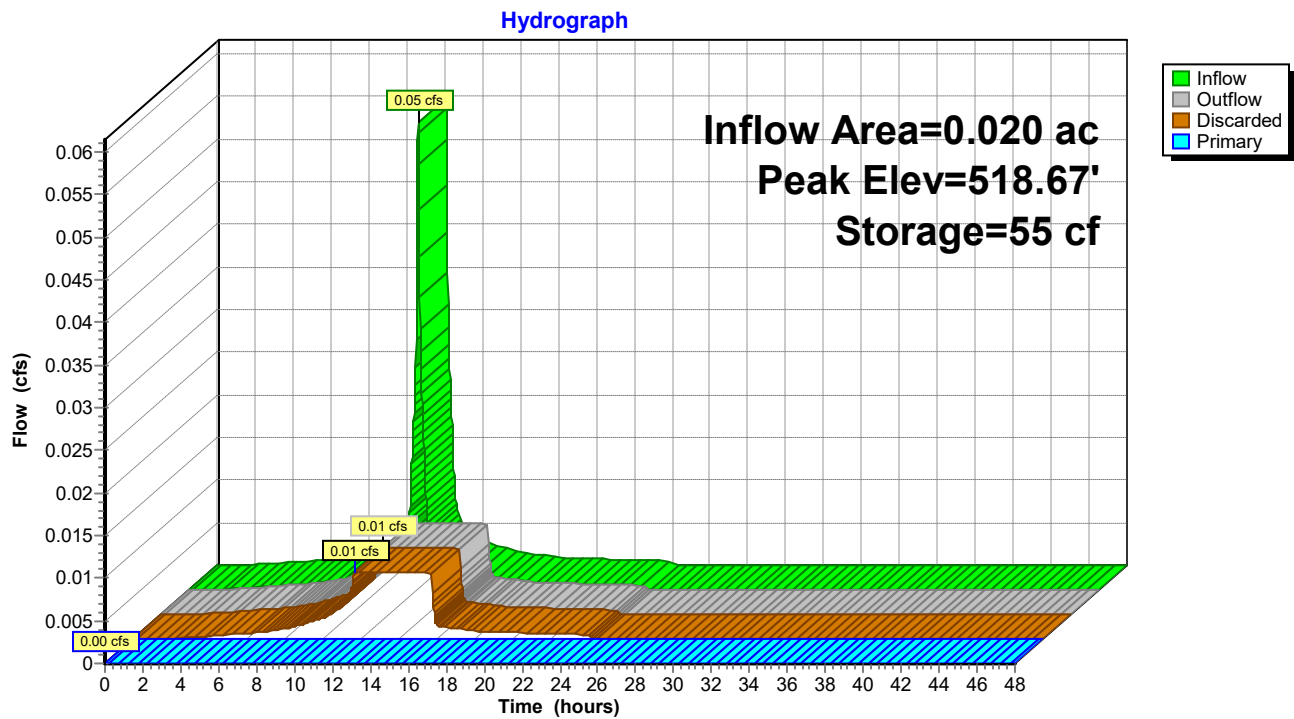
5 Chambers

16.8 cy Field

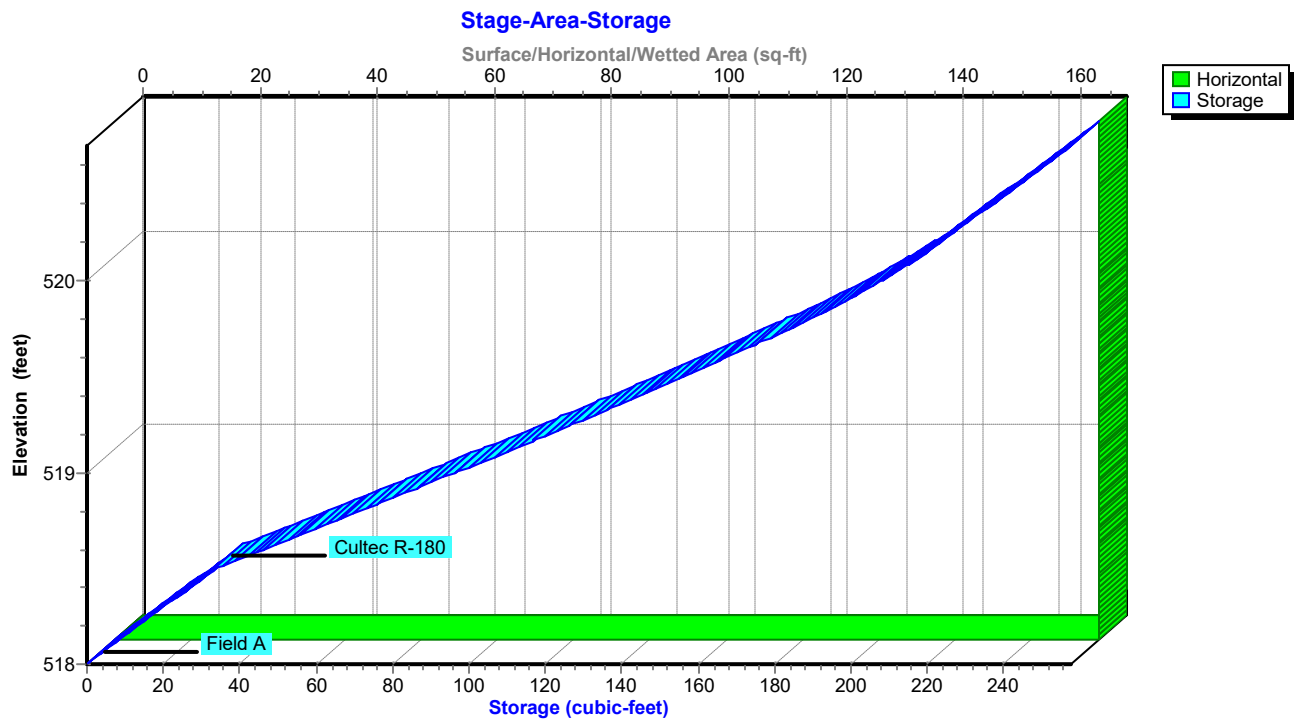
12.2 cy Stone



### Pond 6P: SW Chambers



### Pond 6P: SW Chambers



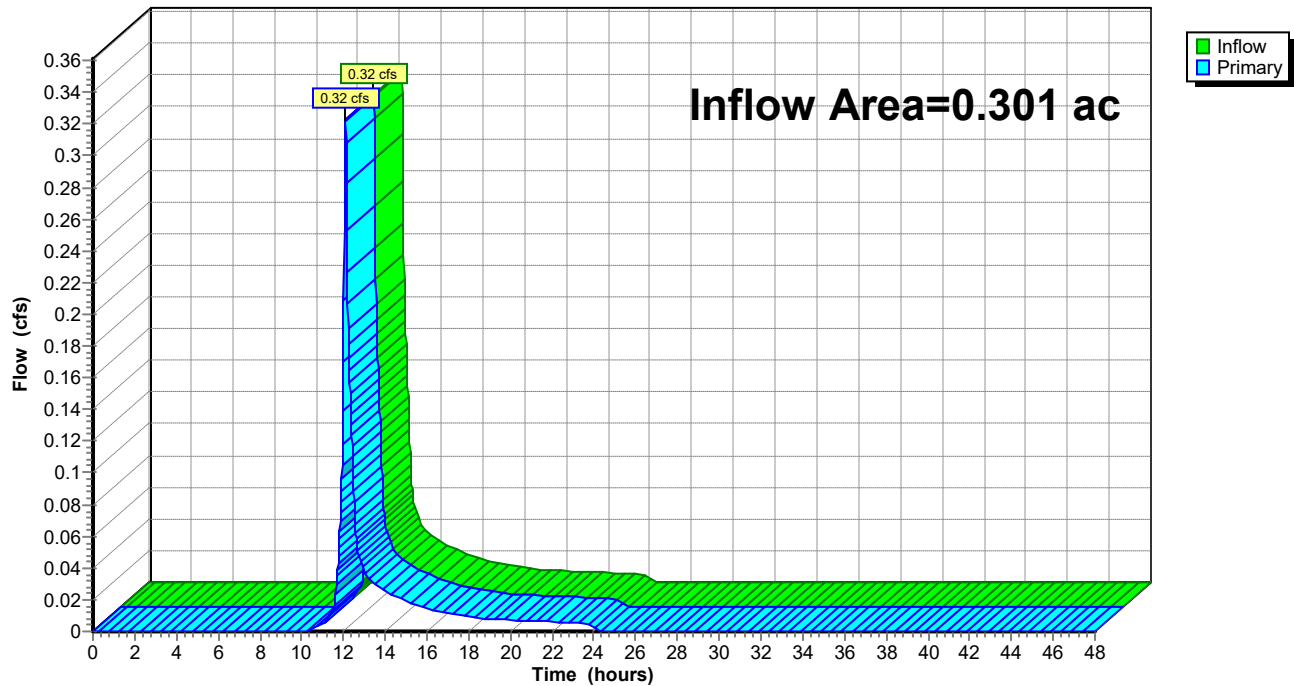
### Summary for Link 5L: DESIGN LINE

Inflow Area = 0.301 ac, 33.49% Impervious, Inflow Depth = 0.95" for 1-year event  
 Inflow = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af  
 Primary = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

### Link 5L: DESIGN LINE

Hydrograph



**10 Hoyt St SW Mgmt\_09-30-2022***Type III 24-hr 2-year Rainfall=3.41"*

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Page 13

Time span=0.00-48.00 hrs, dt=0.02 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: XDA-1 TO DESIGN LINE** Runoff Area=13,121 sf 31.03% Impervious Runoff Depth=1.71"  
Tc=6.0 min CN=82 Runoff=0.60 cfs 0.043 af

**Subcatchment 2S: FDA-1 TO CHAMBERS** Runoff Area=871 sf 100.00% Impervious Runoff Depth=3.18"  
Tc=6.0 min CN=98 Runoff=0.07 cfs 0.005 af

**Subcatchment 3S: FDA-2 TO DESIGN LINE** Runoff Area=12,250 sf 28.76% Impervious Runoff Depth=1.43"  
Tc=6.0 min UI Adjusted CN=78 Runoff=0.46 cfs 0.033 af

**Pond 6P: SW Chambers** Peak Elev=518.81' Storage=72 cf Inflow=0.07 cfs 0.005 af  
Discarded=0.01 cfs 0.005 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.005 af

**Link 5L: DESIGN LINE** Inflow=0.46 cfs 0.033 af  
Primary=0.46 cfs 0.033 af

**Total Runoff Area = 0.602 ac Runoff Volume = 0.082 af Average Runoff Depth = 1.63"**  
**67.74% Pervious = 0.408 ac 32.26% Impervious = 0.194 ac**

### Summary for Subcatchment 1S: XDA-1 TO DESIGN LINE 1

Runoff = 0.60 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 1.71"

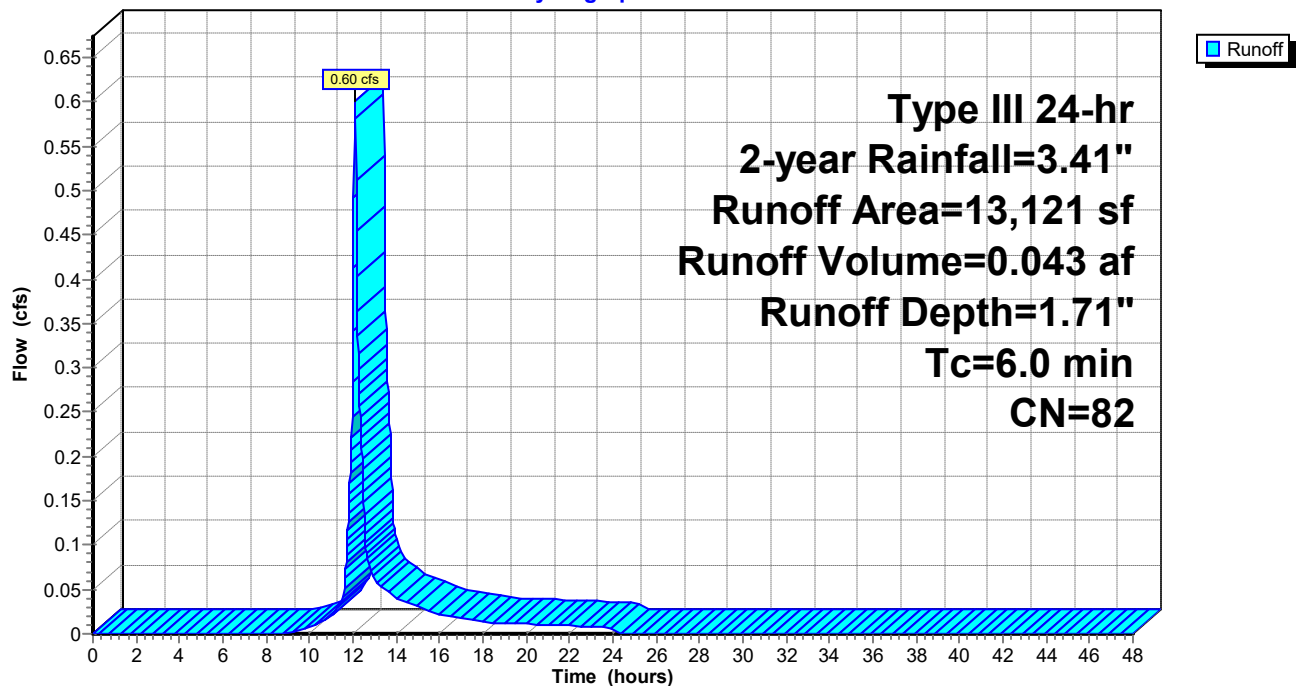
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
Type III 24-hr 2-year Rainfall=3.41"

Area (sf)	CN	Description
4,072	98	Unconnected roofs, HSG C
8,597	74	>75% Grass cover, Good, HSG C
452	80	>75% Grass cover, Good, HSG D
13,121	82	Weighted Average
9,049		68.97% Pervious Area
4,072		31.03% Impervious Area
4,072		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

### Subcatchment 1S: XDA-1 TO DESIGN LINE 1

Hydrograph



### Summary for Subcatchment 2S: FDA-1 TO CHAMBERS

Runoff = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af, Depth= 3.18"  
Routed to Pond 6P : SW Chambers

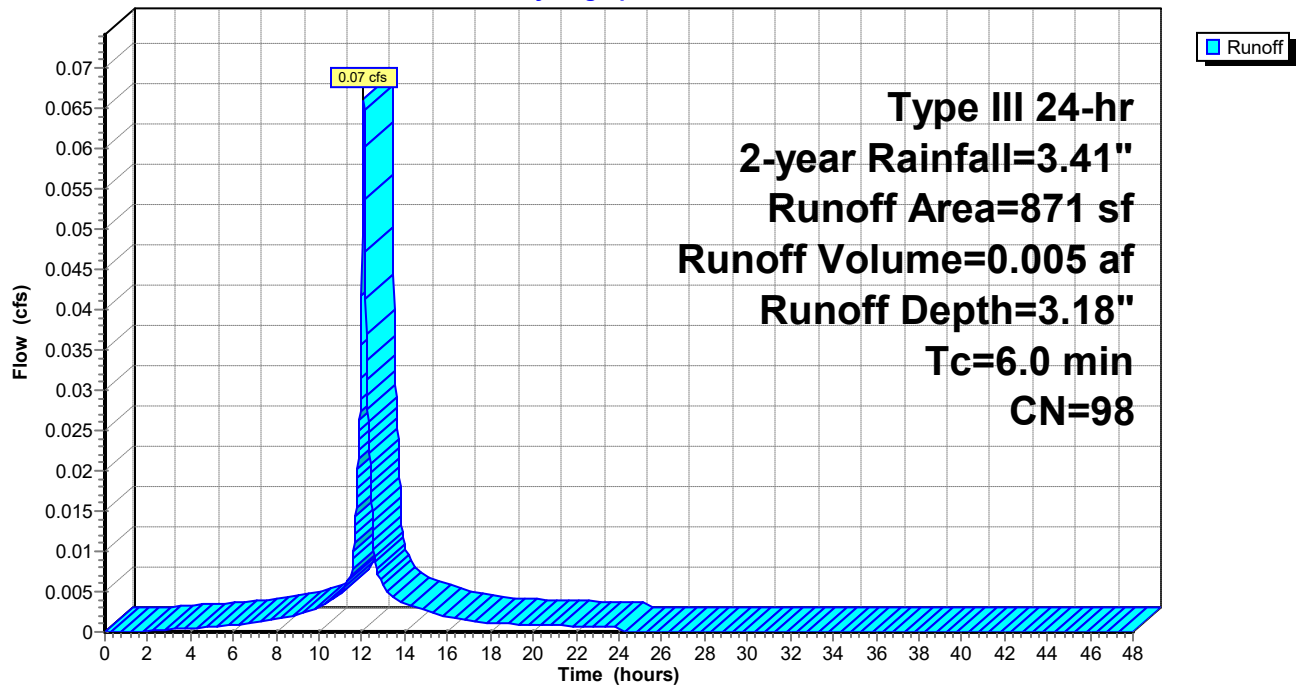
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
Type III 24-hr 2-year Rainfall=3.41"

Area (sf)	CN	Description
871	98	Roofs, HSG C
871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

### Subcatchment 2S: FDA-1 TO CHAMBERS

Hydrograph





**Summary for Subcatchment 3S: FDA-2 TO DESIGN LINE**

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 1.43"  
 Routed to Link 5L : DESIGN LINE

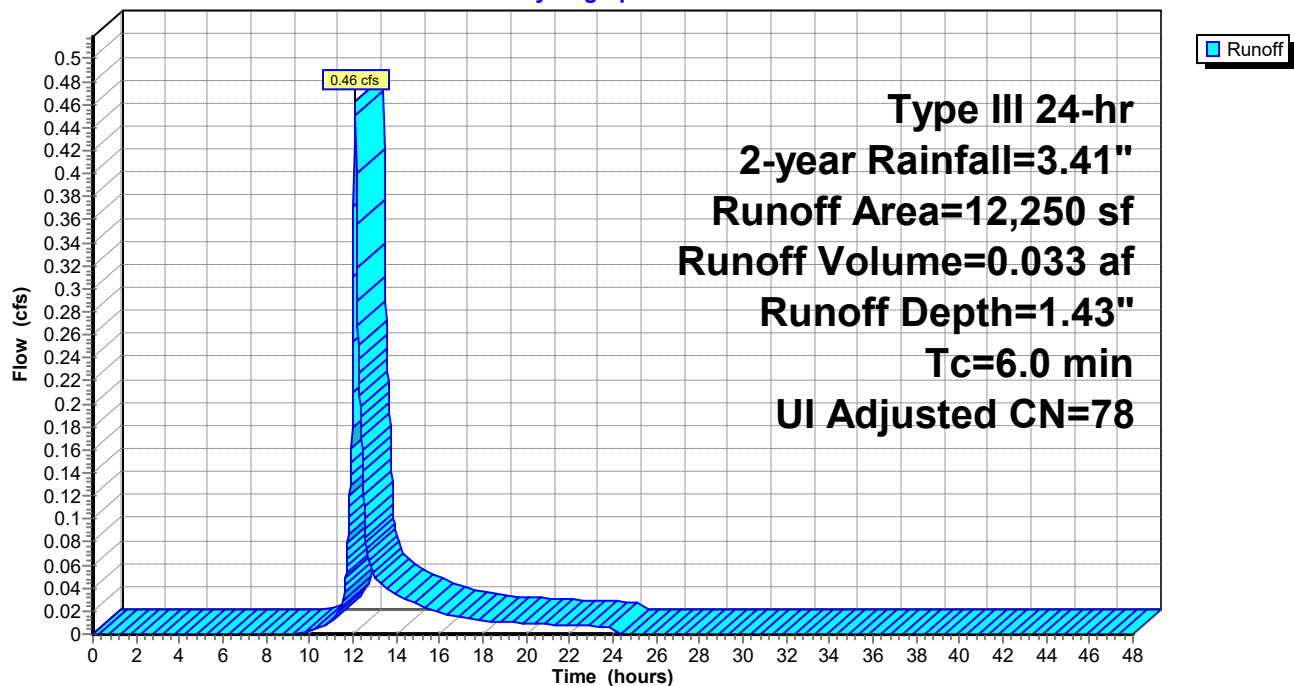
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
 Type III 24-hr 2-year Rainfall=3.41"

Area (sf)	CN	Adj	Description
3,523	98		Unconnected roofs, HSG C
8,275	74		>75% Grass cover, Good, HSG C
452	80		>75% Grass cover, Good, HSG D
12,250	81	78	Weighted Average, UI Adjusted
8,727			71.24% Pervious Area
3,523			28.76% Impervious Area
3,523			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 3S: FDA-2 TO DESIGN LINE**

Hydrograph



**Summary for Pond 6P: SW Chambers**

Inflow Area = 0.020 ac, 100.00% Impervious, Inflow Depth = 3.18" for 2-year event  
 Inflow = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af  
 Outflow = 0.01 cfs @ 11.60 hrs, Volume= 0.005 af, Atten= 88%, Lag= 0.0 min  
 Discarded = 0.01 cfs @ 11.60 hrs, Volume= 0.005 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af  
 Routed to Link 5L : DESIGN LINE

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
 Peak Elev= 518.81' @ 12.67 hrs Surf.Area= 168 sf Storage= 72 cf

Plug-Flow detention time= 59.8 min calculated for 0.005 af (100% of inflow)  
 Center-of-Mass det. time= 59.8 min ( 814.9 - 755.1 )

Volume	Invert	Avail.Storage	Storage Description
#1A	518.00'	132 cf	<b>18.00'W x 9.33'L x 2.71'H Field A</b> 455 cf Overall - 126 cf Embedded = 329 cf x 40.0% Voids
#2A	518.50'	126 cf	<b>Cultec R-180</b> x 5 Inside #1 Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap Row Length Adjustment= +1.00' x 3.44 sf x 5 rows
		258 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	518.00'	<b>2.000 in/hr Exfiltration over Horizontal area</b>
#2	Primary	519.50'	<b>8.0" Round Culvert</b> L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 519.50' / 518.50' S= 0.0175 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#3	Device 2	520.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=0.01 cfs @ 11.60 hrs HW=518.03' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=518.00' (Free Discharge)

↑ **2=Culvert** ( Controls 0.00 cfs)

↑ **3=Orifice/Grate** ( Controls 0.00 cfs)

### Pond 6P: SW Chambers - Chamber Wizard Field A

**Chamber Model = Cultec R-180 (Cultec Recharger® 180HD)**

Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf

Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap

Row Length Adjustment= +1.00' x 3.44 sf x 5 rows

36.0" Wide + 3.0" Spacing = 39.0" C-C Row Spacing

1 Chambers/Row x 6.33' Long +1.00' Row Adjustment = 7.33' Row Length +12.0" End Stone x 2 = 9.33' Base Length

5 Rows x 36.0" Wide + 3.0" Spacing x 4 + 12.0" Side Stone x 2 = 18.00' Base Width

6.0" Stone Base + 20.5" Chamber Height + 6.0" Stone Cover = 2.71' Field Height

5 Chambers x 21.8 cf +1.00' Row Adjustment x 3.44 sf x 5 Rows = 126.1 cf Chamber Storage

454.8 cf Field - 126.1 cf Chambers = 328.8 cf Stone x 40.0% Voids = 131.5 cf Stone Storage

Chamber Storage + Stone Storage = 257.6 cf = 0.006 af

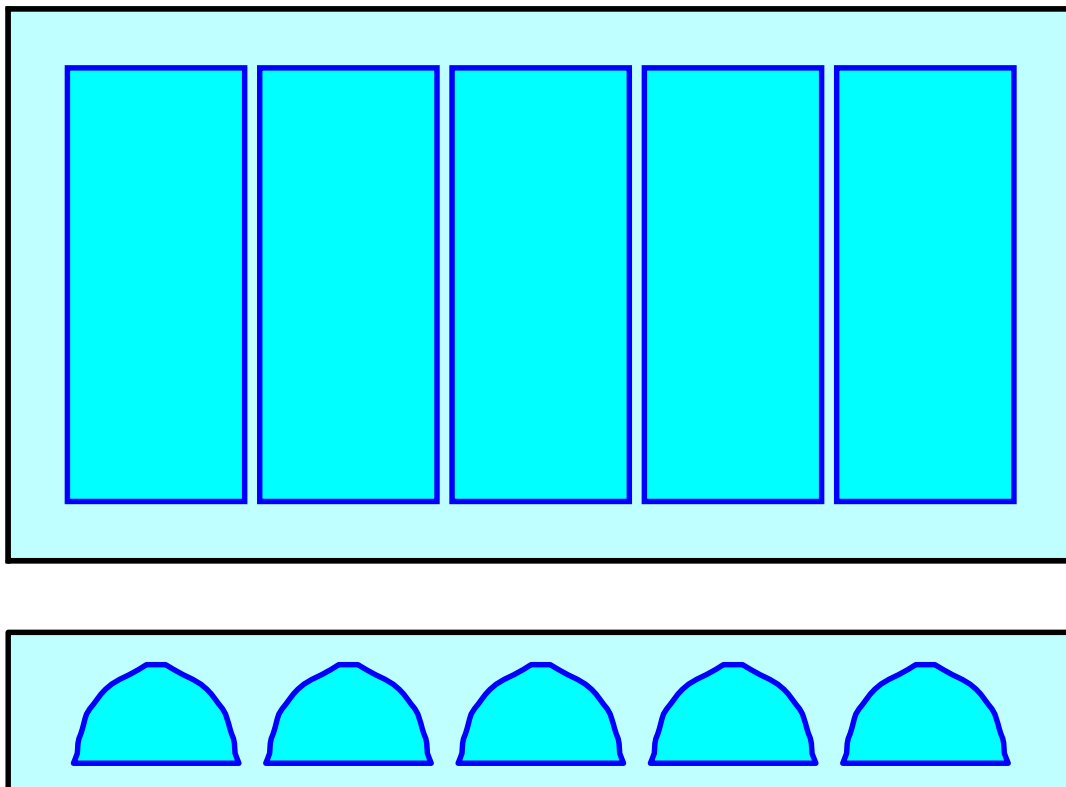
Overall Storage Efficiency = 56.6%

Overall System Size = 9.33' x 18.00' x 2.71'

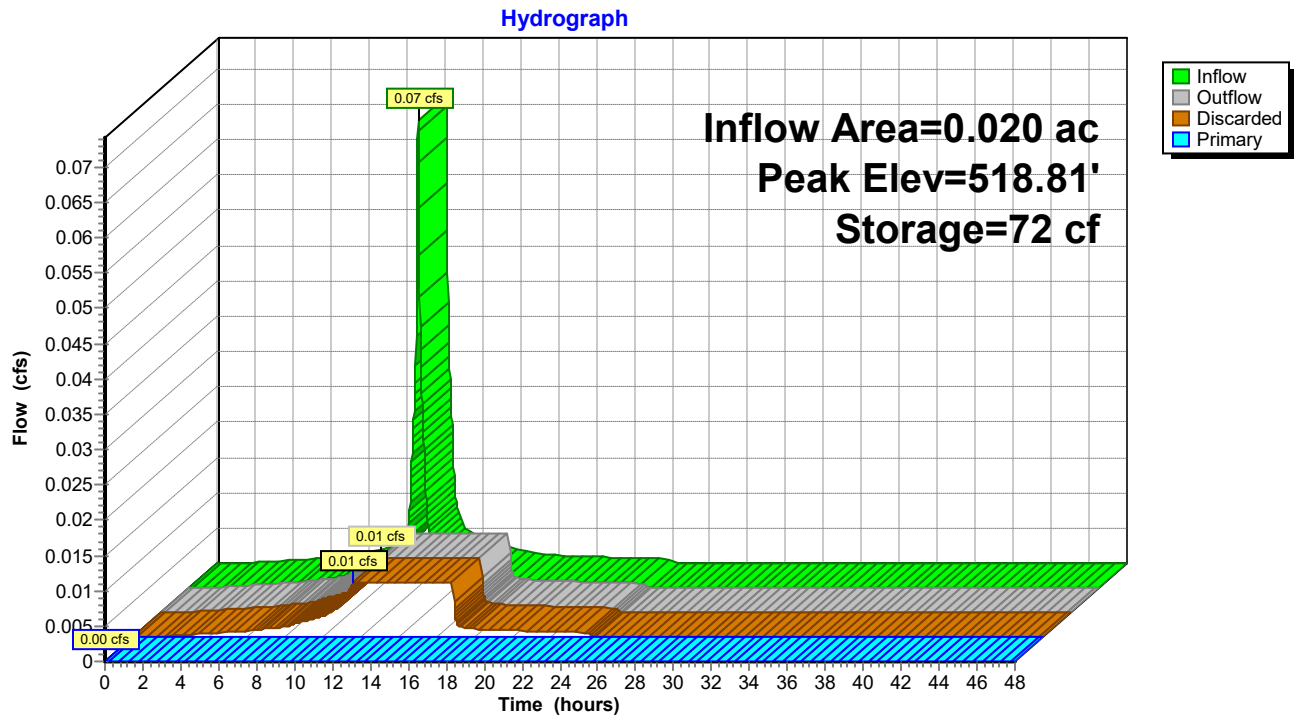
5 Chambers

16.8 cy Field

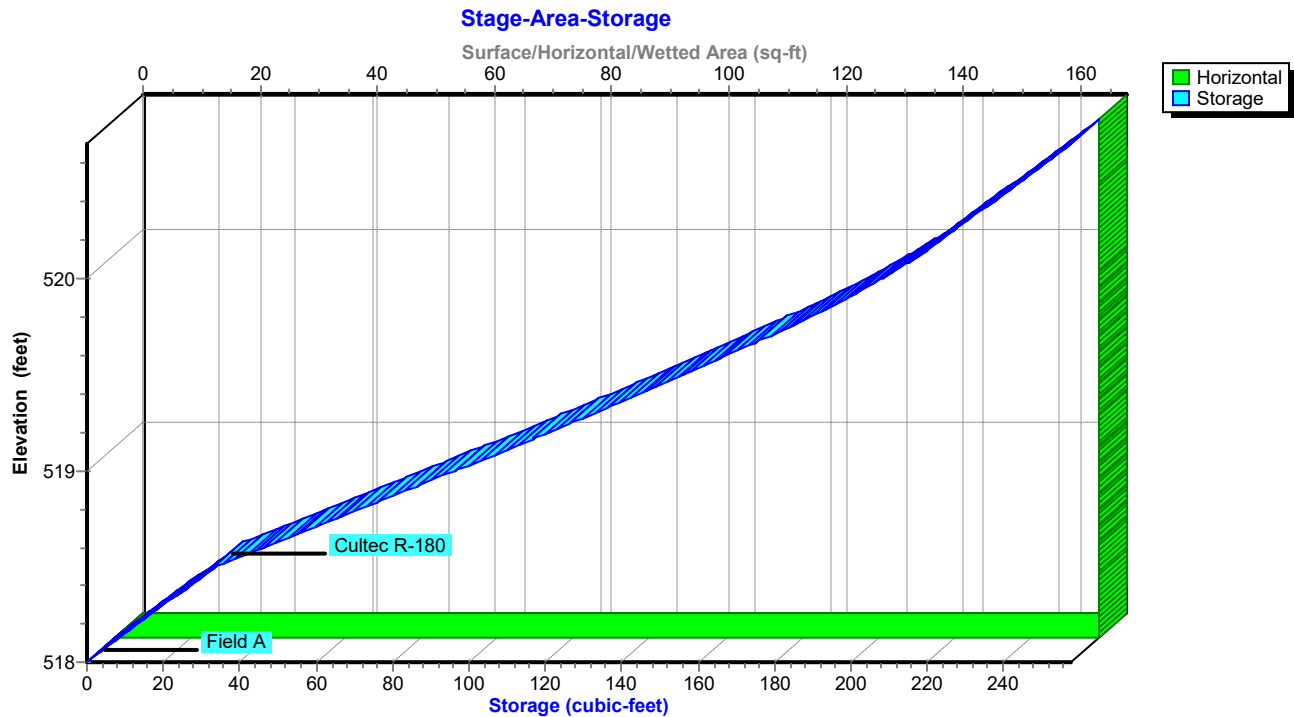
12.2 cy Stone



### Pond 6P: SW Chambers



### Pond 6P: SW Chambers

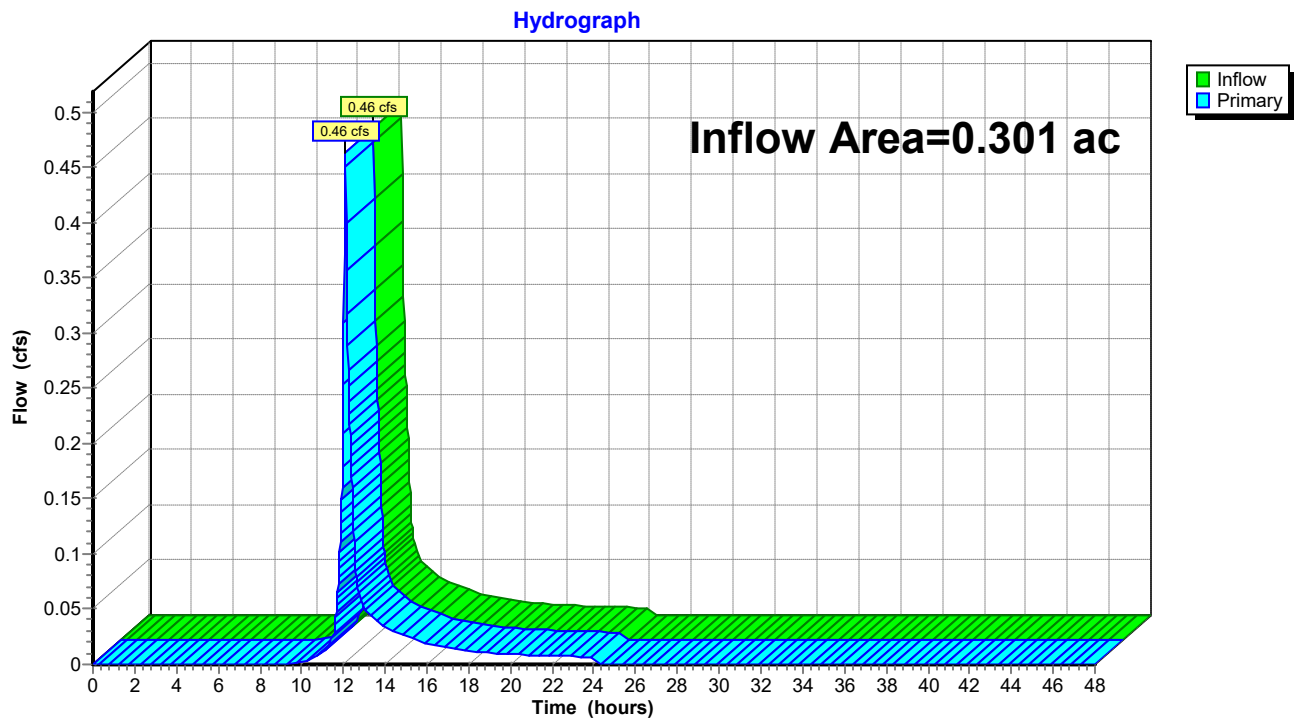


### Summary for Link 5L: DESIGN LINE

Inflow Area = 0.301 ac, 33.49% Impervious, Inflow Depth = 1.33" for 2-year event  
Inflow = 0.46 cfs @ 12.09 hrs, Volume= 0.033 af  
Primary = 0.46 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

### Link 5L: DESIGN LINE



**10 Hoyt St SW Mgmt\_09-30-2022***Type III 24-hr 10-year Rainfall=5.09"*

Prepared by ALP Engineering &amp; Land Arch

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Page 21

Time span=0.00-48.00 hrs, dt=0.02 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: XDA-1 TO DESIGN LINE** Runoff Area=13,121 sf 31.03% Impervious Runoff Depth=3.16"  
Tc=6.0 min CN=82 Runoff=1.11 cfs 0.079 af

**Subcatchment 2S: FDA-1 TO CHAMBERS** Runoff Area=871 sf 100.00% Impervious Runoff Depth=4.85"  
Tc=6.0 min CN=98 Runoff=0.10 cfs 0.008 af

**Subcatchment 3S: FDA-2 TO DESIGN LINE** Runoff Area=12,250 sf 28.76% Impervious Runoff Depth=2.79"  
Tc=6.0 min UI Adjusted CN=78 Runoff=0.92 cfs 0.065 af

**Pond 6P: SW Chambers** Peak Elev=519.27' Storage=129 cf Inflow=0.10 cfs 0.008 af  
Discarded=0.01 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.008 af

**Link 5L: DESIGN LINE** Inflow=0.92 cfs 0.065 af  
Primary=0.92 cfs 0.065 af

**Total Runoff Area = 0.602 ac Runoff Volume = 0.153 af Average Runoff Depth = 3.04"**  
**67.74% Pervious = 0.408 ac 32.26% Impervious = 0.194 ac**



**Summary for Subcatchment 1S: XDA-1 TO DESIGN LINE 1**

Runoff = 1.11 cfs @ 12.09 hrs, Volume= 0.079 af, Depth= 3.16"

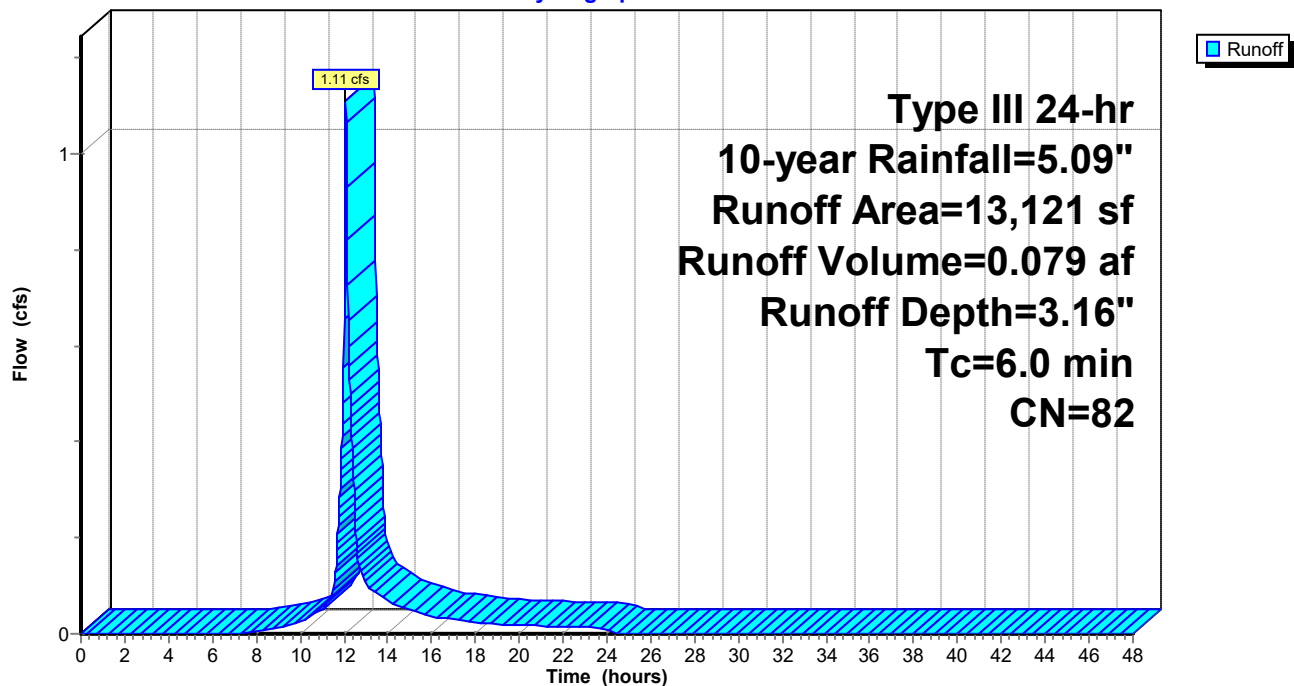
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
Type III 24-hr 10-year Rainfall=5.09"

Area (sf)	CN	Description
4,072	98	Unconnected roofs, HSG C
8,597	74	>75% Grass cover, Good, HSG C
452	80	>75% Grass cover, Good, HSG D
13,121	82	Weighted Average
9,049		68.97% Pervious Area
4,072		31.03% Impervious Area
4,072		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 1S: XDA-1 TO DESIGN LINE 1**

Hydrograph



### Summary for Subcatchment 2S: FDA-1 TO CHAMBERS

Runoff = 0.10 cfs @ 12.08 hrs, Volume= 0.008 af, Depth= 4.85"  
Routed to Pond 6P : SW Chambers

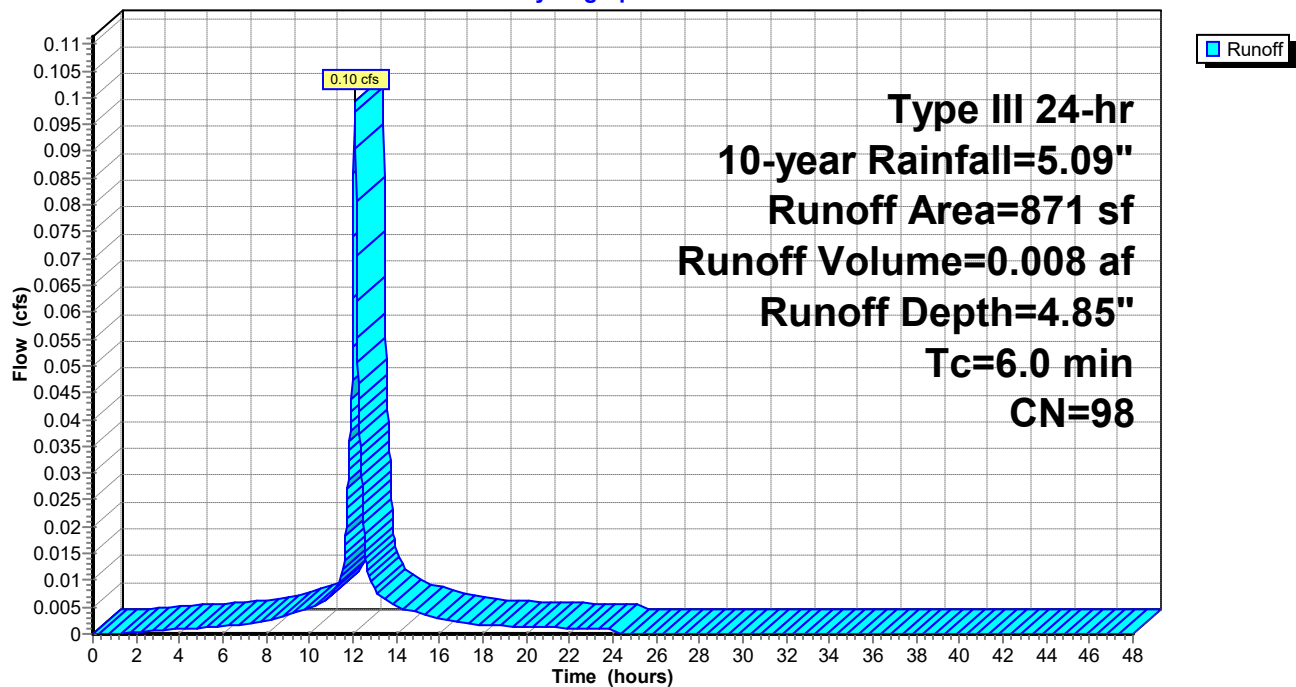
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
Type III 24-hr 10-year Rainfall=5.09"

Area (sf)	CN	Description
871	98	Roofs, HSG C
871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

### Subcatchment 2S: FDA-1 TO CHAMBERS

Hydrograph



### Summary for Subcatchment 3S: FDA-2 TO DESIGN LINE

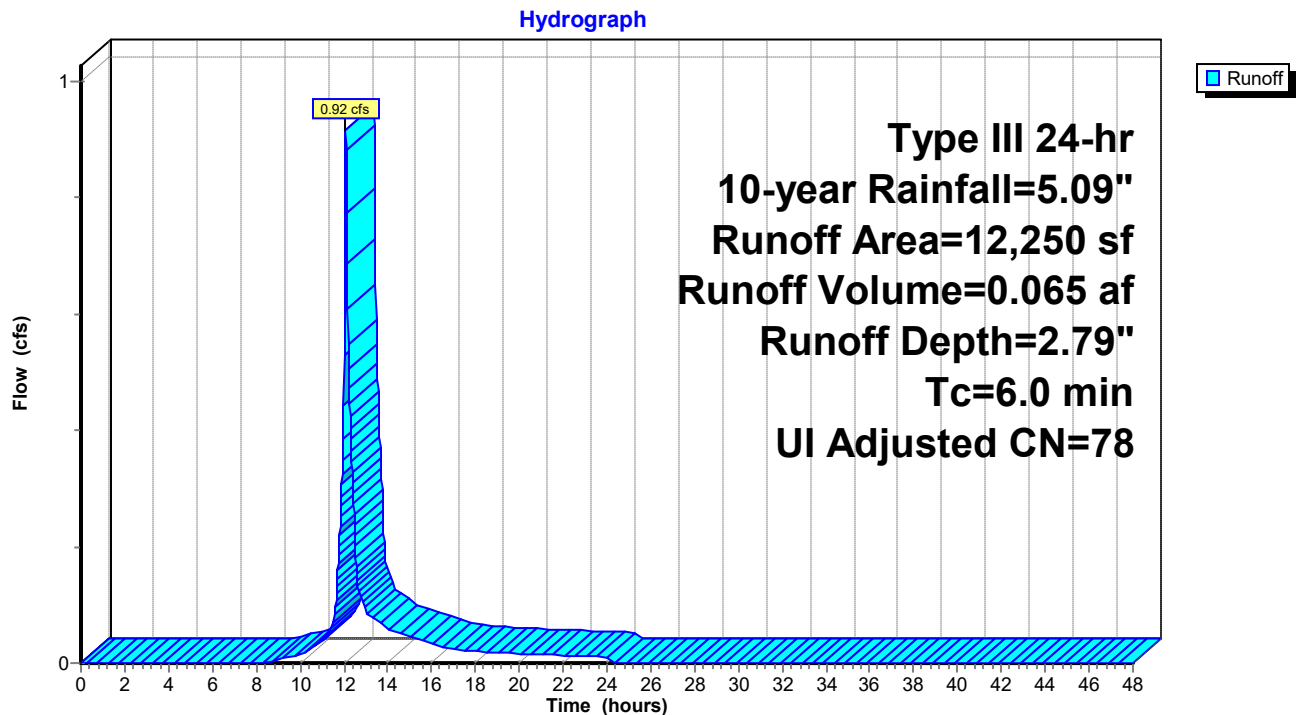
Runoff = 0.92 cfs @ 12.09 hrs, Volume= 0.065 af, Depth= 2.79"  
Routed to Link 5L : DESIGN LINE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
Type III 24-hr 10-year Rainfall=5.09"

Area (sf)	CN	Adj	Description
3,523	98		Unconnected roofs, HSG C
8,275	74		>75% Grass cover, Good, HSG C
452	80		>75% Grass cover, Good, HSG D
12,250	81	78	Weighted Average, UI Adjusted
8,727			71.24% Pervious Area
3,523			28.76% Impervious Area
3,523			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

### Subcatchment 3S: FDA-2 TO DESIGN LINE



**Summary for Pond 6P: SW Chambers**

Inflow Area = 0.020 ac, 100.00% Impervious, Inflow Depth = 4.85" for 10-year event  
 Inflow = 0.10 cfs @ 12.08 hrs, Volume= 0.008 af  
 Outflow = 0.01 cfs @ 11.20 hrs, Volume= 0.008 af, Atten= 92%, Lag= 0.0 min  
 Discarded = 0.01 cfs @ 11.20 hrs, Volume= 0.008 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af  
 Routed to Link 5L : DESIGN LINE

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
 Peak Elev= 519.27' @ 13.06 hrs Surf.Area= 168 sf Storage= 129 cf

Plug-Flow detention time= 119.9 min calculated for 0.008 af (100% of inflow)  
 Center-of-Mass det. time= 119.9 min ( 867.6 - 747.7 )

Volume	Invert	Avail.Storage	Storage Description
#1A	518.00'	132 cf	<b>18.00'W x 9.33'L x 2.71'H Field A</b> 455 cf Overall - 126 cf Embedded = 329 cf x 40.0% Voids
#2A	518.50'	126 cf	<b>Cultec R-180</b> x 5 Inside #1 Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap Row Length Adjustment= +1.00' x 3.44 sf x 5 rows
		258 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	518.00'	<b>2.000 in/hr Exfiltration over Horizontal area</b>
#2	Primary	519.50'	<b>8.0" Round Culvert</b> L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 519.50' / 518.50' S= 0.0175 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#3	Device 2	520.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=0.01 cfs @ 11.20 hrs HW=518.03' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=518.00' (Free Discharge)

↑ **2=Culvert** ( Controls 0.00 cfs)

↑ **3=Orifice/Grate** ( Controls 0.00 cfs)

### Pond 6P: SW Chambers - Chamber Wizard Field A

**Chamber Model = Cultec R-180 (Cultec Recharger® 180HD)**

Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf

Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap

Row Length Adjustment= +1.00' x 3.44 sf x 5 rows

36.0" Wide + 3.0" Spacing = 39.0" C-C Row Spacing

1 Chambers/Row x 6.33' Long +1.00' Row Adjustment = 7.33' Row Length +12.0" End Stone x 2 = 9.33' Base Length

5 Rows x 36.0" Wide + 3.0" Spacing x 4 + 12.0" Side Stone x 2 = 18.00' Base Width

6.0" Stone Base + 20.5" Chamber Height + 6.0" Stone Cover = 2.71' Field Height

5 Chambers x 21.8 cf +1.00' Row Adjustment x 3.44 sf x 5 Rows = 126.1 cf Chamber Storage

454.8 cf Field - 126.1 cf Chambers = 328.8 cf Stone x 40.0% Voids = 131.5 cf Stone Storage

Chamber Storage + Stone Storage = 257.6 cf = 0.006 af

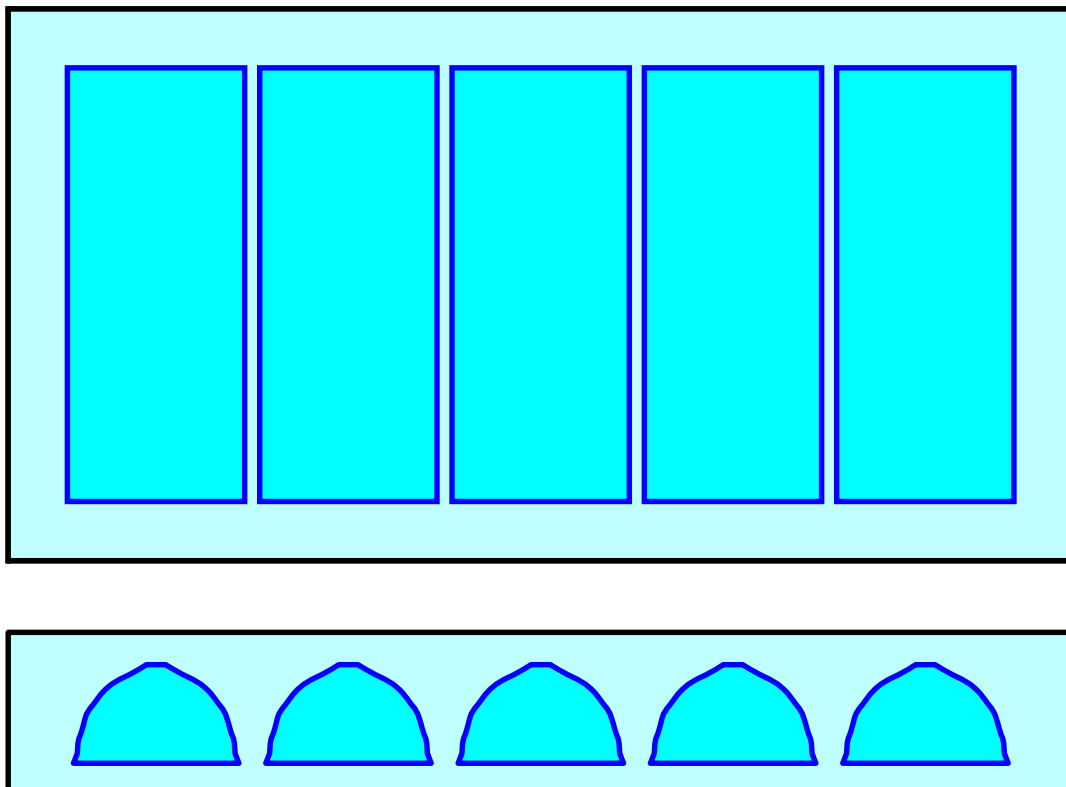
Overall Storage Efficiency = 56.6%

Overall System Size = 9.33' x 18.00' x 2.71'

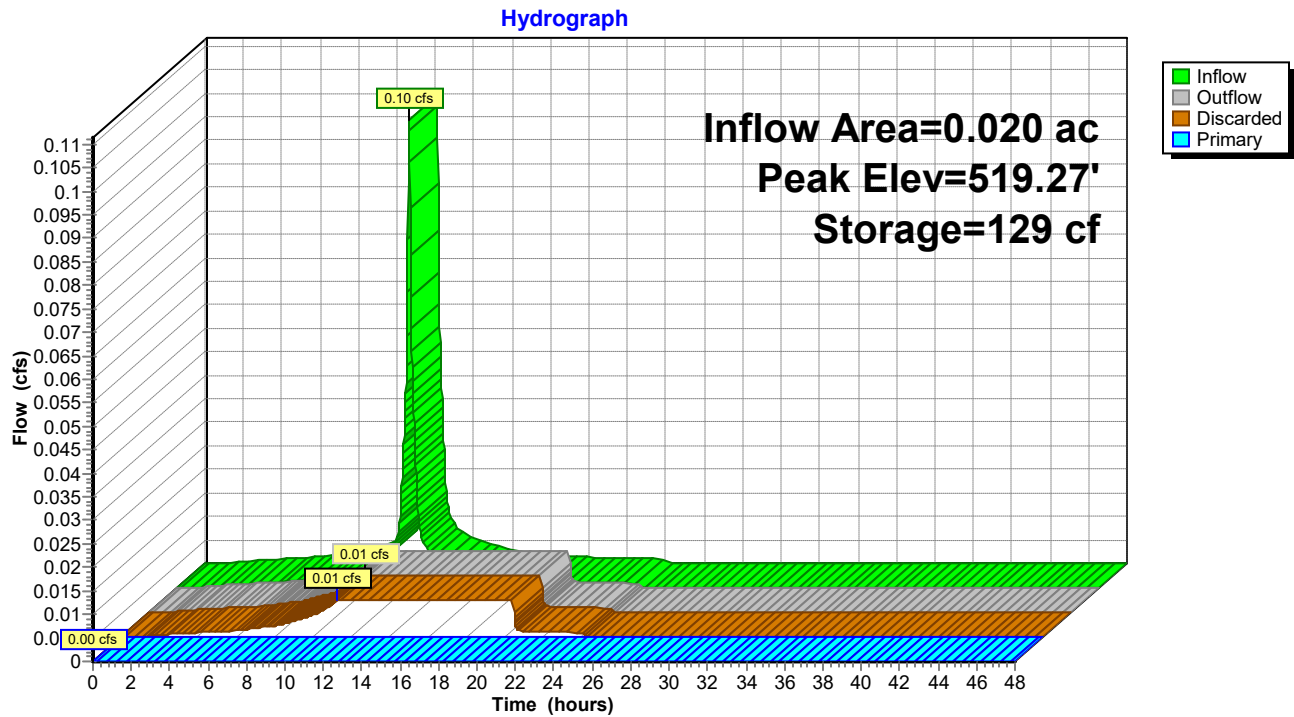
5 Chambers

16.8 cy Field

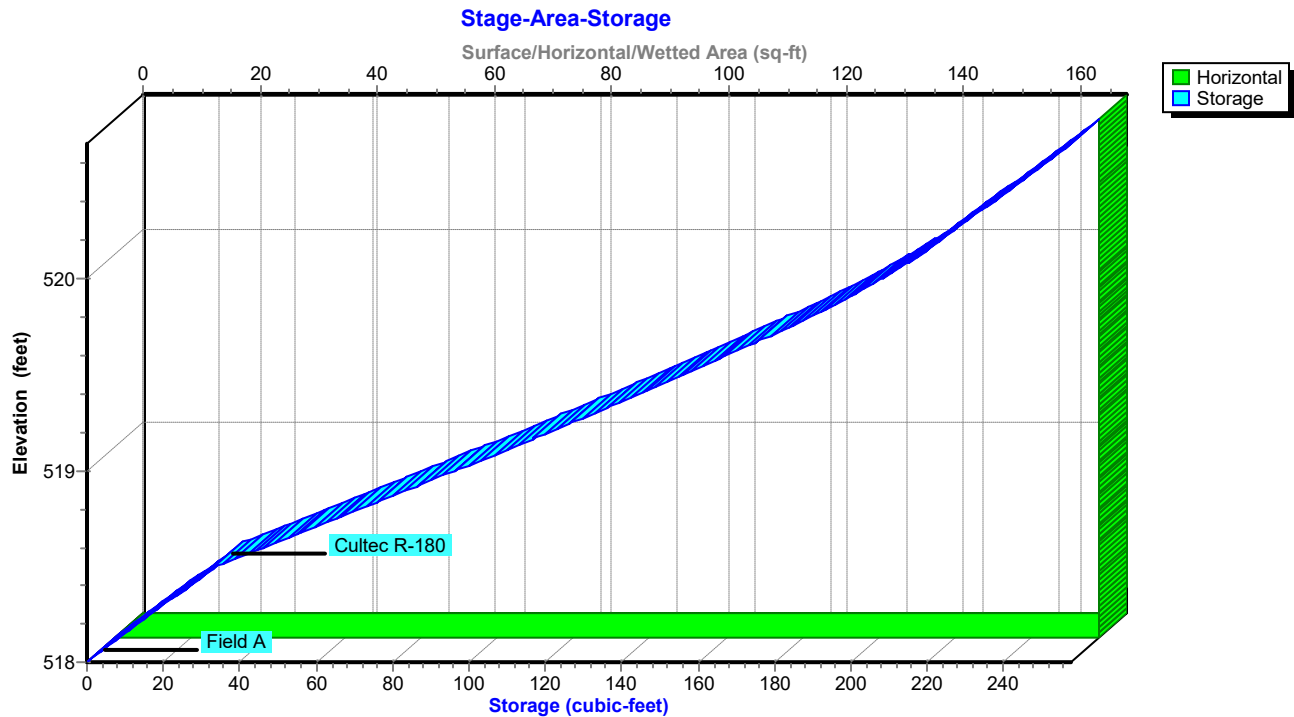
12.2 cy Stone



### Pond 6P: SW Chambers



### Pond 6P: SW Chambers



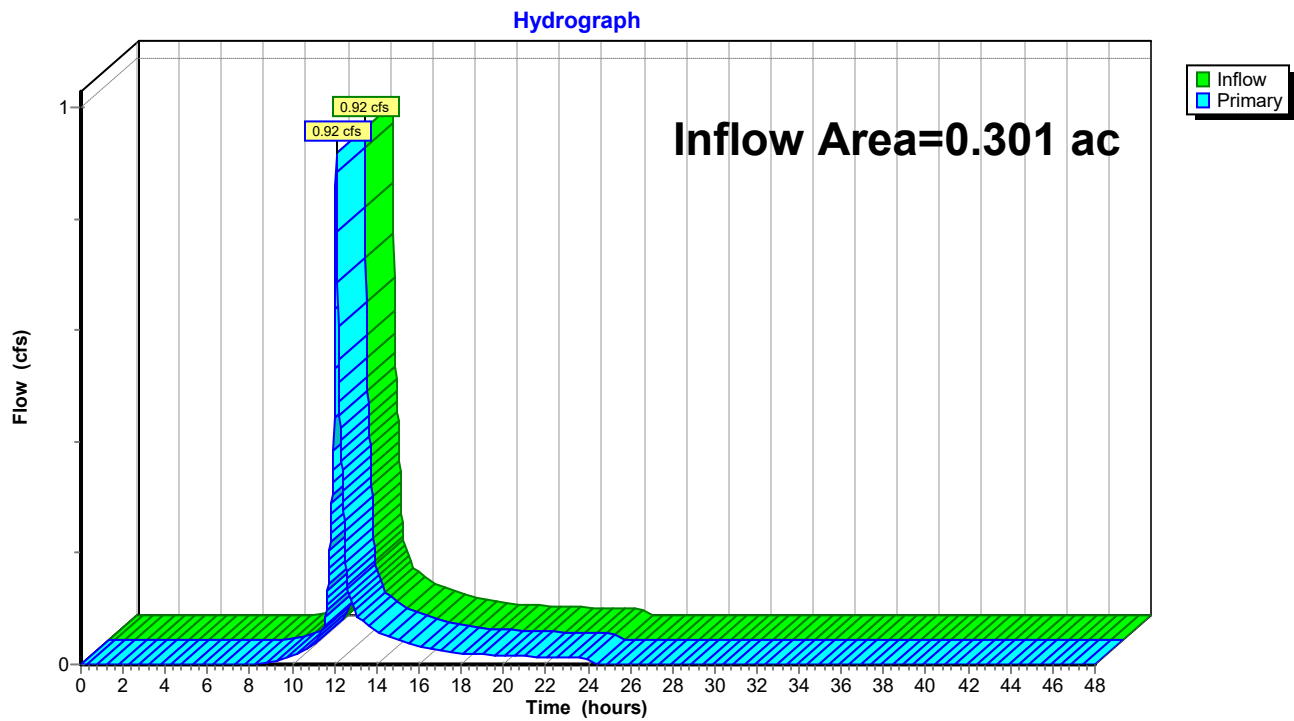


### Summary for Link 5L: DESIGN LINE

Inflow Area = 0.301 ac, 33.49% Impervious, Inflow Depth = 2.60" for 10-year event  
 Inflow = 0.92 cfs @ 12.09 hrs, Volume= 0.065 af  
 Primary = 0.92 cfs @ 12.09 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

### Link 5L: DESIGN LINE



**10 Hoyt St SW Mgmt\_09-30-2022***Type III 24-hr 25-year Rainfall=6.40"*

Prepared by ALP Engineering &amp; Land Arch

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Page 29

Time span=0.00-48.00 hrs, dt=0.02 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: XDA-1 TO DESIGN LINE** Runoff Area=13,121 sf 31.03% Impervious Runoff Depth=4.36"  
Tc=6.0 min CN=82 Runoff=1.52 cfs 0.109 af

**Subcatchment 2S: FDA-1 TO CHAMBERS** Runoff Area=871 sf 100.00% Impervious Runoff Depth=6.16"  
Tc=6.0 min CN=98 Runoff=0.13 cfs 0.010 af

**Subcatchment 3S: FDA-2 TO DESIGN LINE** Runoff Area=12,250 sf 28.76% Impervious Runoff Depth=3.93"  
Tc=6.0 min UI Adjusted CN=78 Runoff=1.29 cfs 0.092 af

**Pond 6P: SW Chambers** Peak Elev=519.71' Storage=180 cf Inflow=0.13 cfs 0.010 af  
Discarded=0.01 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.010 af

**Link 5L: DESIGN LINE** Inflow=1.29 cfs 0.092 af  
Primary=1.29 cfs 0.092 af

**Total Runoff Area = 0.602 ac Runoff Volume = 0.212 af Average Runoff Depth = 4.22"**  
**67.74% Pervious = 0.408 ac 32.26% Impervious = 0.194 ac**

### Summary for Subcatchment 1S: XDA-1 TO DESIGN LINE 1

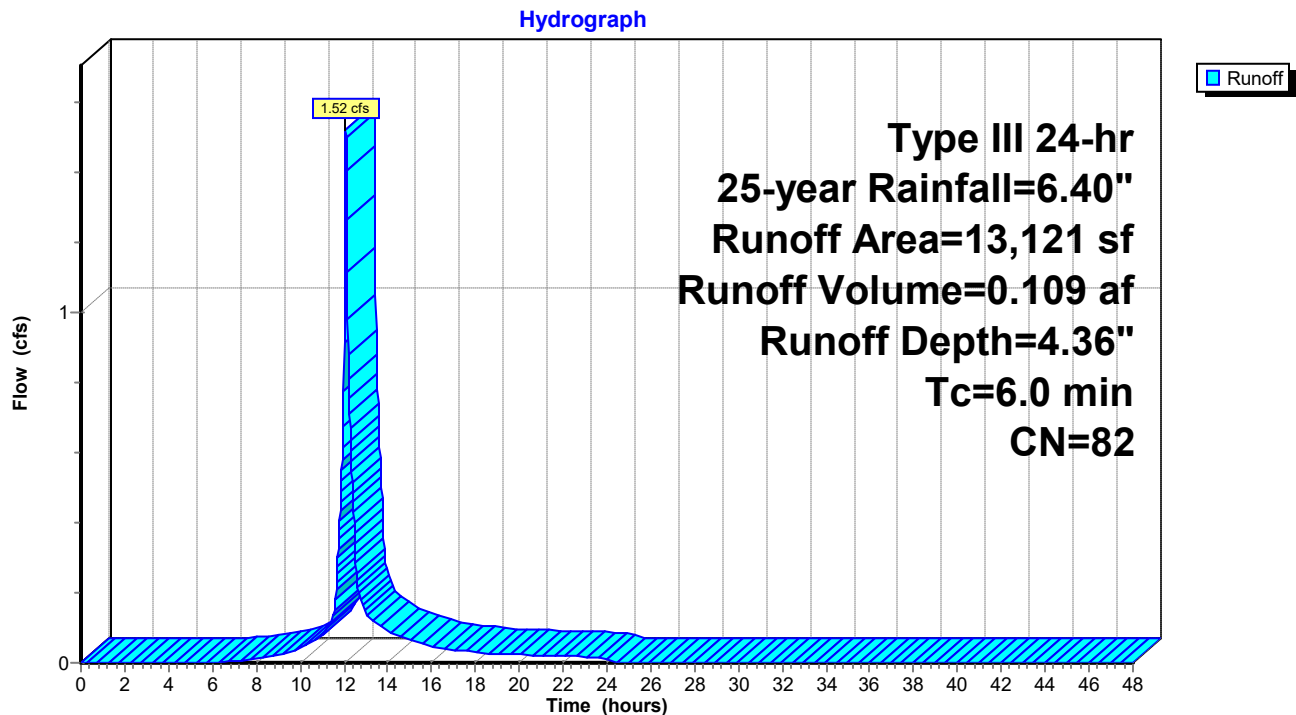
Runoff = 1.52 cfs @ 12.09 hrs, Volume= 0.109 af, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
Type III 24-hr 25-year Rainfall=6.40"

Area (sf)	CN	Description
4,072	98	Unconnected roofs, HSG C
8,597	74	>75% Grass cover, Good, HSG C
452	80	>75% Grass cover, Good, HSG D
13,121	82	Weighted Average
9,049		68.97% Pervious Area
4,072		31.03% Impervious Area
4,072		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

### Subcatchment 1S: XDA-1 TO DESIGN LINE 1



### Summary for Subcatchment 2S: FDA-1 TO CHAMBERS

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 0.010 af, Depth= 6.16"  
Routed to Pond 6P : SW Chambers

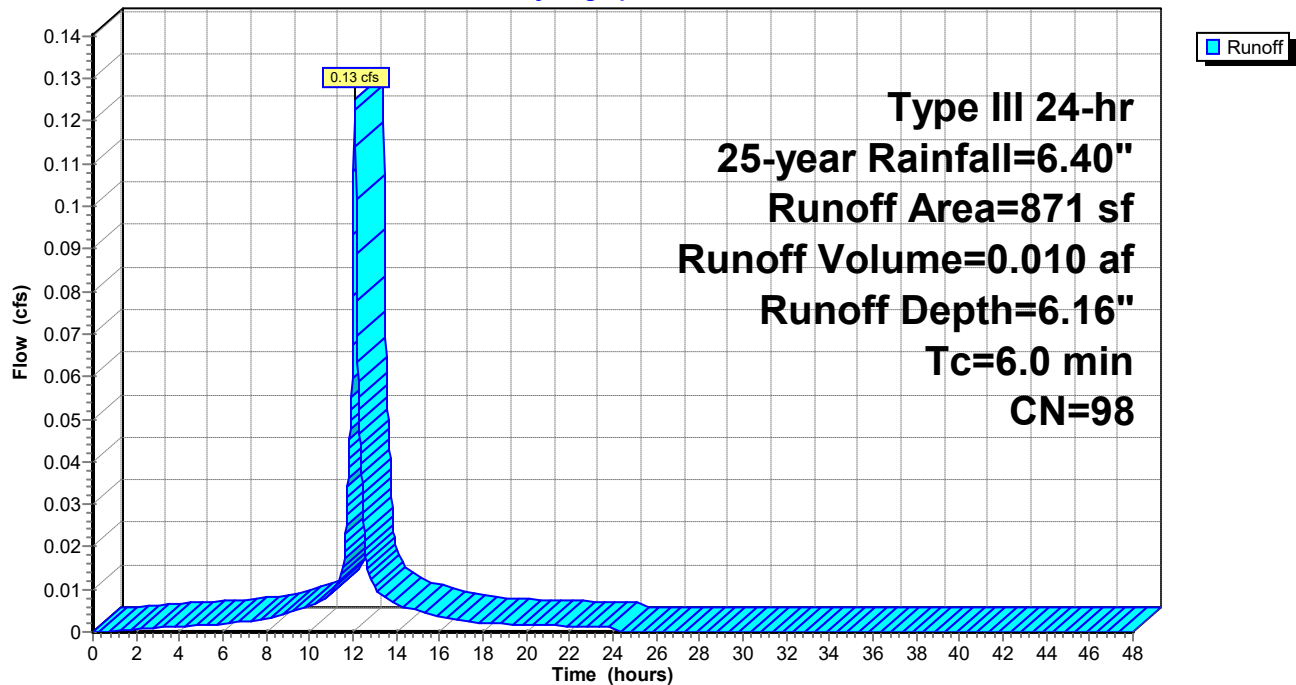
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
Type III 24-hr 25-year Rainfall=6.40"

Area (sf)	CN	Description
871	98	Roofs, HSG C
871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

### Subcatchment 2S: FDA-1 TO CHAMBERS

Hydrograph



### Summary for Subcatchment 3S: FDA-2 TO DESIGN LINE

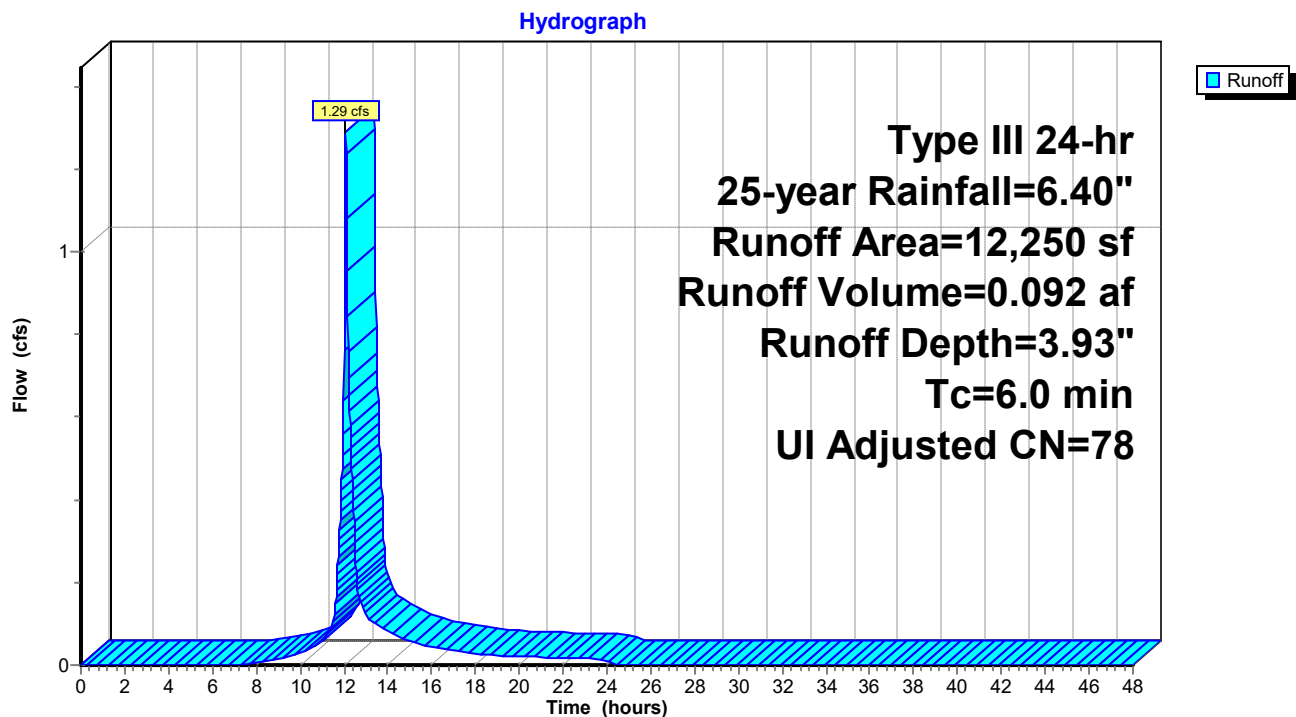
Runoff = 1.29 cfs @ 12.09 hrs, Volume= 0.092 af, Depth= 3.93"  
Routed to Link 5L : DESIGN LINE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
Type III 24-hr 25-year Rainfall=6.40"

Area (sf)	CN	Adj	Description
3,523	98		Unconnected roofs, HSG C
8,275	74		>75% Grass cover, Good, HSG C
452	80		>75% Grass cover, Good, HSG D
12,250	81	78	Weighted Average, UI Adjusted
8,727			71.24% Pervious Area
3,523			28.76% Impervious Area
3,523			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

### Subcatchment 3S: FDA-2 TO DESIGN LINE



**Summary for Pond 6P: SW Chambers**

Inflow Area = 0.020 ac, 100.00% Impervious, Inflow Depth = 6.16" for 25-year event  
 Inflow = 0.13 cfs @ 12.08 hrs, Volume= 0.010 af  
 Outflow = 0.01 cfs @ 10.68 hrs, Volume= 0.010 af, Atten= 94%, Lag= 0.0 min  
 Discarded = 0.01 cfs @ 10.68 hrs, Volume= 0.010 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af  
 Routed to Link 5L : DESIGN LINE

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs  
 Peak Elev= 519.71' @ 13.62 hrs Surf.Area= 168 sf Storage= 180 cf

Plug-Flow detention time= 177.5 min calculated for 0.010 af (100% of inflow)  
 Center-of-Mass det. time= 177.5 min ( 921.7 - 744.2 )

Volume	Invert	Avail.Storage	Storage Description
#1A	518.00'	132 cf	<b>18.00'W x 9.33'L x 2.71'H Field A</b> 455 cf Overall - 126 cf Embedded = 329 cf x 40.0% Voids
#2A	518.50'	126 cf	<b>Cultec R-180</b> x 5 Inside #1 Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap Row Length Adjustment= +1.00' x 3.44 sf x 5 rows
		258 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	518.00'	<b>2.000 in/hr Exfiltration over Horizontal area</b>
#2	Primary	519.50'	<b>8.0" Round Culvert</b> L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 519.50' / 518.50' S= 0.0175 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#3	Device 2	520.00'	<b>8.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Discarded OutFlow** Max=0.01 cfs @ 10.68 hrs HW=518.03' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=518.00' (Free Discharge)

↑ **2=Culvert** ( Controls 0.00 cfs)

↑ **3=Orifice/Grate** ( Controls 0.00 cfs)



### Pond 6P: SW Chambers - Chamber Wizard Field A

**Chamber Model = Cultec R-180 (Cultec Recharger® 180HD)**

Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf

Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap

Row Length Adjustment= +1.00' x 3.44 sf x 5 rows

36.0" Wide + 3.0" Spacing = 39.0" C-C Row Spacing

1 Chambers/Row x 6.33' Long +1.00' Row Adjustment = 7.33' Row Length +12.0" End Stone x 2 = 9.33' Base Length

5 Rows x 36.0" Wide + 3.0" Spacing x 4 + 12.0" Side Stone x 2 = 18.00' Base Width

6.0" Stone Base + 20.5" Chamber Height + 6.0" Stone Cover = 2.71' Field Height

5 Chambers x 21.8 cf +1.00' Row Adjustment x 3.44 sf x 5 Rows = 126.1 cf Chamber Storage

454.8 cf Field - 126.1 cf Chambers = 328.8 cf Stone x 40.0% Voids = 131.5 cf Stone Storage

Chamber Storage + Stone Storage = 257.6 cf = 0.006 af

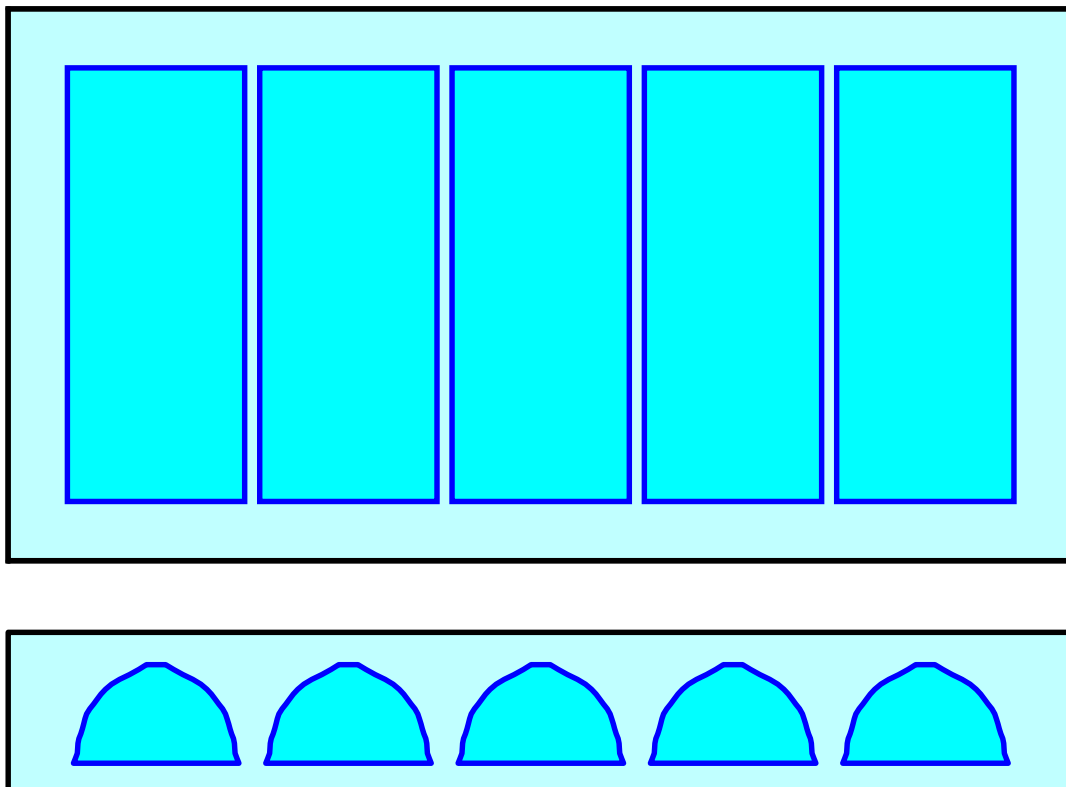
Overall Storage Efficiency = 56.6%

Overall System Size = 9.33' x 18.00' x 2.71'

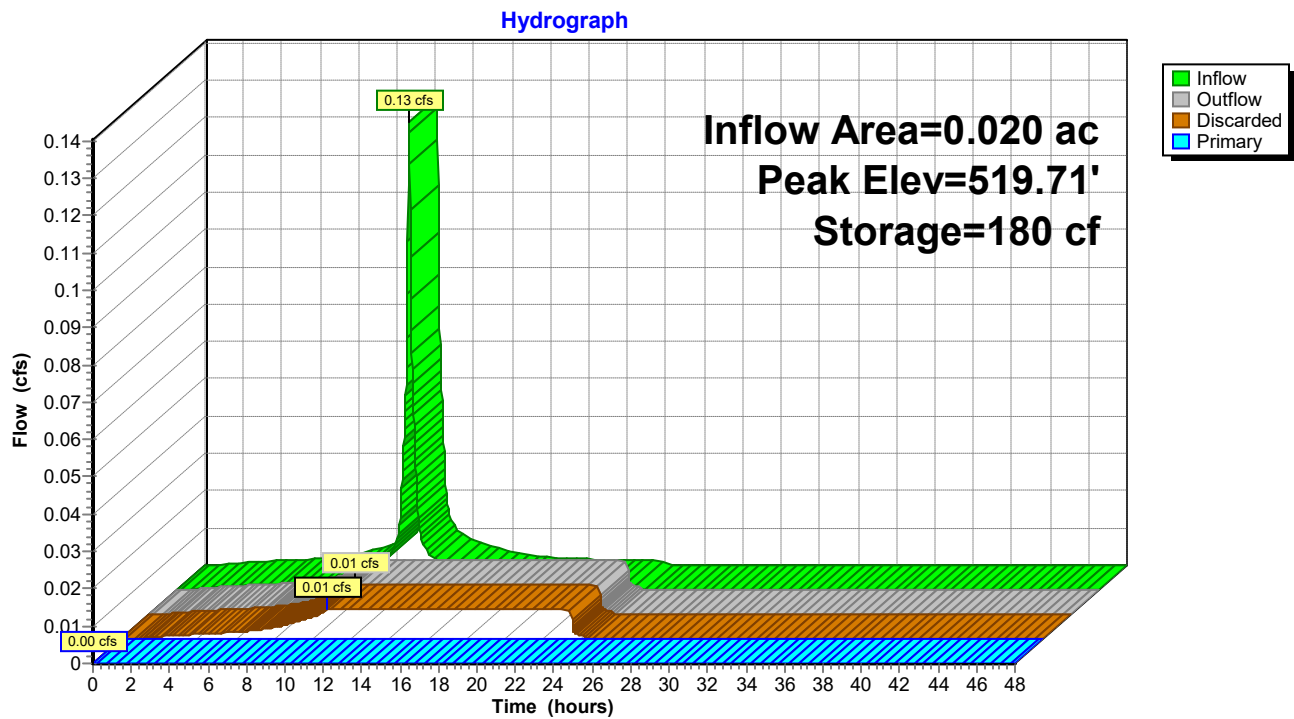
5 Chambers

16.8 cy Field

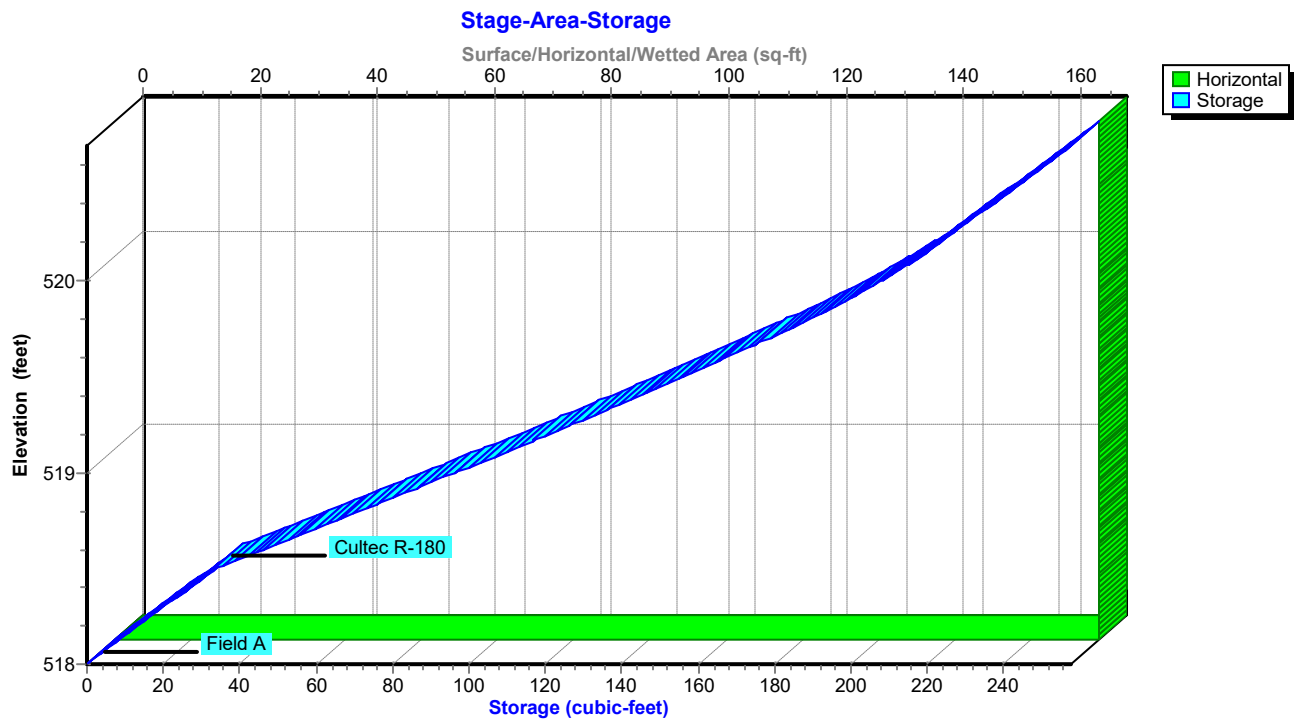
12.2 cy Stone



### Pond 6P: SW Chambers



### Pond 6P: SW Chambers

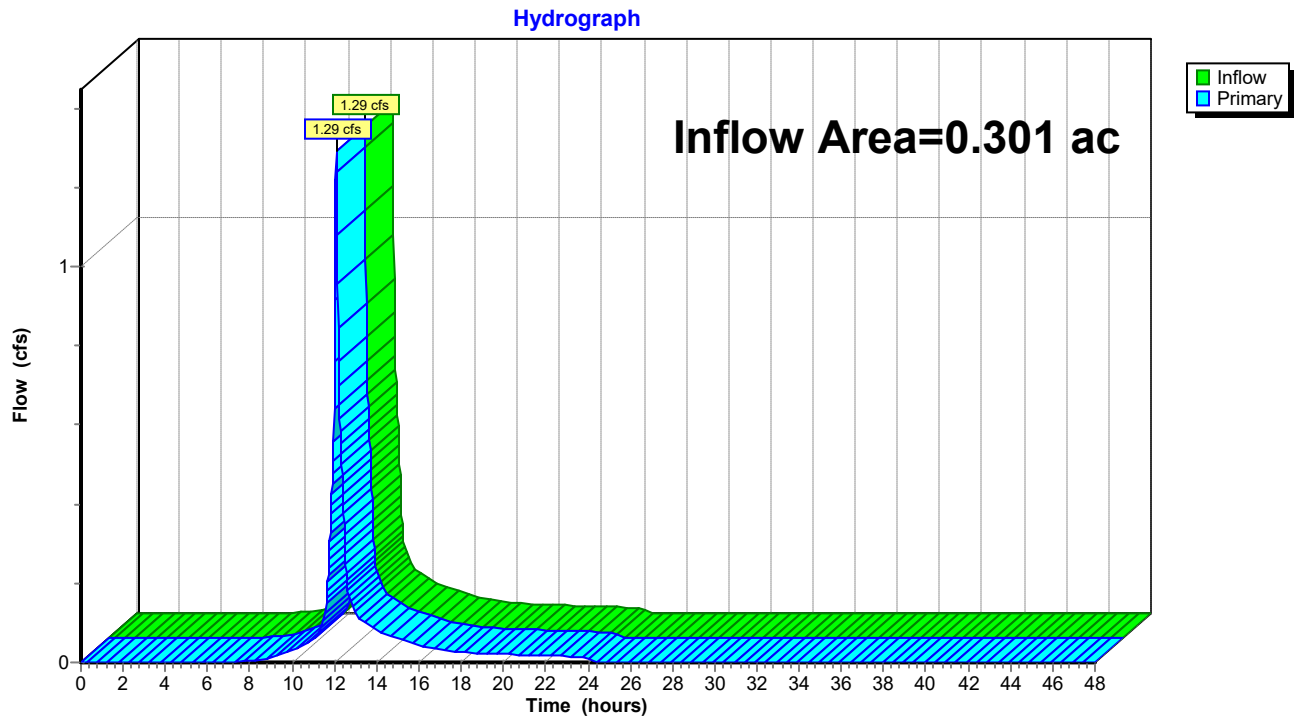


### Summary for Link 5L: DESIGN LINE

Inflow Area = 0.301 ac, 33.49% Impervious, Inflow Depth = 3.67" for 25-year event  
Inflow = 1.29 cfs @ 12.09 hrs, Volume= 0.092 af  
Primary = 1.29 cfs @ 12.09 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.02 hrs

### Link 5L: DESIGN LINE



# 10 Hoyt St South Salem, NY 10590

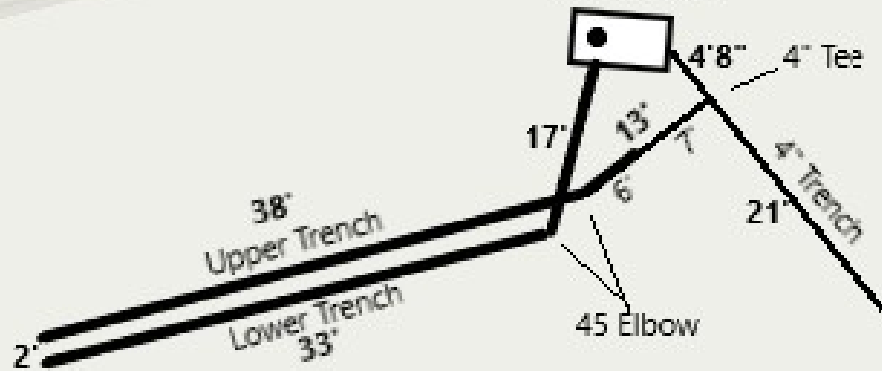
May 26, 2022



A

B

Appr. 1,000 Gal  
Septic Tank



	A	B
Septic Tank	46'2"	20'4"
Lower Trench Begin	47'	22'6"
Lower Trench End	39'6"	57'6"
Upper Trench Begin	48'3"	33'3"
Upper Trench End	36'	55'
4" Tee	53'4"	26'7"

## **Synopsis:**

Two outlets were located emanating from within the septic tank, both an upper and lower discharge point. The lower outlet consisted of a six inch (6") polyvinyl chloride pipe with no baffle that immediately commenced as an absorption trench as it exited the septic tank. This trench proceeded approximately seventeen feet (17') southwesterly then approximately thirty-three feet (33') westerly until termination.

The upper discharge point consisted of a standard four inch (4") polyvinyl chloride outlet baffle with connecting four inch (4") solid discharge piping. This discharge pipe was situated approximately three feet four inches (3'4") above the floor of the septic tank. It then proceeded approximately four feet eight inches (4'8") until a tee in the line, whereas it continued in a southeasterly direction as an absorption trench for approximately twenty-one feet (21'). Proceeding from the tee to the west was four inch (4") solid piping until it enlarged into six inch (6") perforated piping and proceeded as an absorption trench for a total trench length of approximately forty-four feet (44').

The two trenches, upper and lower, were separated by about two feet (2') vertically as well as horizontally once they began to run parallel after the upper trench passed over the lower trench.

No other active system components were discovered.

## Ciorsdan Conran

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**Subject:** Mandia stamped PB Res 061620.pdf  
**Attachments:** CO011-17-22 012351.pdf; Mandia bond escrow 041221.pdf; Mandia stamped PB Res 061620.pdf

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**From:** Bruce Mandia <bcj75@gmail.com>  
**Sent:** Thursday, November 17, 2022 3:57 PM  
**To:** Ciorsdan Conran <Planning@lewisborogov.onmicrosoft.com>  
**Subject:** Re: Mandia stamped PB Res 061620.pdf

Dear Ciorsdan,  
Please release 90% of the funds deposited with the town regarding the renovation of 65 Old Bedford Rd.  
Thank you,  
Bruce Mandia  
Sent from my iPhone

### Condition #6

In accordance with Section 220-46G of the Zoning Code, the applicant shall supply a performance bond, or other form of security, to guarantee completion of project infrastructure in a sum approved by the Town Engineer based on a cost estimate to be prepared by the applicant's design engineer. The form of the bond or performance security shall be acceptable to the Planning Board Attorney. The delivery and acceptance of this security does not relieve the applicant of the obligation to complete the project infrastructure. Said bond or performance security shall provide for project infrastructure to be completed within twenty-four (24) months of commencement of work and for the retention by the Town of 10% of the originally fixed amount for a period of one(1) year after the Certificate of Occupancy has been issued.





## TOWN OF RIDGEFIELD

### Planning and Zoning Commission

November 28, 2022

Janet Donahue, Town Clerk  
Town House, 11 Main Street  
P.O. Box 500  
South Salem, NY 10590

**Re: Referral under Section 8-7d of the Connecticut General Statutes: Application for Amendment to Section 2.2-Definitions: Inclusionary Zoning; Section 4.6-Inclusionary Housing Zone and Section 8.8- Special Provisions: Inclusionary Zoning and Section 7.3.C.1: Parking in CBD Zone**

Dear Ms. Donahue:

Per Section 8-7d of the Connecticut General Statutes, “the zoning commission, planning commission, zoning and planning commission...shall notify the clerk of any adjoining municipality of the pendency of any application, petition, appeal, request or plan concerning any project on any site in which... any portion of the property affected by a decision of such commission, board or agency is within five hundred feet of the boundary of the adjoining municipality”. Per Section 8-7d, “such notice shall be made by certified mail, return receipt requested, and shall be mailed *within seven days* of the date of receipt of the application, petition, request or plan.”

This letter is to inform you, that on November 22, 2022, the Town of Ridgefield Planning and Zoning Commission (Commission) statutorily received the following Commission initiated amendments A-22-5 to amend Section 2.2; 4.6 & 8.8 and A-22-6 to amend Section 7.3.C.1

Please reference the attached material and access to our online permitting system for Amendment Application A-22-5: Section 2.2; 4.6 & 8.8

<https://ridgefieldct.viewpointcloud.com/records/89747>

Please reference the attached material and access to our online permitting system for Amendment Application A-22-6: Section 7.3.C.1

<https://ridgefieldct.viewpointcloud.com/records/89749>

**Public hearings on the proposed amendment will be held on Tuesday, December 27, 2022, at 7:00 p.m. via hybrid model at the Ridgefield, Town Hall Annex, 66 Prospect St., Ridgefield CT 06877 or registering in advance for the webinar at below link.**  
[https://us02web.zoom.us/webinar/register/WN\\_OC313xq5T-288itciNUUXg](https://us02web.zoom.us/webinar/register/WN_OC313xq5T-288itciNUUXg)

66 Prospect Street • Ridgefield, CT 06877  
Phone: (203) 431-2766 • Fax: (203) 431-2737  
[www.ridgefieldct.org](http://www.ridgefieldct.org)

If you need additional information, please contact me at 203-431-2767.

Very truly yours,



Alice Dew

Director, Planning and Zoning

CERTIFIED MAIL: 7021 2720 0002 1680 1333

cc: Janet Donahue, Town Clerk  
Subject File

## 2.2 Definitions:

**Inclusionary Zoning:** To promote the development additional housing zones that require a given share of new construction be affordable by people with low to moderate incomes.

## 4. OTHER HOUSING ZONES & USES

4.6 Inclusionary Housing Zone. See Section 8.8

## 8.8. Special Provisions – Inclusionary Zoning

### A. PURPOSE

These regulations are intended to encourage the development of affordable housing within the Town of Ridgefield, consistent with Section 8-2(i) of the General Statutes of the State of Connecticut.

### B. Applicability

These regulations shall apply to all zones within the Town of Ridgefield.

### C. Requirements

1. Basic Requirement. All applications for development resulting in the creation of four (4) or more dwelling units shall designate a minimum of fifteen per cent (15%) of the total number of dwelling units in a manner such that the units would qualify to be counted as either “assisted housing” or “set-aside development” as defined by Section 8-30(g) of the Connecticut General Statutes (herein “Affordable Units”). In calculating the minimum requirement, fractions shall be rounded to the nearest whole number (see sample table below).
2. Phasing. For any phased project (e.g., multiple buildings/structures or other construction that will be completed in stages at separate times), the Affordable Units shall be constructed within the first phase, unless the Commission specifically permits otherwise in the application approval.
3. Integrated Site. Unless permitted by the Commission within the application approval, all projects shall be designed to mix Affordable Units evenly throughout the site (i.e., not clustered), sharing the same common amenities and services available to traditional units (e.g., parking, common room access, etc.), and generally the Affordable Units should not be physically identified or otherwise distinguishable from traditional units.

### D. Incentives

1. Developments subject to the provisions of this section which exceed the Basic Requirement (defined above) by a further five percent (5%) may be eligible for the below incentives, at the sole and absolute discretion of the Commission.

- a. **Density Bonus.** The Commission may grant a density bonus of additional dwelling units, in a quantity up to 30% of the otherwise permitted limit. Fractions in the density bonus shall be rounded to the nearest whole number. The density bonus units may be a combination of Affordable Units and traditional units as determined by the Commission, provided the Basic Requirement is exceeded by at least the percentage set above.
- b. **Dimension & Bulk.** The Commission may grant a waiver to the dimensional standards established in these regulations (including lot area, lot coverage, setback, yard, floor area, frontage, height, or similar restrictions), provided the waiver does not deviate from the original regulation by more than 25%.
- c. **Parking.** The Commission may reduce the parking requirements by up to twenty-five percent (25%).

#### **E. Fee-In-Lieu**

When this section would apply to a development application intended to be exclusively single-family dwelling units, the Commission may grant a waiver of all or some of the required Affordable Units, in exchange for payment of a cash fee in lieu of constructing the waived quantity of affordable units. The fee shall be equal to 300% of the Danbury, CT HUD Metro FMR Area Median Income (i.e., \$134,700 in FY2022), multiplied by the number of waived Affordable Units. The fee shall be paid to either: (a) a housing trust fund for the Town of Ridgefield, if one exists, or otherwise (b) another Commission-designed entity focused on providing affordable housing within the Town of Ridgefield.

#### **F. Administration**

The applicant shall submit an affirmative fair housing marketing plan for the below market rate dwelling units. All dwelling units shall be offered for sale or rent in compliance with all applicable Federal and State Fair Housing laws.

Any application under this Section shall identify the non-profit entity or property manager who will be responsible for program administration. The program administrator is subject to the approval of the Commission or its designated representative.

##### **1. The program administrator shall:**

- a. Annually review and certify to the Commission the annual income of households residing in below market rate dwelling units in accordance with a procedure established in advance and approved by the Commission.
- b. Maintain a list of eligible households in each category, who have applied for participation in the program. Applicants within each category shall be selected by lottery, conducted in accordance with a procedure established in advance of said lottery and approved by the Commission, or its designated representative.

c. Annually certify to the Commission that the selected household actually resides in the below market rate dwelling unit.

d. Certify to the Commission that below market rate dwelling units sold or re-sold do not exceed the maximum purchase price as calculated in a manner consistent with the methodology for maximum housing payment calculations in set-aside developments outlined in Section 8-30g of the Regulations of Connecticut State Agencies, as adjusted for family size.

e. Certify to the Commission that below market rate dwelling units for rent shall not exceed the maximum monthly rent as calculated in a manner consistent with the methodology for maximum housing payment calculations in set-aside developments outlined in Section 8-30g-8 of the Regulations of Connecticut State Agencies, as adjusted for family size.

2. Deed Restrictions: In order to maintain below market rate units for at least forty years or the life of the unit, whichever is longer, the following restrictions shall apply:

a. Below market rate units for sale shall be restricted by title to require that, in the event of any resale by the owner or any successor, the resale price shall not exceed the then maximum sales price for said dwelling unit, or the sum of the original purchase price and the cost of any documented fixed improvements made by the owner, whichever is greater.

b. Below market rate units for rent shall be restricted by title to require that the rents for said units shall not exceed the maximum rent as determined annually in accordance with (e) above.

## PARKING REGULATION CHANGE FOR CENTRAL BUSINESS DISTRICT

Ridgefield Regulation for CBD:

### **Regulation 7.3.C.1.**

#### **Parking in CBD Zone**

Due to the high level of pedestrian activity and the multi-purpose nature of trips in the CBD zone, the following parking requirements shall apply:

- a. for a change of use within an existing building in the CBD zone, there shall be no additional off-street parking required. **with the exception of residential uses. This would need to follow regulation 7.3.B, which states that in the case of multiple or mixed uses on the same property, the parking spaces required shall be the sum of the requirements for each of the various uses and /or structures computed separately.**
- b. for the expansion or new construction of a building (including appurtenant structures) in the CBD zone, the number of required parking spaces shall be reduced to sixty percent (60%) of the requirement specified in Subsection 7.3.B **with the exception of residential uses. This would need to follow regulation 7.3B, which states that in the case of multiple or mixed uses on the same property, the parking spaces required shall be the sum of the requirements for each of the various uses and /or structures computed separately. (perhaps you will want to add: or as the Commission deems sufficient).**