Grimaldi Residence - Application for Accessory Apartment

1-22-2023

Address: 34 Starkey Road, West Harrison, NY 10604 (Quarry Heights)

Mr. Kaufman,

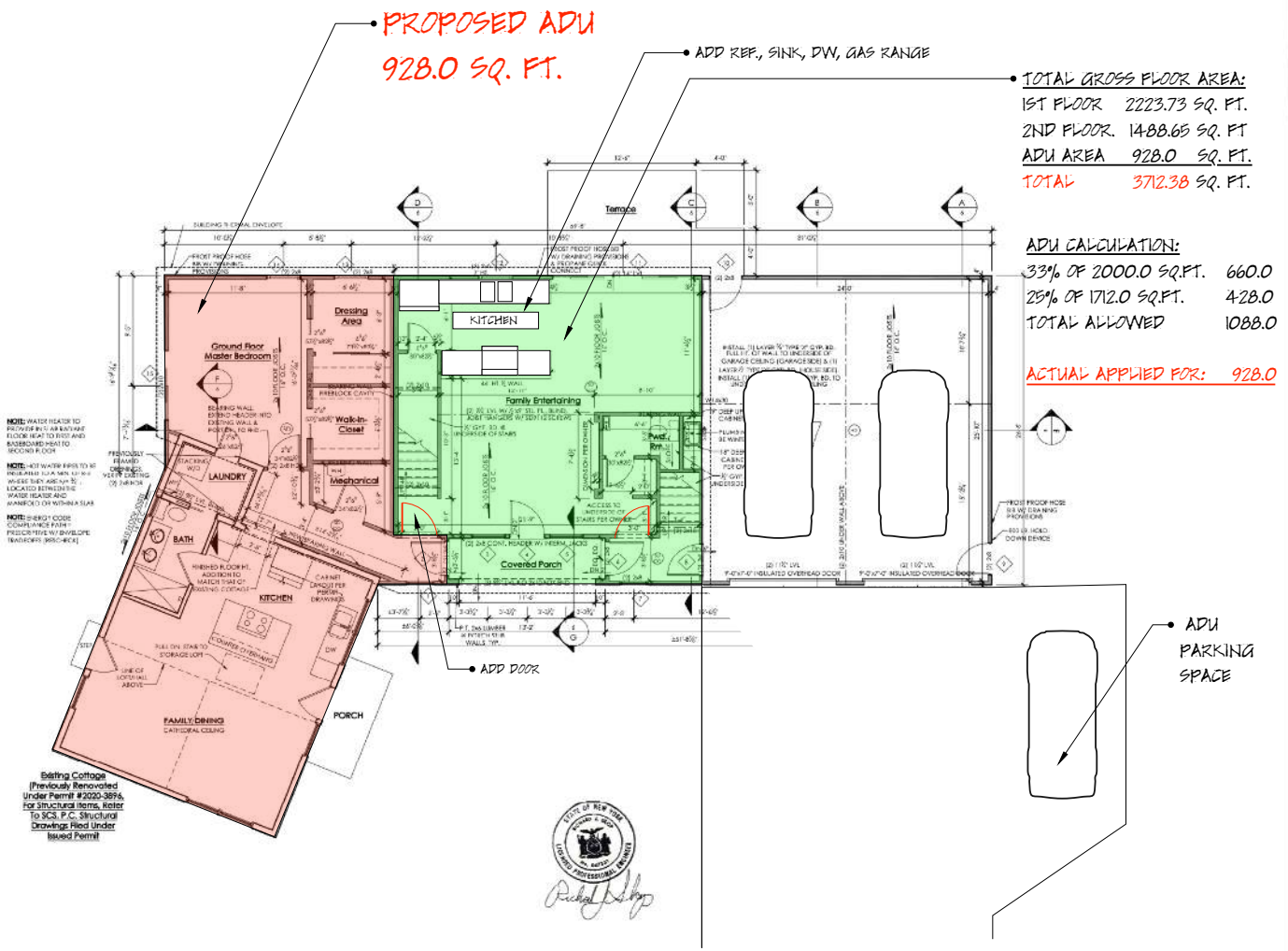
As discussed with you on previous occasions, we would like to formally make application to the town for a special use permit for an accessory apartment to be designated within existing space in our residence at 34 Starkey Road which was constructed prior to October 11, 1984. This request is based on the requirements outlined in the **Town code 355-34 K(1-17) (Accessory Apartments)** and is for the purposes of providing economic and physical support to our aging parents by providing them with autonomous space while still maintaining the property values and single-family character of our home and neighborhood.
We are currently the owners of said property since July 31, 2020 (2yrs and 7 months) and will continue to occupy the home. In 2020-2021 we renovated the existing home and in August 2022 began a permitted addition to the existing residence. Approved permit drawings are attached to this application.

There will not need to be any additional construction of space to the already approved footprint of home. The principle dwelling will be divided to allow for the original home area (referred to as cottage) to be designated as the accessory apartment with 928 sq. ft. (1BR/1BA). The newly constructed addition will serve as the principal dwelling with 2,187 sq. ft. (3BR/3.5BA). The driveway location and all other aspects of the home exterior will remain unchanged allowing for off-street parking for all occupants utilizing the 2 car attached garage and existing driveway spaces. We would like to add an additional gas range to the area labeled Family Entertaining and will be sure to comply with all building and fire codes.

We appreciate your consideration and hope we can move forward.

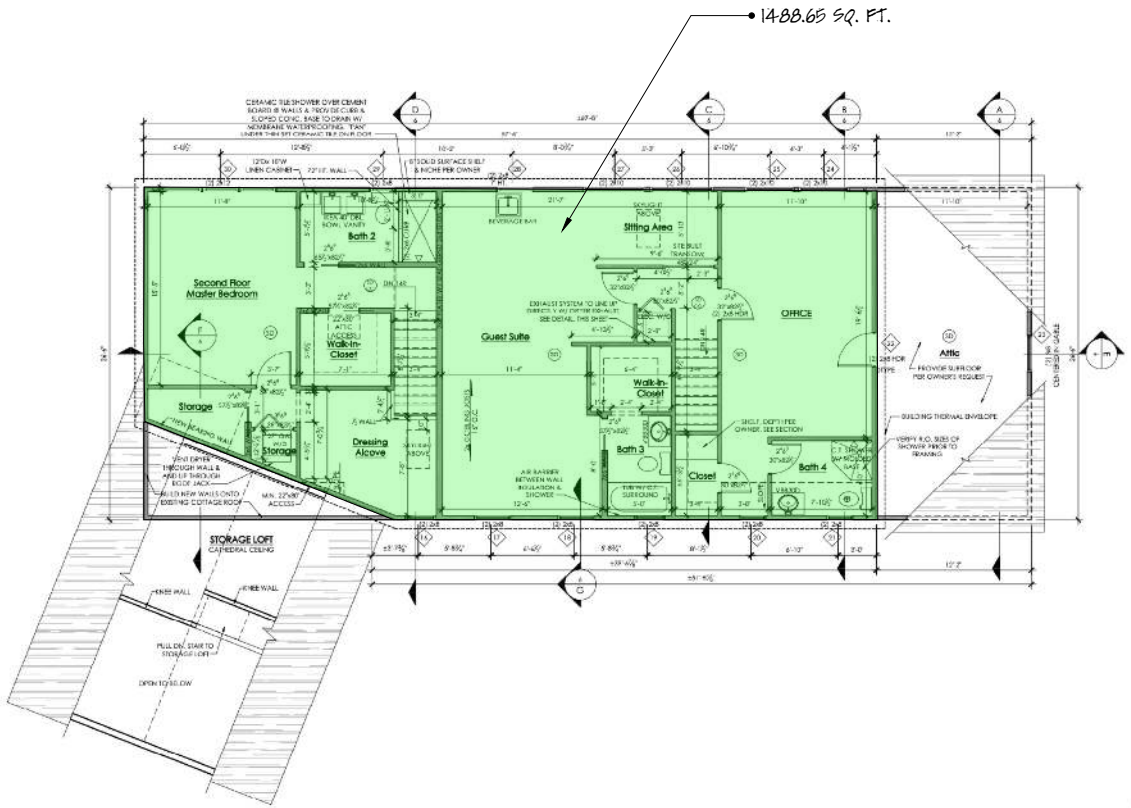
Thank you,

Michael & Pam Grimaldi



ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

SHEET
8
Add. #1



SECOND FLOOR PLAN

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

ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

SHEET
9
Add. #1

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

Application for Special Use Permit Approval

Application Name

GRIMALDI RESIDENCE - ACCESSORY APARTMENT

I. IDENTIFICATION OF PROPERTY OWNER, APPLICANT AND PROFESSIONAL REPRESENTATIVES

Name of Property Owner: MICHAEL + PAMELA GRIMALDI

Mailing Address: 34 STARKEY RD, WEST HARRISON, NY 10604

Telephone: 561-818-3939 Fax: _____ e-mail M.GRIMALDI22@gmail.com

Name of Applicant (if different): _____

Address of Applicant: _____

Telephone: _____ Fax: _____ e-mail _____

Interest of Applicant, if other than Property Owner:

_____

Is the Applicant (if different from the property owner) a Contract Vendee?

Yes ☐ No ☒ N/A

If yes, please submit affidavit sating such. If no, application cannot be reviewed by Planning Board

Name of Professional Preparing Site Plan:
SITE DESIGN CONSULTANTS - JOSEPH RIINA, P.E.

Address: 251-F UNDERHILL AVE, YORKTOWN HEIGHTS, NY 10598

Telephone: 914-962-4488 Fax: _____ e-mail JRIINA@SITEDESIGNCONSULTANTS.COM

Name of Other Professional: _____

Address: _____

Telephone: _____ Fax: _____ e-mail _____

Name of Attorney (if any): _____

Address: _____

Telephone: _____ Fax: _____ e-mail _____

Applicant Acknowledgement

By making this application, the undersigned Applicant agrees to permit Town officials and their designated representatives to conduct on-site inspections in connection with the review of this application.

The Applicant also agrees to pay all expenses of publication and the giving of public notice as required, and further acknowledges that he/she shall be responsible for reimbursing the Town for the cost of professional review services required for this application.

It is further acknowledged by the Applicant that all bills for the expenses of publication and the giving of public notice as well as professional consultant review services shall be mailed to the Applicant, unless the Town is notified in writing by the Applicant at the time of initial submission of the application that such mailings should be sent to a designated representative instead.

Signature of Applicant: _____ Date: 1/22/23

Signature of Property Owner: _____ Date: 1/22/23

MUST HAVE BOTH SIGNATURES

II. IDENTIFICATION OF SUBJECT PROPERTY

Street Address: 34 STARKEY RD, W. HARRISON, NY 10604

Location (in relation to nearest intersecting street):

300 feet (north, south, east or west) of JAMES ST.

Abutting Street(s): OLD ORCHARD ST., JAMES ST., WILLIAM ST.

Tax Map Designation (NEW): Section 123.05 Block 1 Lot 53 + 54

Tax Map Designation (OLD): Section _____ Block _____ Lot _____

Zoning District: R1|2A Total Land Area _____

Land Area in North Castle Only (if different) 11,415.90 Sq.Ft.

Fire District(s) N. Castle School District(s) Valhalla

Is any portion of subject property abutting or located within five hundred (500) feet of the following:

The boundary of any city, town or village?
No X Yes (adjacent) _____ Yes (within 500 feet) _____
If yes, please identify name(s): _____

The boundary of any existing or proposed County or State park or any other recreation area?
No X Yes (adjacent) _____ Yes (within 500 feet) _____

The right-of-way of any existing or proposed County or State parkway, thruway, expressway, road or highway?
No X Yes (adjacent) _____ Yes (within 500 feet) _____

The existing or proposed right-of-way of any stream or drainage channel owned by the County or for which the County has established channel lines?
No X Yes (adjacent) _____ Yes (within 500 feet) _____

The existing or proposed boundary of any county or State owned land on which a public building or institution is situated?
No X Yes (adjacent) _____ Yes (within 500 feet) _____

The boundary of a farm operation located in an agricultural district?
No X Yes (adjacent) _____ Yes (within 500 feet) _____

Does the Property Owner or Applicant have an interest in any abutting property?
No X Yes _____

If yes, please identify the tax map designation of that property:

_____

III. DESCRIPTION OF PROPOSED DEVELOPMENT

Type of Special Use Permit:

Accessory Apartment X

Accessory Structure over 800 square feet X

Gross Floor Area: Existing 3712 S.F. Proposed 3712 S.F.

Number of Parking Spaces: Existing 3+ Proposed 3+

Earthwork Balance: Cut N/A C.Y. Fill _____ C.Y. _____

Will Development on the subject property involve any of the following:

Areas of special flood hazard? No X Yes _____
(If yes, application for a Development Permit pursuant to Chapter 177 of the North Castle Town Code may also be required)

Trees with a diameter at breast height (DBH) of 8" or greater?

No X Yes _____
(If yes, application for a Tree Removal Permit pursuant to Chapter 308 of the North Castle Town Code may also be required.)

Town-regulated wetlands? No X Yes _____
(If yes, application for a Town Wetlands Permit pursuant to Chapter 340 of the North Castle Town Code may also be required.)

State-regulated wetlands? No X Yes _____
(If yes, application for a State Wetlands Permit may also be required.)

IV. SUBMISSION REQUIREMENTS

The special use permit application package shall include all materials submitted in support of the application, including but not limited to the application form, plans, reports, letters and SEQR Environmental Assessment Form. **Submission of the following shall be required:**

- One (1) set of the special use permit application package (for distribution to the Town Planner for preliminary review purposes).

- Once a completed preliminary special use permit checklist has been received from the Planning Department, eight (8) additional sets of the site development plan application package (for distribution to Planning Board, Town Engineer, Town Attorney, Town Planner, Planning Board Secretary, police, fire department and ambulance corps).

- One (1) additional reduced sized set (11" x 17") of the special use permit application package if any portion of the subject property abuts or is located within five hundred (500) feet of the features identified in Section II of this application form (for distribution to Westchester County Planning Board).

- A check for the required application fee and a check for the required Escrow Account, both made payable to "Town of North Castle" in the amount specified on the "Schedule of Application Fees."

(continued next page)

V. INFORMATION TO BE INCLUDED ON SPECIAL USE PERMIT SITE PLAN

The following checklist is provided to enable the Applicant to determine if he/she has provided enough information on the special use permit plan for the Planning Board to review his/her proposal. Applicants are advised to review Chapter 355 Article VII of the North Castle Town Code for a complete enumeration of pertinent requirements and standards prior to making application for special use permit approval.

The application for special use permit approval will not be accepted for Planning Board review unless all items identified below are supplied and **so indicated with a check mark in the blank line provided.** If a particular item is not relevant to the subject property or the development proposal, **the letters "NA" should be entered instead**.

The information to be included on a site development plan shall include:

Legal Data:

_____ Name of the application or other identifying title.

_____ Name and address of the Property Owner and the Applicant, (if different).

_____ Name, address and telephone number of the architect, engineer or other legally qualified professional who prepared the plan.

_____ Names and locations of all owners of record of properties abutting and directly across any and all adjoining streets from the subject property, including the tax map designation of the subject property and abutting and adjoining properties, as shown on the latest tax records.

_____ Existing zoning, fire, school, special district and municipal boundaries.

_____ Size of the property to be developed, as well as property boundaries showing dimensions and bearings as determined by a current survey; dimensions of yards along all property lines; name and width of existing streets; and lines of existing lots, reservations, easements and areas dedicated to public use.

_____ Reference to the location and conditions of any covenants, easements or deed restrictions that cover all or any part of the property, as well as identification of the document where such covenants, easements or deed restrictions are legally established.

_____ Schedule of minimum zoning requirements, as well as the plan's proposed compliance with those requirements, including lot area, frontage, lot width, lot depth, lot coverage, yards, off-street parking, off-street loading and other pertinent requirements.

_____ Locator map, at a convenient scale, showing the Applicant's entire property in relation to surrounding properties, streets, etc., within five hundred (500) feet of the site.

_____ North arrow, written and graphic scales, and the date of the original plan and all revisions, with notation identifying the revisions.

_____ A signature block for Planning Board endorsement of approval.

Existing Conditions Data:

_____ Location use and design of existing buildings, identifying first floor elevation, and other structures.

_____ Location of existing facilities for water supply, sanitary sewage disposal, storm water drainage, and gas and electric service, with pipe sizes, grades, rim and inverts, direction of flow, etc. indicated.

_____ Location of all other existing site improvements, including pavement, walks, curbing, retaining walls and fences.

_____ Location, type, direction, power and time of use of existing outdoor lighting.

_____ Existing topographical contours with a vertical interval of two (2) feet or less.

_____ Location of existing floodplains, wetlands, slopes of 15% or greater, wooded areas, landscaped areas, single trees with a DBH of 8" or greater, rock outcrops, stone walls and any other significant existing natural or cultural features.

Proposed Development Data:

_____ Proposed location of lots, streets, and public areas, and property to be affected by proposed easements, deed restrictions and covenants.

_____ Proposed location, use and architectural design of all buildings, including proposed floor plans and elevations.

_____ Proposed means of vehicular and pedestrian access to and egress from the site onto adjacent streets.

_____ Proposed sight distance at all points of vehicular access.

_____ Proposed streets, with profiles indicating grading and cross-sections showing the width of the roadway; the location and width of sidewalks; and the location and size of utility lines.

_____ Proposed location and design of any pedestrian circulation on the site and off-street parking and loading areas, including handicapped parking and ramps, and including details of construction, surface materials, pavement markings and directional signage.

_____ Proposed location and design of facilities for water supply, sanitary sewage disposal, storm water drainage, and gas and electric service, with pipe sizes, grades, rim and inverts, direction of flow, etc. indicated.

_____ Proposed location of all structures and other uses of land, such as walks, retaining walls, fences, designated open space and/or recreation areas and including details of design and construction.

_____ Location, type, direction, power and time of use of proposed outdoor lighting.

_____ Location of proposed landscaping and buffer screening areas, including the type (scientific and common names), size and amount of plantings.

_____ The proposed location, size, design and use of all temporary structures and storage areas to be used during the course of construction.

_____ Proposed grade elevations, clearly indicating how such grades will meet existing grades of adjacent properties or the street.

_____ Proposed soil erosion and sedimentation control measures.

_____ For all proposed plans containing land within an area of special flood hazard, the data required to ensure compliance with Chapter 177 of the North Castle Town Code.

_____ For all proposed plans involving clearing or removal of trees with a DBH of 8" or greater, the data required to ensure compliance with Chapter 308 of the North Castle Town Code.

_____ For all proposed plans involving disturbance to Town-regulated wetlands, the data required to ensure compliance with Chapter 340 of the North Castle Town Code.

The special use permit application package shall also include a narrative document that demonstrates compliance with the following:

_____ The location and size of the use, the nature and intensity of the operations involved in it or conducted in connection with it, the size of the site in relation to it and the location of the site with respect to streets giving access to it are such that it will be in harmony with the appropriate and orderly development of the district in which it is located and that it complies with all special requirements for such use.

_____ The location, nature and height of buildings, walls, fences and the nature and extent of existing or proposed plantings on the site are such that the use will not hinder or discourage the appropriate development and use of adjacent land and buildings.

_____ Operations in connection with any special use will not be more objectionable to nearby properties by reason of noise, fumes, vibration or other characteristics than would be the operations of any permitted uses not requiring a special permit.

_____ Parking areas will be of adequate size for the particular use, properly located and suitably screened from adjoining residential uses, and the entrance and exit drives shall be laid out so as to achieve maximum convenience and safety.

_____ Where required, The provisions of the Town Flood Hazard Ordinance shall be met.

_____ The proposed special permit use will not have a significant adverse effect on the environment.

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.

Part 1 - Project and Sponsor Information

Name of Action or Project: GRIMALDI RESIDENCE

Project Location (describe, and attach a location map): 34 STARKEY RD, WEST HARRISON, NY 10604

Brief Description of Proposed Action: SEEKING APPROVAL TO CREATE AN ACCESSORY APARTMENT FOR INLAWS WITHIN EXISTING PERMITTED HOME. HOME ADDITION CURRENTLY UNDER CONSTRUCTION AND NEARING COMPLETION.

Name of Applicant or Sponsor:	Telephone: 561-818-3934
MICHAEL + PAMELA GRIMALDI	E-Mail: M.GRIMALDI22@gmail.com

Address: 34 STARKEY RD

City/PO:	State:	Zip Code:
WEST HARRISON	NY	10604

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? 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.	☒	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval:	☒	☐

3.a. Total acreage of the site of the proposed action? 1/4 acres
b. Total acreage to be physically disturbed? Ø acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1/4 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☒ Residential (suburban)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____
☐ Parkland

If the proposed action will exceed requirements, describe design features and technologies:	☐	☒
10. Will the proposed action connect to an existing public/private water supply?	NO	YES

	NO	YES	N/A
5. Is the proposed action, a. A permitted use under the zoning regulations?	☐	☒	☐
b. Consistent with the adopted comprehensive plan?	☐	☒	☐
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO	YES	
	☐	☒	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO	YES	
	☒	☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO	YES	
	☒	☐	
b. Are public transportation service(s) available at or near the site of the proposed action?	☒	☐	
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☒	☐	
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	YES	
	☐	☒	
10. Will the proposed action connect to an existing public/private water supply?	NO	YES	
If No, describe method for providing potable water: EXISTING HOME ALREADY CONNECTED TO PRIVATE WATER WELL	☐	☒	
11. Will the proposed action connect to existing wastewater utilities?	NO	YES	
If No, describe method for providing wastewater treatment: EXISTING HOME ALREADY CONNECTED TO PUBLIC SEWER	☐	☒	
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	NO	YES	
	☒	☐	
b. Is the proposed action located in an archeological sensitive area?	☒	☐	
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?	NO	YES	
	☒	☐	
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: _____			
14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: ☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional ☐ Wetland ☐ Urban ☒ Suburban			
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	
	☒	☐	
16. Is the project site located in the 100 year flood plain?	NO	YES	
	☒	☐	
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☐ NO ☐ YES	NO	YES	
	☒	☐	
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☐ NO ☐ YES			

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____	☒	☐
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: _____	☒	☐
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: _____	☒	☐

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: MICHAEL GRIMALDI Date: 1/22/23

Signature: _____

PRINT FORM

Town of North Castle Planning Department
17 Bedford Road Armonk, New York 10504
(914) 273-3542 (914) 273-3554 (fax)

ACCESSORY APARTMENT SPECIAL USE PERMIT COMPLETENESS REVIEW FORM

This form represents the standard requirements for a completeness review for all preliminary special use permit plans. Failure to provide all of the information requested will result in a determination that the special use permit application is incomplete. The review of the plan for completeness will be based on the requirements of the Town of North Castle Town Code.

Project Name on Plan: ADDITION TO GRIMALDI RESIDENCE

☒ Initial Submittal ☐ Revised Preliminary

Street Location: 34 STARKEY RD, W. HARRISON, NY 10604

Zoning District: R1/2A Property Acreage: 1/4A Tax Map Parcel ID: 123.05-1-53+54

Date: 1/22/23

DEPARTMENTAL USE ONLY

Date Filed: _____ Staff Name: _____

Preliminary Plan Completeness Review Checklist
Items marked with a "☒" are complete, items left blank "☐" are incomplete and must be completed, "NA" means not applicable.

☐1. Written statement describing the nature of the proposed special use and how it will serve to implement the intent and purposes of the Town Code (213-30) **[213-27.B]**

☐2. site plan prepared by a registered architect or licensed and registered engineer **[213-33.K]**

☐3. A map showing the applicant's entire property at a scale of from one inch equals 20 feet to one inch equals 100 feet **[213-33.K]**

☐4. A location map showing adjacent properties and streets **[213-33.K]**

☐5. A map depicting the location and design of all buildings and structures **[213-33.K]**

☐6. The proposed division of the principal dwelling, showing the accessory unit, if appropriate **[213-33.K]**

☐7. A detailed plan of the use of floor space by type of use and floor level **[213-33.K]**

☐8. Existing topography and proposed grade elevations **[213-33.K]**

☐9. Location of driveway(s) and parking **[213-33.K]**

☐10. A description of the method of water supply and sewage disposal and location of such facilities **[213-33.K]**

☐11. If a tree removal permit is being sought, submission of a plan depicting the location and graphical removal status of all Town-regulated trees within the proposed area of disturbance. In addition, the tree plan shall be accompanied by a tree inventory includes a unique ID number, the species, size, health condition and removal status of each tree. **[Chapter 192]**

☐12. If a wetlands permit is being sought, identification of the wetland and the 100-foot wetland buffer. **[Chapter 209]**

More information about the items required herein can be obtained from the North Castle Planning Department. A copy of the Town Code can be obtained from Town Clerk or on the North Castle homepage: http://www.northcastleny.com/townhall.html

_____ On this date, all items necessary for a technical review of the proposed special use permit plan have been submitted and constitute a COMPLETE APPLICATION.

TOWN OF NORTH CASTLE

17 Bedford Road
Armonk, N.Y. 10504
914-273-3000 ext. 44 Fax 914-273-3554
Building@northcastleny.com

BUILDING PERMIT

Permit No.: 2022-0159
SBL: 123.05-1-53
Zoned: R-1/2A
Location: 34 STARKEY RD

Date: 02/18/2022
Expiration Date: 02/18/2024
Cost of Construction: $420,000.00
Total Fees: $7,505.00

Owner:
MICHAEL J GRIMALDI
34 STARKEY RD
N WHITE PLAINS, NY 10604

Contractor:

A permit is hereby given by the Building Department, TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, for the structure or work described herein.

Project Description:

Addition to single family residence including living, sleeping, bath and garage areas

Required Inspections:

FINAL FOOTING CONCRETE FORMS CONCRETE SLAB FOOTING DRAINS WATERPROOFING FRAMING ROUGH PLUMBING GAS TEST HVAC ROUGH INSULATION/ AIR LEAKAGE/ FENESTRATION

Conditions:

1. The Building permit shall be visibly displayed at the work site and shall remain visible until the authorized work has been inspected.
2. All work shall be performed in accordance with the Town of North Castle code, the NYS Uniform code and the construction documents which have been submitted with and accepted as part of the application for the building permit.
3. The permit holder shall immediately notify the Building Inspector of any change occurring during the course of the work. If the Building Inspector determines that such change warrants a new or amended building permit, such change shall not be made until and unless a new or amended building permit reflecting such change is issued.
3. Building permits shall become invalid unless the authorized work is commenced within 12 months following the date of issuance. Building permits shall expire 24 months after the date of issuance.
4. It is the responsibility of the owner or agent to call for all of the required inspections listed on this permit at least one day in advance.
5. Occupancy of these premises is prohibited until after a final inspection has been conducted, all fees have been paid and a Certificate of Occupancy or Compliance has been issued.

TOWN OF NORTH CASTLE

BUILDING PERMIT

Permit No: 2022-0159

Issue Date: 02/18/2022

Expiration Date: 02/18/2024

Description of Work:

Addition to single family residence including living, sleeping, bath and garage areas

THIS PERMIT MUST BE PROMINENTLY DISPLAYED ON THE BUILDING OR SITE DURING CONSTRUCTION

IT IS REQUIRED THAT UPON COMPLETION OF WORK THAT A FINAL INSPECTION BE MADE WITH THE BUILDING DEPARTMENT IN ORDER FOR A FINAL CERTIFICATE TO BE ISSUED!

Project submittal- Grimaldi Residence
Application #2021-0770

From: Michael & Pamela Grimaldi- 34 Starkey Rd, West Harrison, NY 10604

To: Town of North Castle Building Department- Robert Melillo

Re: Project Summary- Addition to existing single family residence at 34 Starkey Rd
Tax ID: 123.05-1-53

Dear Mr. Melillo,

Attached you will find the application for a building permit for our addition. As discussed at the RPRC meeting last month and outlined in the determination letter attached, we hope with this submission to have supplied the revised information needed regarding the site work and architectural plans to begin a review by the building department. A summary and response of those points from RPRC determination letter are below:

1. While our project is within the requirements of setbacks, gross land calcs, gross floor area calcs, the proposed home will need a variance for building coverage based on the fact that it is a 1/4 acre lot with 1/2 acre zoning. We hope to go before the zoning board at the next possible opportunity which means we have a cutoff date of Sept 14th to make the October 7th agenda. As you mentioned you could do at the RPRC meeting, would you generate the needed letter which will allow us to go to zoning board? We understand the entire review for permit by your department will be longer and issuance of a permit will be dependent on the determination of the zoning board and your complete review.
2. The revised plan now depicts the proposed house in its totality (existing + proposed) which **will remain as a single family** home and **not** be a two-family. It is proposed and configured as a single housekeeping unit with one kitchen, one family dining area, and a family living area and bedrooms and bathrooms. They share a main entrance and all living spaces.
3. The Landscape plan will be forthcoming in the next week or two and will use mostly native varieties that focus on foundation planting and perimeter screening. We will provide whatever landscaping the town or zoning board deems necessary.
4. The existing public sanitary service is designed to handle increased capacities and is the same system used throughout Quarry Heights in many larger homes. Sal Misti from N. Castle Water and Sewer Dept. was contacted and did confirm that our system can handle the increase and said he can send you an email internally if necessary.
5. Per the site engineer Joe Riina, P.A. of Site Design Consultants, the driveway runoff which will be treated within the rain garden and stored in Cultec units must be a minimum distance of 50 feet from a drilled on-site well per WCHD and the closest neighboring wells are now depicted on the site plan and are farther away than required minimum distance.

6. The site plan will be revised to show the silt fence extend across the complete rear of the property.

As always we appreciate the direction you have been able to give us throughout these preliminary stages of the project and thank you for your consideration and efforts to help us move forward.

Respectfully,

Mike Grimaldi

34 Starkey Rd
West Harrison, NY 10604
m.grimaldi22@gmail.com
561-818-3939 cell

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

RESIDENTIAL PROJECT
REVIEW COMMITTEE
Adam R. Kaufman AICP, Chair

Telephone: (914) 273-8625
Fax: (914) 273-3554
www.northcastleny.com

RPRC DETERMINATION LETTER

Project Description:	Addition
Street Location:	34 STARKEY RD
	Zoning District: R-1/2A Tax ID: 123.05-1-53 Application No.: 2021-0770
RPRC DECISION:	RPRC - Requires ZBA
Date:	08/17/2021

The above referenced application was reviewed by the Residential Project Review Committee (RPRC).

The Committee determined that Planning Board and Architectural Review Board approval of the proposed project is NOT REQUIRED.

However, the following issues will need to be addressed prior to the issuance of a building permit:

- The proposal exceeds the maximum permitted amount of Building Coverage. The Applicant will need to obtain a variance from the Zoning Board of Appeals.
- The lot contains an existing dwelling. The current proposal appears to add a second dwelling to the existing dwelling
- making the new structure a two-family home (which is not permitted).
- The plans should be revised to depict the proposed house in totality (include the existing floor plan and proposed floor plan).
- The Applicant will need to demonstrate, to the satisfaction of the Building Inspector, that that the house is configured as a single housekeeping unit.
- All submitted plans should contain the seal and signature of the professional preparing the plan.
- The Applicant should submit a landscape plan for review that focuses on foundation planting and perimeter screening where needed.
- Property is serviced by public sanitary service and private well. Applicant should confirm details of sewer pump/storage and that existing system can accommodate increased flows from expanded residence.
- Plans should show roof leaders piping between building and treatment areas.

- Applicant should provide verification from the Westchester County Department of Health (WCHD) that the driveway runoff, which is proposed to be treated within both the rain garden and infiltrators, can be infiltrated within the Cultec Units, which are located within 100 feet of the on-site well.

- Applicant should also show the location of the neighboring wells within 100 feet of the property.

- Silt fence should be extended across the complete rear of the property.

At this time, you must submit two hard copies of revised plans addressing the above issues, this determination letter and a completed building permit application directly to the North Castle Building Department. DO NOT START CONSTRUCTION WITHOUT A VALID BUILDING DEPARTMENT PERMIT.

If you would like to further discuss this matter, please do not hesitate to contact the Building Department.

Adam R. Kaufman, AICP
Director of Planning

Town of North Castle Building Department
17 Bedford Road
Armonk, New York 10504-1898
Telephone: (914) 273-3000 ext. 44 Fax: (914) 273-3554
www.northcastleny.com

Residential Building Permit Application

NOTE: TWO (2) SETS OF ALL REQUIRED DOCUMENTS MUST BE SUBMITTED WITH THIS APPLICATION

Section I- PROJECT ADDRESS: 34 Starkey Road, West Harrison DATE: 9-5-2021

Section II- CONTACT INFORMATION: (Please print clearly. All information must be current.)

APPLICANT: Michael & Pamela Grimaldi

ADDRESS: 34 Starkey Rd, West Harrison, NY 10604

PHONE: 561-818-3939 MOBILE: 561-818-3939 EMAIL: m.grimaldi22@gmail.com

PROPERTY OWNER: Michael & Pamela Grimaldi

ADDRESS: all same as above

PHONE: MOBILE: EMAIL:

Section III- DESCRIPTION OF WORK: (Any work conducted outside of the house requires approval from the RPRC unless the proposed action is minor in nature and complies with 355-26 C (3) of the Town of North Castle code.)

Type VB addition to single family residence including living, sleeping, bathing and garage areas. Existing cottage renovated under separate permit and completed in April 2021. (Permit #2020-3896)

Section IV- USE AND OCCUPANCY:

EXISTING/ CURRENT USE: Single Family Residence

PROPOSED RESIDENTIAL:

- [x] One Family Dwelling
- [ ] Two Family Dwelling
- [ ] Townhouse
- [ ] Detached Accessory Structure

Section V- PERMIT FEES: ($100 app fee plus $14 per $1000, cost of construction and a $75 CO fee.)

ESTIMATED COST OF CONSTRUCTION (Based on fair market value labor & material) $ 420,000

AFFIDAVIT OF CONSTRUCTION COST: This affidavit must be completed by the Design Professional if the estimated cost is $20,000 or more.

Town of North Castle Building Department

Section V- (Continued)

I Richard Skop do hereby affirm and certify as follows: (i) I am the architect/engineer (circle one) licensed by the State of New York; (ii) I have reviewed the plans, drawings and specifications for this application and am fully familiar with the proposed construction; (iii) based on my experience, I estimate the total cost of construction including all labor, all materials, all professional fees and all associated costs to be approximately $ 420,000.00, and (iv) pursuant to Penal Law 210.45, I acknowledge that a false statement made knowingly is a Class A misdemeanor.

Signature: _____ Date: 3/25/21

STATE OF NEW YORK RICHARD J. SKOP No. 047331 LICENSED PROFESSIONAL ENGINEER

Sign and Affix Seal Here

Section VI- CONTACT INFORMATION: (Please print clearly. All information must be current)

ARCHITECT/ ENG: Richard J. Skop

ADDRESS: 44 Southwick Drive, Orchard Park, NY 14127

PHONE: N/A MOBILE: 716-725-5990

EMAIL: rjskoppe@gmail.com

CONTRACTOR: Owner/builder

ADDRESS:

PHONE: MOBILE: EMAIL:

PLUMBER: Vincente B Brito- Brito Plumbing & Mechanical

ADDRESS: 68 Prospect Ave, Ossining, NY 10562

PHONE: 518-558-1935 MOBILE: 518-558-1935 EMAIL: Britoplumbingandmechanical@gmail.com

ELECTRICIAN: Aletto Electric- Jason Aletto

ADDRESS: 6 Valerie Lane, Danbury, CT 06810

PHONE: 203-948-9136 MOBILE: 203-948-9136 EMAIL: jason@alettoelectric.com

Section VII- APPLICANT CERTIFICATION

I hereby certify that I have read the instructions & examined this application and know the same to be true & correct. All provisions of laws & ordinances covering this type of work will be complied with whether specified herein or not. The granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local law regulating construction or land use or the performance of construction.

Signature: _____ Date: _____

Town of North Castle Building Department

Section VIII- AFFIDAVIT OF OWNER AUTHORIZATION IF APPLICABLE: **(To be notarized)**

STATE OF NEW YORK }
COUNTY OF WESTCHESTER } SS:

The applicant _____ has proper consent from said owner to make this application as submitted and said owner agrees to all terms and conditions placed upon same.

Owner's Name (PRINT)_____Owner's Signature_____

Sworn to before me this_____ day of _____, 20_____

Notary Signature_____

Notary Stamp Here

OFFICE USE ONLY – DO NOT WRITE BELOW THIS LINE

Zone:_____ Section:_____ Block:_____ Lot:_____

Building Department Checklist:

Does this permit require RPRC approval? ☐ Yes ☐ No

☐ GC License ☐ Work. Comp. ☐ Liability. Ins. ☐ Disability ☐ Two sets of documents

☐ Permit Fee _____ Payment: ☐ Check #: _____ ☐ Cash ☐ Credit Card

Name on check: _____

Received By:_____ Application No.:_____

BUILDING INSPECTOR APPROVAL

Has all the conditions of the RPRC been met? ☐ Yes ☐ NA

Is a Flood Development permit required? ☐ Yes ☐ No

Reviewed By:_____ Date:_____

Building Inspector Approval:_____ Date:_____

Conditions:_____

_____

_____

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

GROSS LAND COVERAGE CALCULATIONS WORKSHEET

Application Name or Identifying Title: Grimaldi Residence Date: _____

Tax Map Designation or Proposed Lot No.: 123.05-1-53 & 123.05-1-52

Gross Lot Coverage

1. Total lot Area (Net Lot Area for Lots Created After 12/13/06): 11,415.90

2. **Maximum** permitted gross land coverage (per Section 355-26.C(1)(b)): 4,339.81

3. **BONUS** maximum gross land cover (per Section 355-26.C(1)(b)):

   Distance principal home is beyond minimum front yard setback
   _____ 0 x 10 = _____ 0 ____

4. **TOTAL Maximum Permitted gross land coverage** = Sum of lines 2 and 3 4,339.81

5. Amount of lot area covered by **principal building:**
   549.70 existing + 1,846.26 proposed = 2,395.96

6. Amount of lot area covered by **accessory buildings:**
   __ 0 ____ existing + _____ proposed = 0

7. Amount of lot area covered by **decks:**
   0 existing + 0 proposed = 0

8. Amount of lot area covered by **porches:**
   0 existing + 0 proposed = 0

9. Amount of lot area covered by **driveway, parking areas and walkways:**
   131.34 existing + 1,089.66 proposed = 1,221

10. Amount of lot area covered by **terraces:**
    0 existing + 128.50 proposed = 128.50

11. Amount of lot area covered by **tennis court, pool and mechanical equip:**
    0 existing + 0 proposed = 0

12. Amount of lot area covered by **all other structures:**
    0 existing + 0 proposed = 0

13. Proposed **gross land coverage:** Total of Lines 5 – 12 = 3745.46

If Line 13 is less than or eq ual to Line 4, your proposal **complies** with the Town's maximum gross land coverage regulations and the project may proceed to the Residential Project Review Committee for review. If Line 13 is greater than Line 4 your proposal does not comply with the Town's regulations.

Richard J. Skop 3/27/21

Signature and Seal of Professional Preparing Worksheet Date

STATE OF NEW YORK
RICHARD J. SKOP
No. 047331
LICENSED PROFESSIONAL ENGINEER

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
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GROSS LAND COVERAGE WORKSHEET

The following format is to be used for all applications for the purpose of demonstrating the gross land coverage of a property as necessary to show compliance with gross land coverage limitations of the Town Code.

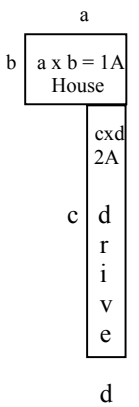
1. Scaled worksheets are to be prepared based upon a site plan which represents existing or proposed conditions as applicable to the particular circumstances of the approval being sought. All site plans and worksheets are required to be prepared by a licensed or registered professional in the State of New York.

2. Each component of the gross land coverage is to be divided into simple polygons (squares, rectangles, etc.) each being drawn on the plan. The area of each polygon is to be shown by providing the dimensions and resulting area measurement. Each polygon is to be assigned an identifying label for reference purposes.

3. A summary table for each component is to be completed. The area of each polygon is to be listed by reference label then added, resulting in the gross land coverage for the entire site.

4. Any exception of land coverage from the gross land coverage must be identified on the floor plans and summary tables. The rationale for any exception must accompany the floor area worksheets.

5. A schematic illustration of the format is shown below



1A= House
2A= Drive

1A
2A

GROSS LAND COVERAGE

LOT AREA, NET – Lot area minus seventy five (75) percent of the area of any wetlands, waterbodies and, watercourses, but excluding any adjacent areas, all as defined in Chapter 209 Wetlands and Drainage, of the Town Code, and the area of any steep slopes, as defined Chapter 213, except that in the case of one-family lots, the deduction for steep slopes shall be only fifty (50) percent.

Lot Size	Maximum Permitted Gross Land Coverage for One-Family Dwelling Lots[1] (square feet)
Less than 5,000 square feet	50% of the lot area
5,000 to 9,999 square feet	2,500 plus 30% of the lot area in excess of 5,000 square feet
10,000 to 14,999 square feet	4,000 plus 24% of the lot area in excess of 10,000 square feet
15,000 square feet to 0.499 acres	5,200 plus 18% of the lot area in excess of 15,000 square feet
0.5 to 0.749 acres	6,420 plus 15% of the lot area in excess of 0.5 acres
0.75 to 0.999 acres	8,050 plus 12% of the lot area in excess of 0.75 acres
1.0 to 1.999 acres	9,350 plus 9% of the lot area in excess of 1.0 acres
2.0 acres or more	13,270 plus 7.5% of the lot area in excess of 2.0 acres

*Permitted gross land coverage limitations for two-family dwelling lots in the R-2F District shall be twenty five (25) percent greater than that permitted for one-family dwelling lots.

NOTWITHSTANDING ABOVE LIMITATIONS, AN ADDITIONAL 10 SQUARE FEET OF GROSS LAND COVERAGE SHALL BE PERMITTED FOR EACH ONE FOOT OF FRONT YARD SETBACK OF THE PRINCIPAL DWELLING IN EXCESS OF THE MINIMUM FRONT YARD SETBACK REQUIRED.

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

January 29, 2019
Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

FLOOR AREA CALCULATIONS WORKSHEET

Application Name or Identifying Title: Grimaldi Residence Date: _____

Tax Map Designation or Proposed Lot No.: 123.05-1-53 & 123.05-1-52

Floor Area

1. Total Lot Area (Net Lot Area for Lots Created After 12/13/06): 11,415.90

2. **Maximum** permitted floor area (per Section 355-26.B(4)): 4,033.18

3. Amount of floor area contained within first floor**:**
549.70 existing + 1,674.09 proposed = 2223.73

4. Amount of floor area contained within second floor**:**
0 existing + 1,488.65 proposed = 1,488.65

5. Amount of floor area contained within garage**:**
0 existing + 0 proposed = Included in 1st Floor Total

6. Amount of floor area contained within porches capable of being enclosed**:**
0 existing + 0 proposed = 0

7. Amount of floor area contained within basement (if applicable – see definition)**:**
0 existing + 0 proposed = 0

8. Amount of floor area contained within attic (if applicable – see definition)**:**
0 existing + 0 proposed = Included in 2nd Floor Total

9. Amount of floor area contained within all accessory buildings:
0 existing + 0 proposed = 0

10. Proposed **floor area:** Total of Lines 3 – 9 = 3,712.38

If Line 10 is less than or equal to Line 2, your proposal **complies** with the Town's maximum floor area regulations and the project may proceed to the Residential Project Review Committee for review. If Line 10 is greater than Line 2 your proposal does not comply with the Town's regulations.

Richard J. Skop 3/27/21

Signature and Seal of Professional Preparing Worksheet Date

STATE OF NEW YORK
RICHARD J. SKOP
No. 047331
LICENSED PROFESSIONAL ENGINEER

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
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GROSS FLOOR AREA WORKSHEET

The following format is to be used for all applications for the purpose of demonstrating the gross floor area of a building or group of buildings as necessary to show compliance with a building or group of buildings as necessary to show compliance with floor area limitations of the Town Code or as otherwise necessary to illustrate the intended or potential use of a structure.

1. Scaled worksheets are to be prepared based upon floor plans which represent existing or proposed conditions as applicable to the particular circumstances of the approval being sought. All floor plans and worksheets are required to be prepared by a licensed or registered professional in the State of New York.

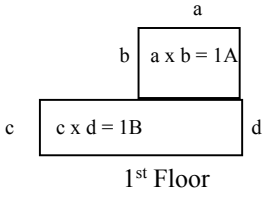
2. The floor area of each floor is to be divided into simple polygons (squares, rectangles, etc.) each being drawn on theplan. The area of each polygon is to be shown by providing the dimensions and resulting area measurement. Each polygon is to be assigned an identifying label for reference purposes.

3. A summary table for each floor is to be completed. The area of each polygon is to be listed by reference label then added, resulting in the floor area for the entire floor.

4. A similar summary table is to be provided listing the total floor area of each floor within the resulting floor area of each building.

5. Any exception of floor area from the gross floor area must be identified on the floor plans and summary tables. The rationale for any exception must accompany the floor area worksheets.

6. A schematic illustration of the format is shown below.



1st Floor

1A=
1B=

1st Floor Total=

BASEMENT =
1st FLOOR =
2nd FLOOR =
_____
GROSS FLOOR AREA

LOT AREA, NET – Lot area minus seventy five (75) percent of the area of any wetlands, waterbodies and, watercourses, but excluding any adjacent areas, all as defined in Chapter 209 Wetlands and Drainage, of the Town Code, and the area of any steep slopes, as defined Chapter 213, except that in the case of one-family lots, the deduction for steep slopes shall be only fifty (50) percent.

FLOOR AREA, GROSS -- The sum of the horizontal areas of the several stories of the building or buildings, excluding any floor area used for off-street parking or loading purposes (except for one- and two-family residences), measured from the exterior walls or, in the case of a common wall separating two buildings, from the center line of such a common wall, and including any two-story or any enclosed porch, or one having a roof and capable of being enclosed. See the definition of "basement" for exclusion of basement/mechanical areas in nonresidential buildings from "floor area, gross." For one- and two-family residences, any attic space with a floor to ceiling height of 7.5 feet or greater shall be included as part of gross floor area, as shall those portions of any basement with a floor to ceiling height of 7.5 feet or greater if the basement is considered a "story" in accordance with one of the following three alternative measurements:

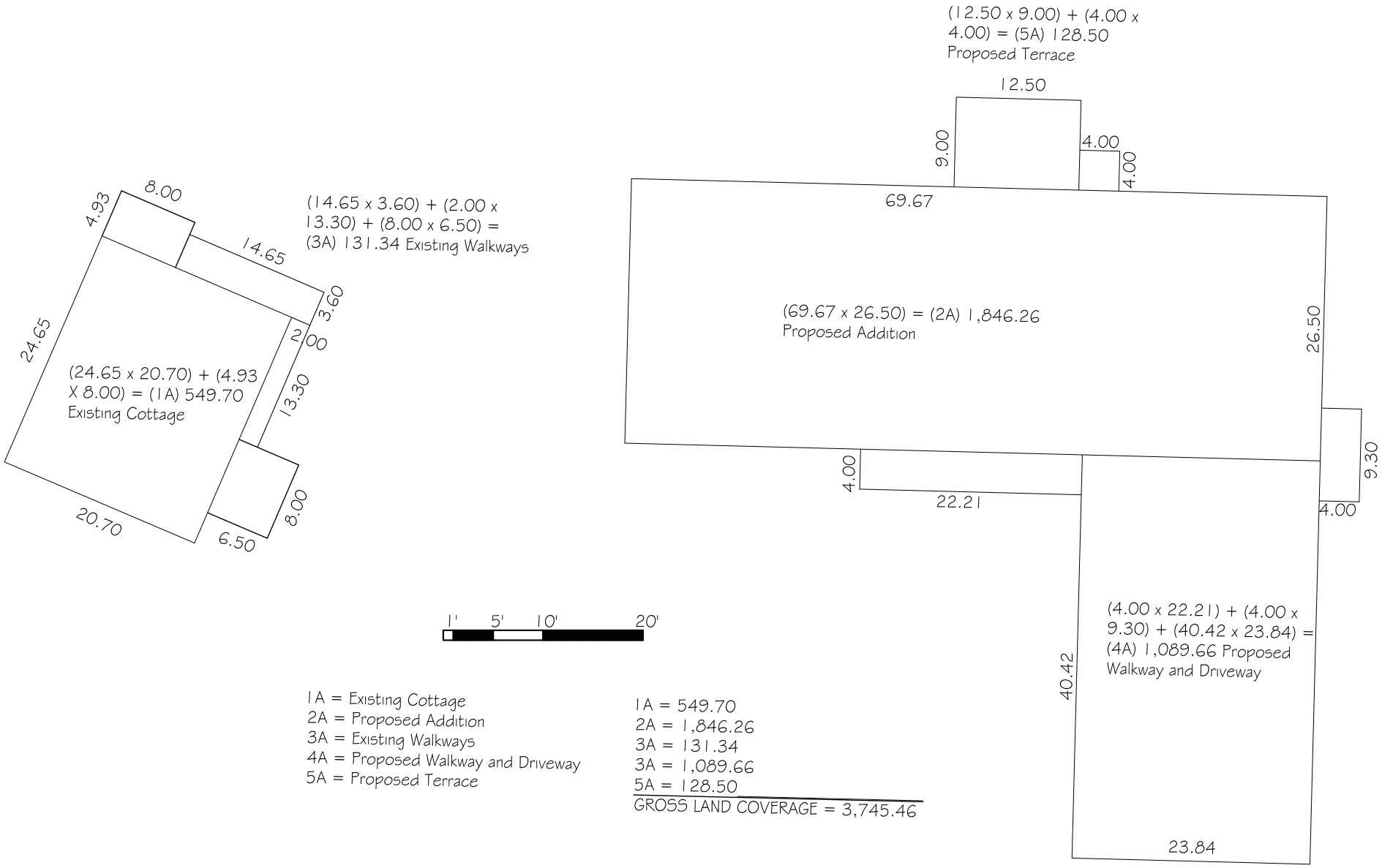
A. Where the finished surface of the floor above the basement is more than six feet above average grade.

B. Where the finished surface of the floor above the basement is more than six feet above the finished ground level for more than 50% of the total building perimeter.

C. Where the finished surface of the floor above the basement is more than 12 feet above the finished ground level at any point along the building perimeter.

Lot Size	Maximum Permitted Gross Floor Area for One-Family Dwellings and Accessory Buildings [1] (square feet)
Less than 5,000 square feet	1,875 or 50% of the lot area, whichever is greater
5,000 to 9,999 square feet	2,500 plus 25% of the lot area in excess of 5,000 square feet
10,000 to 14,999 square feet	3,750 plus 20% of the lot area in excess of 10,000 square feet
15,000 square feet to 0.499 acres	4,750 plus 15% of the lot area in excess of 15,000 square feet
0.5 to 0.749 acres	5,768 plus 10% of the lot area in excess of 0.5 acres
0.75 to 0.999 acres	6,856 plus 8% of the lot area in excess of 0.75 acres
1.0 to 1.499 acres	7,727 plus 6% of the lot area in excess of 1.0 acres
1.5 to 1.999 acres	9,034 plus 5% of the lot area in excess of 1.5 acres
2.0 to 3.999 acres	10,122 plus 4% of the lot area in excess of 2.0 acres
4.0 acres or more	13,607 plus 3% of the lot area in excess of 4.0 acres

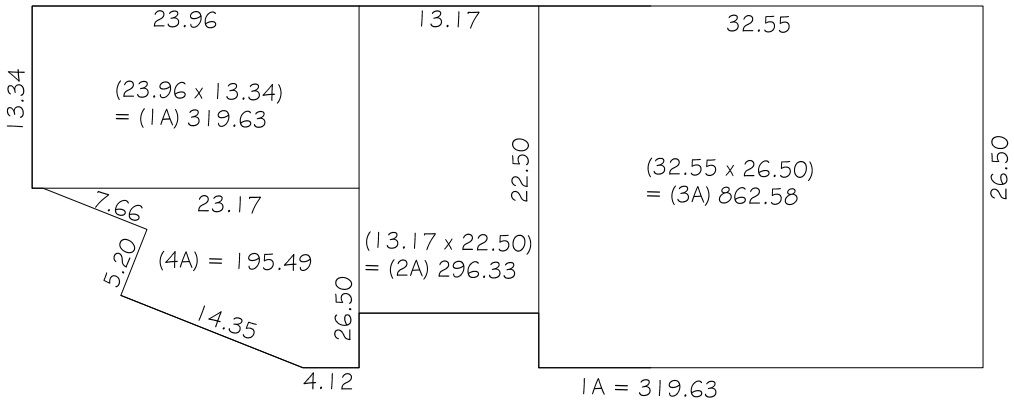
*Permitted gross floor area for tw o-family dwellings in the R-2F District shall be one-third (1/3) greater than that permitted for one-family dwellings.



1A = Existing Cottage
2A = Proposed Addition
3A = Existing Walkways
4A = Proposed Walkway and Driveway
5A = Proposed Terrace

1A = 549.70
2A = 1,846.26
3A = 131.34
3A = 1,089.66
5A = 128.50
GROSS LAND COVERAGE = 3,745.46

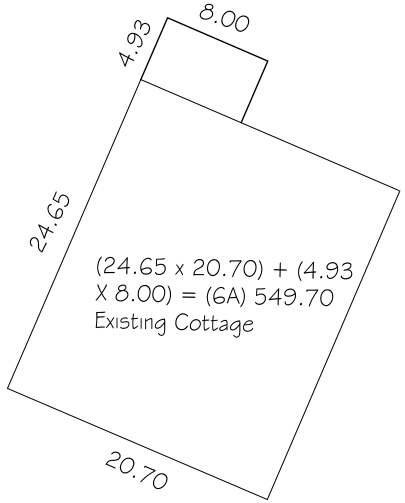
8/2/2021



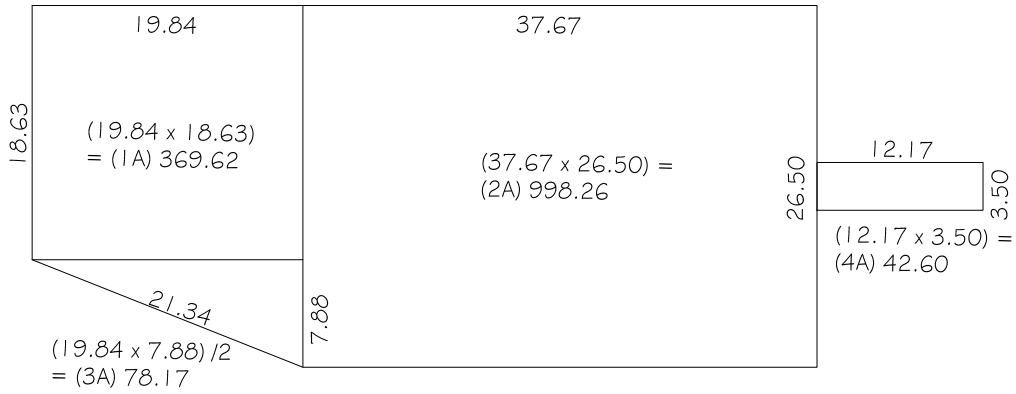
FIRST FLOOR

1A = 319.63
2A = 296.33
3A = 862.58
4A = 195.49
5A = 549.70
FIRST FLOOR TOTAL = 2,223.73

1' 5' 10' 20'



8/2/2021



SECOND FLOOR

1A = 369.62
2A = 998.26
3A = 78.17
4A = 42.60
SECOND FLOOR TOTAL = 1,488.65

FIRST FLOOR = 2,223.73
SECOND FLOOR = 1,488.65
GROSS FLOOR AREA = 3,712.38

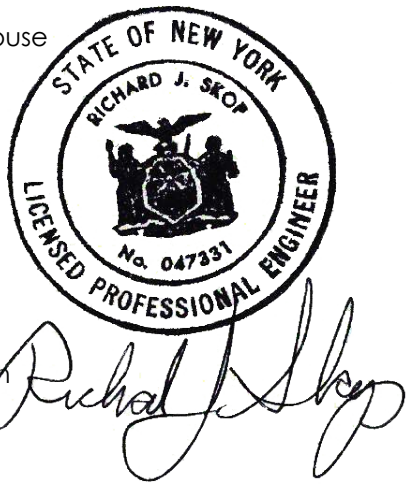
2020 IRC PLAN REVIEW

Owner: MIchael Grimaldi
Location: 34 Starkey Road, North Castle, NY 10504

Reviewed by: Richard Skop
Date: 2021-03-16

Building Type: ☑ One Family ☐ Two Family ☐ Townhouse

Type of Work: ☑ New Construction ☐ Existing Building



3/25/21

BUILDING PLANNING (Chapter 3)

DESIGN CRITERIA [Table R301.2(1)]

Floor live load (Table R301.5) 40 & 30 psf
Roof live load (Table R301.6) N/A psf
Ground snow load 30 psf
Ultimate design wind speed 115 mph
Wind exposure category (R301.2.1.4) Exposure B
High wind design criteria applicable (R301.2.1.1) N/A
Seismic design category (SDC) [Figure R301.2(2)] B
SDC C&D provisions (R301.2.2) N/A
Weathering Severe
Frost line depth 42"
Termite area Moderate to heavy
Decay area
Winter design temperature 0 Degrees F
Ice barrier underlayment required Yes
Flood hazards Per Jurisdiction

FIRE-RESISTANT CONSTRUCTION (R302)

N/A Exterior walls [R302.1, Tables R302.1(1) and R302.1(2)]
N/A Townhouse separation (R302.2)
- N/A Continuity and structural independence (R302.2.1, R302.2.4)
- N/A Parapets and construction (R302.2.2, R302.2.3)

N/A Two-family dwelling separation (R302.3)
N/A Dwelling unit penetrations (R302.4)
As Required Dwelling/garage opening/penetration protection (R302.5)
As Required Dwelling/garage fire separation (R302.6)
As Required Under-stair protection (R302.7)
As Required Wall and ceiling finishes (R302.9)
- As Required Flame spread index (R302.9.1)
- As Required Smoke-developed index (R302.9.2)
- As Required Testing (R302.9.3, R302.9.4)

As Required Insulation (R302.10)
- As Required Flame spread/smoke-developed (R302.10.1, R302.10.2)
- As Required Cellulose loose-fill & exposed attic insulation (R302.10.3, R302.10.4)
- As Required Testing (R302.10.5)

As Required Fireblocking (R302.11)
As Required Draftstopping (R302.12)
As Required Fire protection of floors (R302.13)
N/A Combustible insulation clearance (R302.14)

ROOM PLANNING REQUIREMENTS (R303 through R305)

Use	Area (sq.ft.)	Width	Ceiling height †	Natural light*	Natural Ventilation*
Living	70	7'-0"	7'-0"	8% floor area	4% floor area
Dining	70	7'-0"	7'-0"	8% floor area	4% floor area
Kitchen	N/A	N/A	7'-0"	8% floor area	4% floor area
Bedroom	70	7'-0"	7'-0"	8% floor area	4% floor area
Bathroom	N/A	N/A	6'-8"	3 square feet	1.5 square feet

* See Sections R303.1 & R303.3 for mechanical ventilation and artificial light and R303.4 for required whole-house mechanical ventilation.
† 6'-8" min. at plumbing fixtures and for non-habitable basements.

As Required Required heating (R303.9)

SANITATION (R306 and R307)

As Required Water closet
As Required Lavatory
As Required Tub or shower
As Required Kitchen area with sink
As Required Sanitary sewer (Chapter 30)
N/A Private disposal (Appendix I)

GLAZING (R308)

As Required Identification (R308.1)
As Required Louvered windows or jalousies (R308.2)
As Required Human impact loads/hazardous locations (R308.3, R308.4)
As Required Skylights and sloped glazing (R308.6)

GARAGES AND CARPORTS (R309)

As Required Floor surface noncombustible; sloped floor (R309.1)
N/A Carport: open two sides; noncombustible floors; sloped floor (R309.2)
As Required Automatic garage door opener (R309.4)
N/A Fire sprinklers (R309.5)

EMERGENCY ESCAPE AND RESCUE OPENINGS (R310)

As Required Where required (R310.1)
As Required Areas, height, width, operations (R310)
N/A Window wells (R310.2.3)
N/A Under decks and porches (R310.2.4)
As Required Bars, grilles, covers and screens (R310.4)

MEANS OF EGRESS

As Required General (R311.1)
As Required Egress Door (R311.1)
As Required Landings at exterior doors (R311.3 – R311.3.3)
As Required Vertical egress (R311.4)
As Required Construction and attachment (R311.5)
As Required Hallways (R311.6)
As Required Stairway width, headroom, vertical rise, walkline (R311.7.1 – R311.7.4)
As Required Stairway treads, risers profiles (R311.7.5 – R311.7.5.4)
As Required Stairway landings and walking surfaces (R311.7.6, R311.7.7)
As Required Handrails required (R311.7.8)
As Required Handrail height, continuity, grip-size (R311.7.8.1 – R311.7.8.4)
As Required Stairway illumination (R303.7, R311.7.9)
N/A Special stairways (R311.7.10)
N/A Ramp slope, landings, handrails (R311.8)

GUARDS AND WINDOW PROTECTION (R312)

As Required Required for open-sided surfaces, stairs, ramps and landings >30" above floor/grade (R312.1.1)

As Required Height – 36" (R312.1.2)

As Required Opening limitations (R312.1.3)

As Required Window fall protection (R312.2)

AUTOMATIC FIRE SPRINKLER SYSTEMS (R313)

N/A Townhouses (R313.1)

N/A One – and two-family dwellings (R313.2)

SMOKE ALARMS (R314)

As Required Referenced standards (R314.1)

As Required Location and interconnection (R314.3, R314.4)

As Required Power source (R314.6)

CARBON MONOXIDE ALARMS (R315)

As Required New construction (R315.1, R315.2)

N/A Existing construction (R315.2.2)

N/A Referenced standard (R315.6)

FOAM PLASTIC (R302.8, R316)

As Required Labeling (R316.2)

As Required Surface burning, thermal barrier, specific approval (R316.3 – R316.8)

DECAY AND TERMITE PROTECTION (R317 and R318)

As Required Protection required (Table R301.2(1), R317.1, R318.1)

As Required Quality mark (R317.2 and R318.1.1)

SITE ADDRESS (R319)

As Required Address numbers (R319.1)

ACCESSIBILITY (R320)

N/A Type B dwelling units applicable (R320.1)

ELEVATORS/PLATFORM LIFTS (R321)

N/A Referenced standards (R321.1 – R321.3)

FLOOD –RESISTANT CONSTRUCTION (R322)

N/A General (R322.1)

N/A Hazard area and requirements (R301.2.4, R309.3, R322.2, R322.3)

N/A Design professional (R322.3.6)

STORM SHELTERS (R323)

N/A General/referenced standard (R323.1)

SOLAR ENERGY SYSTEMS (R324)

N/A System, installation, access (R324.2 – R324.7)

MEZZANINES (R325)

N/A Area, egress, openness (R325.2 – R325.5)

SWIMMING POOLS, SPAS AND HOT TUBS (R326)

N/A ISPSC (R326.1)

FOUNDATIONS (Chapter 4)

MATERIALS (R402)

N/A Wood foundations (R402.1)
As Required Concrete, compressive strength (R402.2, R402.3)

FOOTINGS (R403)

1500 PSF Soil bearing value (R401.4, R403.1)
As Required Footing width [Tables R403.1(1) – R403.1(3)]
As Required Footing edge thickness; footing projection = 2" minimum, but ≤ footing thickness (R403.1.1)
N/A Footings in SDC and D (R403.1.2 and R403.1.6.1)
42" Depth below (outside) grade = 12" minimum; but below frost line (R403.1.4, R403.1.4.1)
As Required Sill plate bolting in concrete/masonry = ½" diameter bolts, within 12" but not less than 7 bolt diameters from ends, 7" embedment (R403.1.6)
N/A Footings adjacent to slopes (R403.1.7)
N/A Frost-protected shallow foundations (R403.3)
N/A Footings for precast concrete foundations (R403.4)

FOUNDATION/RETAINING WALLS (R404 – R406)

N/A Masonry foundation walls (R404.1.2)
N/A Wall height, unbalanced backfill, nominal thickness [Tables R404.1.1(1) – R404.1.1(4), R404.1.5.1]
N/A Reinforcement size and spacing [Tables R404.1.1(2) – R404.1.1(4)]
As Required Concrete foundation walls (R404.1.3)
As Required Wall height, unbalanced backfill, nominal thickness [Tables R404.1.2(1) – R404.1.2(8), R404.1.5.2]
As Required Horizontal and vertical reinforcement size and spacing [Tables R404.1.2(1) – R404.1.2(8), R404.1.3.2, R404.1.3.3.7]
N/A Stay-in-place forms (R404.1.3.3.6.1)
N/A SDC D provisions (R404.1.4)
8" Min. Height above finished grade (R404.1.6)
2x4 Sill plate size (R404.3)
N/A Precast concrete foundation walls (R404.5)
As Required Drains required if habitable or usable spaces are below grade* (R405)
CrC - Crockett Fine Sandy Loam Soil class [Table R405.1]
N/A Dampproofing if basements are below grade* (R406.1)
N/A Waterproofing if high water table* (R406.2)

* If uninhabitable, see Under-Floor Space (R408)

COLUMNS (R407)

As Required Protection from decay or corrosion (R407.1 and R407.2)
As Required Structural requirements (R407.3)
As Required Anchorage (R407.3)
As Required Wood columns (minimum 4" square) (R407.3)
N/A Steel columns (minimum 3" diameter, Schedule 40 pipe) (R407.3)

UNDER-FLOOR SPACE (R408)

N/A Ventilation (R408.1 and R408.2)
N/A Unvented crawl space (R408.3)
N/A Access (R408.4)
N/A Removal of debris (R408.5)
N/A Finished grade (R408.6)
N/A Flood resistance (R408.7)

FLOORS (Chapter 5)

WOOD JOISTS AND GIRDERS (R502)

HF#2 Species and grade (R502.1)
As Required Joists – Sleeping areas, LL=30 psf [Table R502.3.1(1)]
As Required Joists – Nonsleeping areas, LL = 40 psf [Table R502.3.1(2)]
As Required Cantilevered joists [Tables R502.3.3(1) and R502.3.3(2)]
As Required Girder and header spans [Tables R602.7(1) – R602.7(3)]
As Required Joists under bearing partitions (R502.4)
As Required Bearing (1.5" minimum on wood or metal; 3" on masonry or concrete) and lapped joists (3") (R502.6, R502.6.1)
As Required Lateral restraint and bridging (R502.7, R502.7.1)
As Required Drilling and notching (R502.8)
As Required Fastening (R502.9)
As Required Framing of openings (R502.10)
N/A Wood trusses (R502.11)
As Required Draftstopping (R502.12)

LUMBER FLOOR SHEATHING (R503.1)

As Required Allowable span [Table R503.1]
As Required End joints (R503.1.1)

WOOD STRUCTURAL PANEL SHEATHING (R503.2)

#1 Grade (R503.2.1)
3/4" Thickness (R503.2.1)
As Required Allowable spans [Tables R503.2.1.1(1) and R503.2.1.1(2)]
As Required Installation [Table 602.3(1)]

PARTICLEBOARD UNDERLAYMENT (R503.3)

N/A Grade (R503.3.1)
N/A Thickness *R503.3.2)
N/A Installation [Table R602.3(1)]

TREATED-WOOD FLOORS (ON GROUND) (R504)

N/A Base course: 4" thick with maximum ¾" gravel or ½" crushed stone (R504.2.1)
N/A Moisture barrier: placed over base course (R504.2.2)
N/A Materials (R504.3)

STEEL FLOOR FRAMING (R505)

N/A Cold-formed steel; applicability limits; in-line framing (R505.1)
N/A Structural framing (R505.2)
N/A Material (R505.2.1)
N/A Corrosion protection (R505.2.2)
N/A Identification (R505.2.4)
N/A Fastening (R505.2.5)
N/A Floor construction (R505.3)

CONCRETE FLOORS (ON GROUND) (R506)

4" Thickness: 3 ½" minimum; Concrete strength (R506.1)
As Required Support: prepared subgrade; maximum earth fill = 8"; maximum sand or gravel fill = 24" (R506.2.1)
4" Gravel Base course: 4" graded with 2" maximum aggregate (R506.2.2)
As Required Vapor retarder (R506.2.3)
As Required Reinforcement support (R506.2.4)

EXTERIOR DECKS (R507)

N/A Support, attachment (R507.1 – R507.2.4)
N/A Plastic composite materials (R507.3)
N/A Decking/deck joists (R507.4, R507.5)
N/A Deck beams (R507.6)
N/A Deck posts, connections, footings (R507.7.1, R507.8)

WALL CONSTRUCTION (Chapter 6)

WOOD CONSTRUCTION (R602)

2x4/ & 2x6 Construction [Figures R602.3(1) and R602.3(2)]
#2 Stud grade (R602.2)
As Required Design/construction (R602.3)
16" O.C. Stud spacing (R602.3.1, Table R602.3(5))
As Required Interior load-bearing walls (R602.4)
2x4 16" O.C. Interior nonbearing walls: 2"x3" at 24" o.c. or 2"x4" flat at 16" o.c. (R602.5)
As Required Drilling and notching – studs (R602.6)
As Required Drilling and notching – top plate (R602.6.1)
As Required Headers [Tables R602.7(1) – R602.7(3) and Figure R602.7.2]
As Required Fireblocking (R602.8, R302.11)
As Required Cripple walls (R602.9)
CS-WSP Wall bracing, lines, panels (R602.10.1, R602.10.2)
As Required Required length of bracing, method (R602.10.3, R602.10.4, Tables R602.10.3(1) and R602.10.3(3))
As Required Minimum length, connections, support, joints, cripple walls (R602.10.5 – R602.10.11)
N/A Wall anchorage (SDC C and D) (R602.11)
N/A Simplified wall bracing (R602.12)

STEEL WALL FRAMING (R603)

N/A General (R603.1)
N/A Structural framing (R603.2)
N/A Material (R603.2.1)
N/A Corrosion protection (R603.2.2)
N/A Identification (R603.2.4)
N/A Fastening (R603.2.5)
N/A Wall construction (R603.3 – R603.5)
N/A Headers (R603.6)
N/A Studs, tracks and structural sheathing (R603.7 – R603.9)

SHEATHING (R604 and R605)

As Required Wood structural panels (R604)
N/A Particleboard (R605)

MASONRY CONSTRUCTION (R606 – R610)

N/A General design (R606)
N/A Seismic requirements (R606.12)
N/A Glass unit masonry (R607)
N/A Exterior concrete wall construction (R608)
N/A Exterior windows/doors (R609)
N/A Glass unit masonry (R610)

STRUCTURAL INSULATED PANEL WALL CONSTRUCTION (R610)

N/A Applicability (R610.2)
N/A Materials (R610.3)
N/A Wall panels, construction details (R610.4 – R610.10)

WALL COVERING (Chapter 7)

INTERIOR WALL COVERING (R702)

N/A Plaster Material (R702.2)
N/A Plaster support (R702.2.3)
As Required Gypsum board materials (R702.3.1)
As Required Gypsum board support, application and fastening (R702.3.2 – R702.3.7)
As Required Ceramic tile (R702.4)
As Required Other finishes (R702.5 and R702.6)
Class II Vapor retarders (R702.7)

EXTERIOR WALL COVERING (R703)

As Required Water-resistive barrier (R703.2)
As Required Attachment and minimum thickness [Table R703.3(1)]
N/A Wood siding (R703.5)
N/A Wood shakes and shingles (R703.6)
N/A Exterior plaster (R703.7)
N/A Stone & masonry veneer (R703.8 & Figure R703.8); Steel angle lintels – 4" minimum bearing each ends (R703.8.3)
N/A Veneer ties: #9 U.S. gauge wire or #22 U.S. gauge by 7/8" corrugated metal; horizontal and vertical spacing; 2.67 square feet maximum area supported (wind >30 psf and SDC C or D, maximum area = 2 square feet) (R703.8.4.1)
As Required Flashing (R703.4 and R703.8.5)
N/A Exterior insulation and finish systems (R703.9)
As Required Fiber cement siding (R703.10)
N/A Vinyl siding (R703.11)
N/A Other sidings (R703.12 – R703.17)

ROOF-CEILING CONSTRUCTION (Chapter 8)

WOOD ROOF FRAMING (R802)

N/A Fire-retardant-treated wood (R802.1.5)
As Required Framing details (R802.3)
As Required Rafter ties (R802.3.1)
As Required Collar ties (4' o.c., in upper third of attic) (R802.3.1)
As Required Purlins (2"x4" at 4' o.c. minimum) [Figure R802.5.1, R802.5.1]
As Required Bearing (R802.6)
As Required Cutting and notching (R802.7)
As Required Engineered wood products (R802.7.2)
As Required Lateral support and bridging (R802.8)
As Required Framing of openings (R802.9)
N/A Wood trusses (R802.10)
As Required Roof tie-down (R802.11)

CEILING JOISTS [Tables R802.4(1), R802.4(2)]

As Required Without attic storage, LL = 10psf
N/A With attic storage LL = 20psf
16" O.C. Spacing
HF#2 Species and grade
As Required Span
As Required Size

RAFTERS [Tables R802.5.1(1) – R802.5.1(8)]

30 Ground snow load/LL = 20psf
Snow Controlling design (LL or snow)
As Required Ceiling not attached/ceiling attached

16" O.C. Spacing
HF#2 Species and grade
As Required Span
As Required Size
As Required Hc/Hr; Adjustment factor

ROOF SHEATHING (R803.2)
Grade
7/16" Thickness
FRTW allowable stresses/grading
As Required Allowable spans [Table R503.2.1.1(1)]
As Required Installation (R803.2.3)

STEEL ROOF FRAMING (R804)
N/A General (804.1)
N/A Structural framing (R804.2)
N/A Material (R804.2.1)
N/A Corrosion protection (R804.2.2)
N/A Identification (R804.2.3)
N/A Fastening (R804.2.5)
N/A Roof construction (R804.3)
N/A Roof tie-down (R804.3.8)

ROOF VENTILATION (R806)
As Required Ventilation requirements (R806.1 – R806.5)

ATTIC ACCESS (R807)
As Required Access requirements (R807.1)

ROOF ASSEMBLIES (Chapter 9)

ROOF CLASSIFICATION (R902)
C Roof covering materials (R902.1)

WEATHER PROTECTION (R903)
As Required Flashing (R903.2)
N/A Coping (R903.3)
As Required Roof drainage (R903.4)

MATERIALS (R904)
As Required Compatibility; specifications; physical characteristics; identification (R904.2 – R904.4)

REQUIREMENTS FOR ROOF COVERINGS (R905)
As Required Underlayment (R905.1.1, R905.1.2)
As Required Asphalt shingles (R905.2)
N/A Clay and concrete tile (R905.3)
N/A Metal roof shingles (R905.4)
N/A Mineral-surfaced roll roofing (R905.5)
N/A Slate shingles (R905.6)
N/A Wood shingles (R905.7)
N/A Wood shakes (R905.8)
N/A Built-up roofs (R905.9)
N/A Metal roof panels (R905.10)
N/A Modified bitumen roofing (R905.11)

N/A Thermoset single-ply roofing (R905.12)
N/A Thermoplastic single-ply roofing (R905.13)
N/A Sprayed polyurethane foam roofing (R905.14)
N/A Liquid-applied roofing (R905.15)
N/A Photovoltaic shingles (R905.16)

ROOF INSULATION (R906)
N/A General (R906.1)

ROOFTOP – MOUNTED PHOTOVOLTAIC SYSTEMS (R907)
N/A Materials and installation (R907.1 – R907.5)

REROOFING (R908)
N/A Materials and methods (R908.1)
N/A Structural support (R908.2)
N/A Replacement/re-covering (R908.3, R908.4)

ROOFTOP – MOUNTED PHOTOVOLTAIC PANEL SYSTEMS (R909)
N/A Materials and installation (R909.1 – R909.3)

CHIMNEYS AND FIREPLACES (Chapter 10)

MASONRY FIREPLACES (R1001)
N/A Construction [Figure R1001.1 and Table R1001.1]
N/A SDC D reinforcing/anchorage (R1001.3 and R1001.4)
N/A Firebox walls and dimensions (R1001.5 and R1001.6)
N/A Steel fireplace units (R1001.5.1)
N/A Lintel (noncombustible) (R1001.7)
N/A Hearth extension (R1001.9, R1001.10)
N/A Fireplace clearance (R1001.11)
N/A Fireblocking (R1001.12)

MASONRY CHIMNEYS (R1003)
N/A Construction [Table R1001.1, R1003.2, R1003.3, and Figure R1001.1]
N/A Corbeling (R1003.5)
N/A Changes in dimension (R1003.6)
N/A Additional load (R1003.8)
N/A Termination (R1003.9)
N/A Spark arrestors (R1003.9.2)
N/A Wall thickness; □ 4□ (R1003.10)
N/A Flue lining - material/installation (R1003.11 and R1003.12)
N/A Multiple flues (R1003.13)
N/A Flue area (appliance) (R1003.14)
N/A Flue area (masonry fireplace) (R1003.15)
N/A Inlet (R1003.16)
N/A Cleanout opening (R1003.17)
N/A Chimney clearance (R1003.18)
N/A Fireblocking (R1003.19)
N/A Chimney crickets (R1003.20)

FACTORY-BUILT FIREPLACES (R1004)
As Required Listed and labeled (R1004.1)
As Required Installation (R1004.2 - R1004.5)

FACTORY-BUILT CHIMNEYS (R1005)

N/A Listed and labeled (R1005.1)

N/A Installation (R1005.3 and R1005.4)

EXTERIOR AIR SUPPLY (R1006)

N/A Intake size (R1006.2, R1006.4)

ENERGY EFFICIENCY (Chapter 11)

ResCheck Compliance; information (N1101.5, N1101.13)

4A Climate zone [Table N1101.7]

As Required Building thermal envelope (N1102)

As Required Systems (N1103)

As Required Electrical (N1104)

N/A Simulated performance (N1105)

N/A ERI compliance alternative (N1106)

N/A Existing buildings (N1107 – N1111)

MECHANICAL (Chapter 12-23)

As Required Appliance labeling (M1302, M1303)

As Required Appliance access (M1305, M1401)

As Required Appliance installation (M1307)

As Required Heating and cooling equipment; load calculations (Chapter 14)

As Required Exhaust systems (Chapter 15)

As Required Duct systems (Chapter 16)

As Required Combustion air (Chapter 17)

As Required Chimney and vent location and terminations (Chapters 10 and 18)

As Required Special equipment (Chapter 19)

As Required Boilers/water heaters (Chapter 20)

As Required Hydronic piping (Chapter 21)

N/A Special piping and storage systems (Chapter 22)

N/A Solar thermal energy systems (Chapter 23)

N/A Penetrations of fire-resistance rated assemblies (R302.4, R302.5)

FUEL GAS (Chapter 24)

As Required Application (G2401.1)

As Required General regulations (G2404)

As Required Appliance location (G2406)

As Required Air requirements (G2407)

As Required Installation (G2408)

As Required Clearances (G2409)

As Required Electrical and electrical bonding (G2410, G2411)

As Required Pipe sizing (G2413)

As Required Piping materials (G2414)

As Required Piping installation (G2415 and G2419)

As Required Piping support (G2418 and G2424)

As Required Valves, controls, connections (G2420, G2421 and G2422)

As Required Venting (G2425 – G2429)

As Required Misc. appliances (G2423, G2430 – G2454)

PLUMBING (Chapter 25-33)

As Required Water service location and depth (P2603, P2604)

As Required Sanitary and storm sewer location and depth (P2603, P2604)

As Required Piping support [Table P2605.1]
As Required Listed plastic materials (P2609)
As Required Plumbing fixtures (Chapter 27)
As Required Water heater size and location (Chapter 28)
As Required Water supply & distribution system-design and calculations (Chapter 29)
N/A Dwelling unit fire sprinkler systems (P2904)
- N/A NFPA 13D system (P2904.1)
- N/A Temperature rating (P2904.2.1, P2904.2.2)
- N/A Freezing protection (P2904.2.3)
- N/A Sprinkler coverage (P2904.2.4)
- N/A Piping materials (P2904.3)
- N/A Flow rates (P2904.4.1, P2904.4.2)
- N/A Water supply capacity (P2904.5.2)
- N/A Pipe sizing (P2904.6)

As Required Drain, waste and vent pipe sizing and riser diagram (P3004, P3005, and Chapter 31)
N/A Sumps and ejectors (P3007)
As Required Backwater valves (P3008)
As Required Fixture traps (P3201)
N/A Storm drainage (Chapter 33)
N/A Penetrations of fire-resistance rated assemblies (R302.4, R302.5)

ELECTRICAL (Chapter 34-43)

As Required Penetrations of fire-resistance rated assemblies (E3402.2)
As Required Listed and labeled materials (E3403)
As Required Service equipment and location (E3405, E3601, E3606)
As Required Service size and load calculations (E3602)
As Required Available fault current (E3606)
As Required System grounding (E3607)
As Required Required branch circuits (E3703)
As Required Feeder requirements and load calculations (E3704)
As Required Wiring methods (Chapter 38)
As Required Required lighting and receptacle outlets (E3901, E3903)
As Required Ground-fault and arc-fault circuit-interrupter protection (E3902)
As Required Devices and lighting fixtures (Chapter 40)
As Required Appliance installation (Chapter 41)
N/A Swimming pools (Chapter 42)
N/A Class 2 remote-control, signaling and power-limited circuits (Chapter 43)

MANUFACTURED HOUSING USED AS DWELLINGS (Appendix E)

N/A Provisions adopted (R102.5)
N/A Compliance with Appendix E verified

PATIO COVERS (Appendix H)

N/A Provisions adopted (R102.5)
N/A Compliance with Appendix H verified

EXISTING BUILDINGS AND STRUCTURES (Appendix J)

N/A Provisions adopted (R102.5)
N/A Compliance with Appendix J verified

Appendices Not Adopted by NYS

PASSIVE RADON GAS CONTROLS (Appendix F)

N/A Provisions adopted (R102.5)
N/A Compliance with Appendix E verified

PRIVATE SEWAGE DISPOSAL (Appendix I)

N/A Provisions adopted (R102.5)
N/A Compliance with Appendix I verified

SOUND TRANSMISSION (Appendix K)

N/A Provisions adopted (R102.5)
N/A Compliance with Appendix K verified

HOME DAY CARE – R-3 OCCUPANCY (Appendix M)

N/A Provisions adopted (R102.5)
N/A Compliance with Appendix M verified

AUTOMATIC VEHICULAR GATES (Appendix O)

N/A Provisions adopted (R102.5)
N/A Compliance with Appendix O verified

SOLAR-READY PROVISIONS (Appendix U)

N/A Provisions adopted (R102.5)
N/A Compliance with Appendix U verified

Town of North Castle Building Department

17 Bedford Road
Armonk, New York 10504-1898
Telephone: (914) 273-3000 ext. 44 Fax: (914) 273-3554

INFORMATION REQUIRED ON CONSTRUCTION DOCUMENTS

To receive a building permit, the following information is required to be contained within construction documents.

ENERGY CODE COMPLIANCE PATH

One of the following energy code compliance paths indicated clearly on the plans

- ■ 2020 ECCCNYS
  - ☐ Prescriptive
  - ■ Prescriptive with envelope tradeoffs – Supply RES*check* or other approved $U_{overall}$ calculations
  - ☐ Simulated Performance Alternative – Supply IECC Energy Cost Report
  - ☐ Energy Rating Index Alternative – Supply Preliminary ERI Report and Energy Code Checklist

BUILDING THERMAL ENVELOPE

- ■ Continuous building thermal envelope depiction

- ■ Typical cross-sections for each unique assembly type including callouts for:
  - ■ Insulation R-values, materials, and installed thickness
  - ■ Fenestration U-factors and solar heat gain coefficients (SHGCs)
  - ■ Primary air barrier method, materials, and location

- ■ Construction details for the following, if included in the scope of the project
  - ■ Slab on grade with insulation extending downward from the top of the slab
  - ■ Insulated corners: Framing allows space for insulation
  - ☐ Insulated headers: Insulation installed in headers as space allows
  - ☐ Fireplaces on exterior walls: Air barrier between insulation and fireplace insert
  - ☐ Dropped ceiling/soffit: Air barrier aligned with insulation
  - ■ Porch roofs: Exterior wall sheathing extends behind intersection with porch roof
  - ■ Skylight shafts: Shaft walls are insulated and include attic-side air barriers
  - ■ Showers/tubs on exterior walls: Air barrier located between wall insulation and the shower/tub
  - ☐ Knee walls: Air barrier on attic side of knee wall, top plate installed, blocking between floor joists under knee wall
  - ■ Blocking between joists above walls separating garages from conditioned space
  - ■ Cantilevered floors: Insulated with solid air barriers underneath insulation and blocking between joists
  - ■ Attic access hatches: Weatherstripped and insulated to the same R-value as the surrounding surface

- ■ Notes indicate that insulation is to be installed per manufacturer's installation instructions or RESNET Grade I

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HEATING AND COOLING SYSTEMS

Thermostats

- ■ Thermostat type and location

Ducts and Air Handler

- ■ Duct and air handler locations
- ■ Notes or drawings specify insulation R-values for ducts in unconditioned spaces
- ■ Note indicating that HVAC contractor will seal ducts to 4.0 cfm/100 ft^2 conditioned floor area with UL 181 products appropriate for the duct material type. (Testing not required if all ducts are located completely within conditioned space.)
- ☐ Furnace and air conditioner or heat pump specifications

HVAC Design Worksheet

- ☐ Completed ***Heating and Cooling Equipment Worksheet*** (page 1)
- ☐ Completed ***Whole-house Mechanical Ventilation Worksheet*** (page 2)

HVAC Piping

- ■ Notes or drawings indicate HVAC pipe insulation R-values (e.g. hydronic systems, refrigerant lines)
- ☐ Notes or drawings indicate HVAC pipe insulation protection for pipes/insulation located outdoors (e.g. refrigerant lines)

SERVICE HOT WATER PIPING

- ■ Hot water pipe insulation R-value for pipes meeting any <u>*one*</u> of the following conditions
  - ■ ≥ ¾" nominal diameter
  - ☐ Located outside conditioned space
  - ■ Between the water heater and a manifold
  - ■ Underground or in a slab
  - ☐ Serving more than one dwelling unit
  - ☐ Supply and return piping in recirculating hot water systems other than demand recirculating systems

LIGHTING

- ■ Lighting schedule or notes indicating percentage of high-efficacy lighting

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Compliance Certificate

Project Grimaldi Residence

Energy Code: **2018 IECC**
Location: **Westchester County, New York**
Construction Type: **Single-family**
Project Type: **Addition**
Climate Zone: **4 (5499 HDD)**
Permit Date:
Permit Number:

Construction Site:
34 Starkey Road

Owner/Agent:

Designer/Contractor:

Compliance: Passes using UA trade-off

Compliance: **2.2% Better Than Code** Maximum UA: **591** Your UA: **578** Maximum SHGC: **0.40** Your SHGC: **0.28**

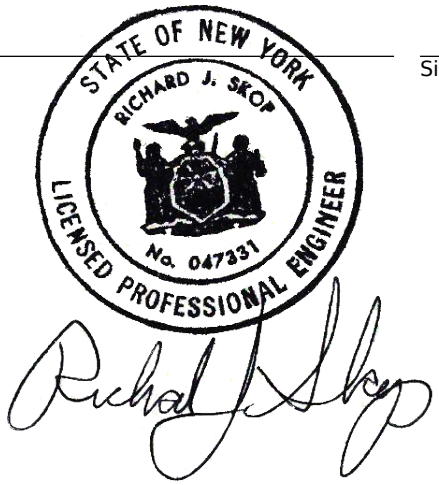
The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules.
It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Ceiling @ Double layer of Insulation: Flat Ceiling or Scissor Truss	1,303	19.0	30.0	0.020	26
Skylights: Other SHGC: 0.26	14			0.410	6
Ceiling @ Eave Lines - Compressed Insulation (18" in from exterior walls @ Eaves): Flat Ceiling or Scissor Truss	143	19.0	0.0	0.051	7
Wall: Wood Frame, 16" o.c.	2,482	15.0	0.0	0.077	109
Garage Door: Solid Door (under 50% glazing)	20			0.130	3
Door: Glass Door (over 50% glazing) SHGC: 0.28	140			0.300	42
Glass Doors: Glass Door (over 50% glazing) SHGC: 0.23	62			0.290	18
Sliding Doors: Glass Door (over 50% glazing) SHGC: 0.25	120			0.330	40
Window: Wood Frame SHGC: 0.29	408			0.300	122
Sliding Windows: Vinyl Frame SHGC: 0.29	90			0.280	25
Casement Windows: Wood Frame SHGC: 0.29	224			0.290	65
Space over Porch: All-Wood Joist/Truss	52	30.0	0.0	0.033	2
Space over Garage: All-Wood Joist/Truss	323	30.0	0.0	0.033	11
Floor: Slab-On-Grade (Heated) Insulation depth: 2.5'	158		10.0	0.645	102

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the 2018 IECC requirements in RES*check* Version : REScheck-Web and to comply with the mandatory requirements listed in the RES*check* Inspection Checklist.

Name - Title	Signature	Date
		3/25/21



2018 IECC Energy Efficiency Certificate

Insulation Rating	R-Value
Above-Grade Wall	15.00
Below-Grade Wall	0.00
Floor	30.00
Ceiling / Roof	49.00
Ductwork (unconditioned spaces):	_____

Glass & Door Rating	U-Factor	SHGC
Window	0.30	0.29
Door	0.30	0.28
Skylight	0.41	0.26

Heating & Cooling Equipment	Efficiency
Heating System:_____	_____
Cooling System:_____	_____
Water Heater:_____	_____

Name: _____ **Date:** _____

Comments

Town of North Castle Building Department

17 Bedford Road
Armonk, New York 10504-1898
Telephone: (914) 273-3000 ext. 44 Fax: (914) 273-3554

RESIDENTIAL HVAC EQUIPMENT DESIGN WORKSHEET
HEATING AND COOLING EQUIPMENT

House Address: 34 Starkey Road Permit #: _____ Date: _____

Permit Applicant: Michael Grimaldi Phone: _____

Requirements:

- ☐ **R403.1.1** All thermostats are programmable
- ☐ **R403.3.1** Ducts in unconditioned spaces are insulated
  ≥ 3" diameter insulated to ≥ R-8 in attics and ≥ R-6 elsewhere
  < 3" diameter insulated to ≥ R-6 in attics and ≥ R-4.2 elsewhere
- ☐ **R403.3.2.1** Air handler has manufacturer's designation of ≤ 2% air leakage when tested per ASHRAE 193
- ☐ **R403.3.3** Completed ***Duct and Envelope Testing Form*** will be submitted to the inspector
- ☐ **R403.4** HVAC pipe insulation is R-3 minimum (e.g. hydronic systems, refrigerant lines) and outdoor insulation is protected
- ☐ **R403.7** Manual J report, including heating and cooling design loads, is attached
- ☐ **R403.7** Heating and cooling equipment have been selected in accordance with Manual S, based on loads calculated in accordance with Manual J (see below)

Complete the following based on the attached Manual J report:

Design loads:	**Equipment specifications:**
Design cooling load _____ (Btu/h)	Cooling system output capacity _____ (Btu/h)
	Cooling equipment make: _____
	Cooling equipment model: _____
Design heating load: _____ (Btu/h)	Heating system output capacity: _____ (Btu/h)
	Heating equipment make: _____
	Heating equipment model: _____

- ☐ **Manual S.** Specified *cooling* equipment capacity is ≤ 1.15 times the design load or the next larger nominal size, whichever is greater. (Exception: Heat pumps may exceed the design load by 1.25 times or the next nominal size.)
- ☐ **Manual S.** Specified *heating* equipment capacity is ≤ 1.40 times the design load or the next larger nominal size, whichever is greater

- ☐ **RCNYS R303.4** Whole-house mechanical ventilation worksheet has been completed (see page 2)

Town of North Castle Building Department

17 Bedford Road
Armonk, New York 10504-1898
Telephone: (914) 273-3000 ext. 44 Fax: (914) 273-3554

RESIDENTIAL HVAC DESIGN FORM

WHOLE HOUSE MECHANICAL VENTILATION DESIGN WORKSHEET

House Address: 34 Starkey Road Permit #: _____ Date: _____

Permit holder: Michael Grimaldi Phone: _____

1. **Fill in the conditioned floor area and number of bedrooms for the dwelling:**

   Conditioned Floor Area = _____ ft^2 Number of bedrooms = _____

2. **Circle the required airflow value on the table below:**

[NY] RCNYS Table M1505.4.3(1)
Continuous Whole-House Mechanical Ventilation System Airflow Rate Requirements

Dwelling Unit Floor Area (square feet)	Number of Bedrooms				
	0-1	2-3	4-5	6-7	>7
	Airflow in CFM				
< 1,500	30	45	60	75	90
1,501 – 3,000	45	60	75	90	105
3,001 – 4,500	60	75	90	105	120
4,501 – 6,000	75	90	105	120	135
6,001 – 7,500	90	105	120	135	150
> 7,500	105	120	135	150	165

3. **Does the fan operate continuously or intermittently?** ☒ Continuous ☐ Intermittent

4. **If the fan is to be operated intermittently *on a pre-set schedule*,** multiply the airflow value from Table M1505.4.3 (above) by the appropriate value in Table M1505.4.3(2) (below).

[NY] RCNYS Table M1505.4.3(2)
Intermittent Whole-House Mechanical Ventilation Rate Factors

Run-time Percentage in Each 4-hour Segment	25%	33%	50%	66%	75%
Factor	4.0	3.0	2.0	1.5	1.3

5. **Enter the required airflow =** _____ CFM

6. **R403.6.1. Fan efficacy. Enter the following information regarding the specified fan:**

   Rated fan airflow = _____ CFM Fan make: _____

   HVI-rated fan efficacy = _____ CFM/Watt

NEW YORK STATE | Workers' Compensation Board

Certificate of Attestation of Exemption
from New York State Workers' Compensation and/or Disability and Paid Family Leave Benefits Insurance Coverage

This form cannot be used to waive the workers' compensation rights or obligations of any party.

The applicant may use this Certificate of Attestation of Exemption **ONLY** to show a government entity that New York State specific workers' compensation and/or disability and paid family leave benefits insurance is not required. The applicant may **NOT** use this form to show another business or that business's insurance carrier that such insurance is not required.

Please provide this form to the government entity from which you are requesting a permit, license or contract. This Certificate will not be accepted by government officials one year after the date printed on the form.

In the Application of (Legal Entity Name and Address):	Business Applying For: Building Permit
Michael J Grimaldi **34 Starkey Rd** **West Harrison, NY 10604** **PHONE: 561-818-3939 FEIN: XXXXX1381**	**From: Town of North Castle New York** The location of where work will be performed is **34 Starkey Rd, West Harrison, NY 10604.** Estimated dates necessary to complete work associated with the building permit are from **November 15, 2021 to November 14, 2022.** The estimated dollar amount of project is **over $100,000**

Workers' Compensation Exemption Statement:

The above named business is certifying that it is **NOT REQUIRED TO OBTAIN NEW YORK STATE SPECIFIC WORKERS' COMPENSATION INSURANCE COVERAGE** for the following reason:

The applicant is acting as a general contractor with no employees, day laborers, leased employees, borrowed employees, part-time employees, unpaid volunteers and only has independent contractors that meet the standards of the New York Construction Industry Fair Play Act (Section 861 of the New York State Labor Law).

Disability and Paid Family Leave Benefits Exemption Statement:

The above named business is certifying that it is **NOT REQUIRED TO OBTAIN NEW YORK STATE STATUTORY DISABILITY AND PAID FAMILY LEAVE BENEFITS INSURANCE COVERAGE** for the following reason:

The applicant is a homeowner serving as the general contractor for his/her primary/secondary personal residence. The homeowner has not employed one or more individuals on at least 30 days in any calendar year in New York State. (Independent contractors are not considered to be employees under the Disability and Paid Family Leave Benefits Law.)

I, Michael J. Grimaldi, am the Homeowner with the above-named legal entity. I affirm that due to my position with the above-named business I have the knowledge, information and authority to make this Certificate of Attestation of Exemption. I hereby affirm that the statements made herein are true, that I have not made any materially false statements and I make this Certificate of Attestation of Exemption under the penalties of perjury. I further affirm that I understand that any false statement, representation or concealment will subject me to felony criminal prosecution, including jail and civil liability in accordance with the Workers' Compensation Law and all other New York State laws. By submitting this Certificate of Attestation of Exemption to the government entity listed above I also hereby affirm that if circumstances change so that workers' compensation insurance and/or disability and paid family leave benefits coverage is required, the above-named legal entity will immediately acquire appropriate New York State specific workers' compensation insurance and/or disability and paid family leave benefits coverage and also immediately furnish proof of that coverage on forms approved by the Chair of the Workers' Compensation Board to the government entity listed above.

SIGN HERE	Signature:	Date:

Exemption Certificate Number

2021-056190

Received

September 6, 2021

NYS Workers' Compensation Board

Questions about your Policy?
Call 1-866-500-8377

Policy Number:
H37-221-167512-75 1 6

Report a Claim:
1-800-2CLAIMS

Liberty Mutual INSURANCE

ACTION REQUIRED:
PLEASE REVIEW AND KEEP FOR YOUR RECORDS.

Policy Declarations

Total 12 Month Premium:* $546.00

Save an estimated $20 annually by switching to Paid-in-Full

Policy Declarations

LibertyGuard® Deluxe Homeowners Policy Declarations provided and underwritten by Liberty Insurance Corporation (a stock insurance company), Boston, MA.

Bill Frequency: Quarterly **Installment Fee Per Payment: $5.00**

* Total 12 month policy premium above does not include installment fees.

Your discounts and benefits have been applied. Includes local fees and charges where applicable.

Insurance Information

Named Insured:	Michael Grimaldi Pamela Grimaldi	Policy Number:	H37-221-167512-75 1 6
Mailing Address:	34 Starkey Rd W Harrison NY 10604-1025	Policy Period:	08/02/2021-08/02/2022 12:01 a.m. standard time at the address of the Named Insured at Insured Location.
Insured Location:	Same as Mailing address above	Declarations Effective:	08/02/2021

DISCOUNTS AND BENEFITS SECTION

Your discounts and benefits have been applied to your total policy premium.

- Inflation Protection Discount
- Multi Policy Discount - Auto
- Basic Home Safety
- Recent Home Buyer Discount

Coverage Information

Standard Policy with HomeProtector Plus ™

SECTION I COVERAGES	LIMITS	PREMIUM
A. Dwelling with Expanded Replacement Cost	$ 205,300	
B. Other Structures on Insured Location	$ 20,530	
C. Personal Property with Replacement Cost	$ 153,980	
D. Loss of Use of Insured Location	Actual Loss Sustained	

Want to Add a Coverage?
Call 1-866-500-8377 to talk to your agent about the availability of this coverage and whether it meets your needs.

Policy Number:
H37-221-167512-75 1 6

Report a Claim:
1-800-2CLAIMS

Liberty Mutual INSURANCE

Coverage Information continued

SECTION II COVERAGES		LIMITS	PREMIUM
E. Personal Liability (each occurrence)	$	300,000	
F. Medical Payments to Others (each person)	$	2,000	

POLICY DEDUCTIBLES

Losses covered under Section I are subject to a deductible of : $1,000

If losses are a result of Wind they are subject to a deductible of : $1,000

If losses are a result of a Hurricane they are subject to a deductible of 5%: $10,265

Total Standard Policy with HomeProtector Plus ™	**$**	**543**

ADDITIONAL COVERAGES	DEDUCTIBLE		LIMITS		PREMIUM
Credit Card, Fund Transfer Card, Forgery		$	1,000	$	0
Escape of Water (Building/Spec Contents)	$ 1,000	$	10,000		INCL
Workers Compensation Coverage					INCL
Coverage E & F increased limit				$	3
Total Additional Coverages				**$**	**3**

Total 12 Month Policy Premium: $546.00

Additional Coverages and Products Available*

We've reviewed your policy and have identified additional optional coverages and products that can add valuable protection. Talk to your agent about purchasing the following coverages and products and whether they meet your needs.

- **Home Computer and Smartphone:** If your smartphone or other devices are not insured, repairing or replacing them can be expensive. Did you know you can insure multiple devices for up to $10,000 with a deductible of $50.00?
- **Identity Fraud Expense:** A stolen identity can be scary and expensive. We'll provide counseling, and pay up to $30,000 for expenses such as lost wages and attorney fees incurred to recover your identity.

* These optional coverages are subject to policy provisions, limitations, and exclusions. Daily limits or a deductible may apply. For a complete explanation, please consult your agent today.

Policy Forms and Endorsements: The following forms and endorsements are applicable to your policy

LibertyGuard® Deluxe Homeowner Policy (HO 00 03 04 91)

Home Protector Plus (FMHO-2023)

Escape of Water (Building/Spec Contents) (FMHO 6500 1115)

Protective Devices (FMHO 4172 1014)

Policy Forms and Endorsements: The following forms and endorsements are applicable to your policy (continued)

Credit Card, Fund Transfer Card, Forgery (HO 04 53 04 91)
Special Provisions - New York (FMHO6100NY 1117)
Inflation Protection (FMHO-2936 9/04)
No Covg-Home Daycare Bus (HO 23 43 04 91)
Amendatory Seepage End (FMHO-2265)
Sexual Molestation Excl (FMHO-949 09/91)
Amendmt Pol Definitions (FMHO 2934 0720)
Workers Compensation Coverage (HO 24 93 05 02)
Hurricane Deductible (FMHO 3363 0912)
NY - Amendatory End (FMHO-2240)
Fuel Storage Exclusion (FMHO 3181 0309)

Important Messages

Flood Insurance: Your Homeowners policy **does not** provide coverage for damage caused by flood, even if the flood is caused by a storm surge. Liberty Mutual can help you obtain this coverage through the Federal Emergency Management Agency (FEMA) if your community participates in the National Flood Insurance Program. Please call your representative for more information.

Hurricane Deductible: This policy is subject to a hurricane deductible. This deductible is listed with your Standard Policy in the Policy Deductibles section. Please refer to PMKT 999 for further details.

David H. Long
President

Mark C. Touhey
Secretary

This policy, including endorsements listed above, is countersigned by:

Hamid Mirza
Authorized Representative

PROPOSED GRIMALDI RESIDENCE -34 STA

East Exposure-Front

st Exposure-Rear

Right side view

'iew

ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

GENERAL NOTES

1. UNAUTHORIZED USE OR REPRODUCTION OF PLANS AND SPECIFICATIONS WITHOUT WRITTEN CONSENT IS PROHIBITED.
2. DRAWINGS AND SPECIFICATIONS MUST BE READ AND UNDERSTOOD BY ALL CONTRACTORS PRIOR TO CONSTRUCTION. DISCREPANCIES, CONFLICTS AND/OR OMISSIONS ON THE DRAWINGS AND/OR THE SPECIFICATIONS, OR BETWEEN THE TWO, SHALL BE BROUGHT TO ATTENTION IMMEDIATELY UPON THEIR ENCOUNTER.
3. EACH CONTRACTOR MUST REVIEW THE PLANS AND CHECK AND VERIFY ALL DIMENSIONS, QUANTITIES, SPACING AND STRUCTURAL MEMBERS PRIOR TO BUILDING AND ORDERING MATERIALS AND REPORT ANY DISCREPANCIES OR CONFLICTS.
4. DRAFTSMAN IS NOT RESPONSIBLE FOR DESIGN DEFECTS, CONSTRUCTION SPECIFICATIONS AND DETAILS OR ANY OTHER MATTER RELATING TO THE DESIGN, DEVELOPMENT OR CONSTRUCTION OF THE PROJECT AND DRAFTSMAN ASSUMES NO RESPONSIBILITY FOR ANY DAMAGE, INCLUDING STRUCTURAL FAILURES, DUE TO ANY DEFICIENCIES, OMISSIONS OR ERRORS IN THE DESIGN OF THESE PLANS. EACH CONTRACTOR MUST REVIEW THE PLANS AND CHECK ALL DIMENSIONS, QUANTITIES, SPACING AND STRUCTURAL MEMBERS PRIOR TO BUILDING AND ORDERING MATERIALS. DRAFTSMAN MAKES NO WARRANTIES, EXPRESS OR IMPLIED, UNDER THIS AGREEMENT OR OTHERWISE, IN CONNECTION WITH THESE SERVICES, HIS LIABILITY, IF ANY, IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID UNDER THE AGREEMENT BETWEEN CONTRACTOR OR OWNER AND DRAFTSMAN AND NO OTHER DAMAGES, WHETHER IN THE CONTRACT OR IN TORT, IN LAW OR IN EQUITY ARE AVAILABLE.
5. DO NOT SCALE DIMENSIONS OFF OF THE DRAWINGS. UTILIZE THE DIMENSIONS GIVEN.
6. THE PLANS MEET OR EXCEED THE CURRENT NEW YORK STATE ENERGY CODE AND RESIDENTIAL BUILDING CODE.
7. DESIGN LOADS:
   - 7.1. ROOF
     - 7.1.1. GROUND SNOW LOAD: 30 PSF
   - 7.2. SECOND LEVEL:
     - 7.2.1. LIVE LOAD: 30 PSF
     - 7.2.2. DEAD LOAD: 10 PSF
   - 7.3. FIRST LEVEL:
     - 7.3.1. LIVE LOAD: 40 PSF
     - 7.3.2. DEAD LOAD: 10 PSF
8. CONTRACTOR TO FOLLOW ALL APPLICABLE CODES OF THEIR TRADE FOUND IN THE 2020 RESIDENTIAL CODE OF NEW YORK STATE AND THE 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.
9. ALL WORK SHALL COMPLY WITH SECTION R301 - CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA OF NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE FOR THIS MUNICIPALITY.
2. HARD WIRED SMOKE DETECTORS IN ALL BEDROOMS & CORRIDOR OUTSIDE BEDROOMS PER LOCAL CODE.

FIRE SEPARATION

1. FIRE SEPARATION IN HOMES WITH ATTACHED GARAGES TO CONFORM TO THE FOLLOWING:
   - 1.1. (1) LAYER OF ⅝" TYPE X GYPSUM BOARD ON GARAGE CEILING & WRAP ANY STEEL OR WOOD BEAM.
   - 1.2. (1) LAYER OF ⅝" TYPE X GYPSUM BOARD ON GARAGE SIDE OF GARAGE/HOUSE COMMON WALLS.
     - 1.2.1. INSTALL W/ TYPE W OR S 1-5/8" SCREWS; 4" O.C. EDGE SPACING, 8" O.C. FIELD SPACING.
   - 1.3. (1) LAYER OF ⅝" TYPE X GYPSUM BOARD ON HOUSE SIDE OF GARAGE/HOUSE COMMON WALLS.
     - 1.3.1. INSTALL W/ TYPE W OR S 1-1/4" SCREWS; 4" O.C. EDGE SPACING, 8" O.C. FIELD SPACING.
2. I-JOISTS TO BE USED FOR FLOOR JOISTS AT THE FIRST FLOOR ARE TO BE PROVIDED BY MANUFACTURER WITH FIRE PROTECTION IN ACCORDANCE WITH R302.13, EXCEPTION 4.
3. PROVIDE FIRE BLOCKING ABOVE STEEL BEAM FOR ANY HABITABLE SPACE AT FRONT END OF FLOOR JOISTS.
4. TO RESIST THE PASSAGE OF FLAME AND OTHER PRODUCTS OF COMBUSTION AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES AND BETWEEN THE TOP STORY AND THE ROOF SPACE, FIRE BLOCKING WILL BE PROVIDED AT THE FOLLOWING LOCATIONS:
   - 4.1. CONCEALED SPACES OF STUD WALLS AND FURRED SPACES AT CEILING AND FLOOR LEVELS AT INTERVALS NOT TO EXCEED 10'-0".
   - 4.2. CONCEALED HORIZONTAL & VERTICAL SPACES SUCH AS SOFFITS AT INTERVALS NOT TO EXCEED 10'-0".
   - 4.3. BELOW STAIRS BETWEEN STRINGERS AND AT TOP AND BOTTOM OF RUN.
   - 4.4. OPENINGS AROUND VENTS, PIPES AND DUCTS.
   - 4.5. A MINIMUM OF 2'-0" PAST SUPPORTING MEMBERS.
5. OPENING PROTECTION TO CONFORM TO THE 2020 IRC W/ NYS SUPPLEMENTS . SECTION R302.5.
6. PROVIDE ¾ HOUR FIRE RATED DOOR WITH STEEL FRAME AND SELF CLOSING DEVICE.

INSULATION NOTES

1. ALL INSULATION TO BE INSTALLED PER MANUFACTURE'S INSTALLATION INSTRUCTIONS OR RESNET GRADE I.
2. ENTIRE HOME TO BE INSULATED TO A MINIMUM OF THE FOLLOWING GUIDELINES UNLESS NOTED OTHERWISE IN THE RESCHECK REPORT:
   - 2.1. FLAT AND SLOPED CEILINGS WITH ATTIC SPACES TO BE R49 AS FOLLOWS:
     - 2.1.1. (1) LAYER OF R19 LAID IN THE CEILING JOIST CAVITY.
     - 2.1.2. (1) LAYER OF R30 LAID PERPENDICULAR TO FIRST R19 LAYER.
     - 2.1.3. PROVIDE BAFFLES AT EAVES TO ENSURE A MINIMUM OF 1½" CLEAR VENTILATION SPACE BETWEEN THE UNDERSIDE OF THE ROOF SHEATHING AND THE BAFFLE. TYPICAL AT ALL RAFTERS.
   - 2.2. CATHEDRAL CEILINGS:
     - 2.2.1. R30
   - 2.3. EXTERIOR WOOD STUD WALLS:
     - 2.3.1. 2x4: R13 WITH R5 CONTINUOUS INSULATION @ EXTERIOR OF WALL.
     - 2.3.2. 2x6: R21
     - 2.3.3. SIDE ATTIC ACCESS PANEL: MIN. R3.5 RIGID W/ WEATHER STRIPPING
   - 2.4. FOUNDATION WALLS:
     - 2.4.1. R10 RIGID INSULATION (HORIZ. 24") @ PERIMETER OF WALL
     - 2.4.2. R10 RIGID INSULATION (VERT.) @ INSIDE OF WALL TO BOTTOM OF HORIZ. INSULATION
     - 2.4.3. R5 RIGID INSULATION @ ENTIRE UNDERSIDE OF HEATED SLAB.
   - 2.5. FLOORS OVER UNCONDITIONED (I.E. BEDROOMS OVER GARAGE) OR OUTSIDE (CANTILEVERED) SPACES:
     - 2.5.1. R30
   - 2.6. ANY DUCTS LOCATED IN ATTIC SPACES TO BE INSULATED TO THE FOLLOWING:
     - 2.6.1. >7=3" DIAMETER: R-8
     - 2.6.2. <3" DIAMETER: R-6
   - 2.7. R3 INSULATION @ ANY HOT WATER PIPING ½" & LARGER.

FLOOR NOTES

1. RIM BOARD PER FLOOR JOIST SYSTEM USED.
2. START FIRST JOIST 16" FROM RIM BOARD ON ALL SIDE OF HOUSE U.N.O.
3. MODULUS OF ELASTICITY FOR LAMINATED VENEER LUMBER (LVL) IS 1.9x1,000,000 OR 1.9e U.N.O.
4. MODULUS OF ELASTICITY FOR LAMINATED STRAND LUMBER (LSL) IS 1.55x1,000,000 OR 1.55e U.N.O.
5. ¾" TONGUE & GROOVE OSB OVER CONVENTIONAL FLOOR JOISTS. PRODUCT TO BE STRUCTURE GOLD FROM ILEVEL OR TOPNOTCH HIGH PERFORMANCE FROM L.P.
6. PROVIDE SUPPORT BLOCKING BETWEEN JOISTS, 4'-0" O.C. MAX. AND BENEATH BEARING PARTITIONS PARALLEL TO THE SPAN OF THE JOIST.
7. PROVIDE CLEAR SPACE BETWEEN JOISTS OVER KITCHEN SINK FOR LIGHT FIXTURE.
8. EXTEND ALL SPANNING MEMBERS 3" PAST THEIR SUPPORT BEAMS' CENTERLINE TO PROVIDE A 6" OVERLAY WITH ADJACENT SPANNING MEMBER.
9. (2) PLY & (3) PLY LVL AND LSL MEMBERS ARE TO BE FASTENED TOGETHER PER THE FOLLOWING METHOD:
   - 9.1. 9¼"-11⅞" DEEP MEMBERS: 2 ROWS 16d NAILS 12" O.C.
   - 9.2. 14"-18" DEEP MEMBERS: 3 ROWS 16d NAILS 12" O.C.
10. (4) PLY OR MORE LVL/LSL MEMBERS OR (2) OR MORE LVL/LSL/DIMENSIONAL LUMBER MEMBERS AND STEEL PLATE(S), FOR THE PURPOSE OF A STRUCTURAL BEAM, SHALL BE FASTENED TOGETHER IN THE FOLLOWING MANNER:
    - 10.1. SIDE LOADED MEMBERS (MEMBERS HUNG ON SIDE OF BEAM):
      - 10.1.1. USE ½"Ø BOLTS, 12" O.C. STAGGERED TOP AND BOTTOM AND PLACED A MINIMUM OF 2" FROM ANY EDGE.
    - 10.2. TOP LOADED MEMBERS (MEMBERS BEARING OVER BEAM):
      - 10.2.1. USE ½"Ø BOLTS 24" O.C. STAGGERED TOP AND BOTTOM AND PLACED A MINIMUM OF 2" FROM ANY EDGE.
11. ALL CONCENTRATED LOADS SHALL BE TRANSFERRED TO THE FOUNDATION WALLS OR PIERS VIA BEAMS, POSTS, AND/OR SOLID BLOCKING.
12. ALLOWABLE NOTCHING IN FLOOR JOISTS, RAFTERS AND BEAMS PER THE 2020 IRC W/ NYS SUPPLEMENTS, SECTION R502.8.1 (SAWN LUMBER) AS FOLLOWS:
    - 12.1. NOTCHES IN SOLID LUMBER JOISTS, RAFTERS, AND BEAMS SHALL NOT EXCEED ⅛ OF THE DEPTH OF THE MEMBER.
    - 12.2. NOTCHES SHALL NOT BE LONGER THAN ⅓ THE DEPTH OF THE MEMBER.
    - 12.3. NOTCHES SHALL NOT BE LOCATED IN THE MIDDLE ⅓ OF THE SPAN.
    - 12.4. NOTCHES AT THE ENDS OF THE MEMBER SHALL NOT BE EXCEED ¼ THE DEPTH OF THE MEMBER.
    - 12.5. THE TENSION SIDE OF MEMBERS 4" OR GREATER IN NOMINAL THICKNESS SHALL NOT BE NOTCHED EXCEPT AT THE ENDS OF THE MEMBERS.

WALL NOTES

1. DOUBLE 2x PLATE AT TOP OF WALL.
2. ½" GYPSUM WALL BOARD.
3. INTERIOR WALLS ARE 2x4 STUDS, 16" O.C. U.N.O.
4. EXTERIOR WALLS ARE 2x4 STUDS, 16" O.C. U.N.O.
5. SIDING OVER AIR INFILTRATION BARRIER OVER 7/16" OSB SHEATHING U.N.O.
6. HEADERS:
   - 6.1. FULL-DEPTH SOLID HEADERS ARE THE ONLY ACCEPTABLE OPTION FOR ALL HEADERS.
   - 6.2. HEADERS NOT MARKED SHALL BE (2) 2x6
7. ALL INTERIOR OPENINGS ARE 6'-10 ½" HIGH U.N.O.
8. ANGLED WALLS ARE 45° U.N.O.
9. DIMENSIONS FOR INTERIOR WALLS ARE TO FACE OF STUD U.N.O.
10. DIMENSIONS FOR EXTERIOR WALLS ARE TO FACE OF EXTERIOR SHEATHING (OR BRICK WHERE APPLICABLE) U.N.O.
11. APPLY EXTERIOR SHEATHING ON ALL INSULATED WALLS FACING UNCONDITIONED SPACES.
12. INSTALL BRICK FRIEZE WHERE APPLICABLE.
13. PLANT LEDGES ARE TO BE MADE FROM 2x8 LUMBER, U.N.O.
    - 13.1. LEAVE SUBFLOOR LOOSE ON PLANT LEDGES THAT ARE LOCATED OVER OUTSIDE AIR.

ROOF NOTES

1. SHEATHING AT ROOF TO BE 7/16" OSB
2. SHEATHING FOR RIDGE VENTS SHALL BE CUT 6" FROM THE MAIN HOUSE WALL & TERMINATE WITHIN THE LAST RAFTER BAY. LEAVE 1" GAP ON BOTH SIDES OF RIDGE BOARD/BEAM FOR VENTILATION.
3. ROOF UNDERLAYMENT TO BE 15# FELT PAPER.
4. SINGLE LAYER OF ICE AND WATER SHIELD INSTALLED OVER FACE OF EAVE TO A POINT AT LEAST 24" INSIDE THE EXTERIOR WALL LINE OF THE BUILDING (R905.1.2)
5. DOUBLE LAYER OF UNDERLAYMENT REQUIRED ON ROOF SLOPES OF 4:12 & UNDER.
6. STEP FLASHING @ ALL VERTICAL SIDEWALLS.
7. ASPHALT SHINGLES AS SELECTED.
8. VENTILATED SOFFIT AT ALL HORIZONTAL EAVES.
9. ALL ROOF OVERHANGS ARE 1'-0", MEASURED FROM FACE OF EXTERIOR SHEATHING, BRICK, ETC.,.., U.N.O.
10. 2x4 COLLAR TIES 48" O.C.
11. USE 2x10 AT ALL HIPS U.N.O.
12. PURLINS ARE LOCATED DIRECTLY BELOW THE RAFTERS AND ARE TYPICALLY BRACED TO BEARING WALLS OR BEAMS WITH 2x4'S 48" O.C. U.N.O.
13. MINIMUM ANGLE FROM HORIZONTAL PLANE FOR ALL BRACING IS 45°.
14. DIMENSIONS FOR RAFTER SPANS ARE SHOWN AS THE UNSUPPORTED HORIZONTAL RUN, U.N.O.

LUMBER SPECIES & TRIM

1. ALL LUMBER TO BE A MINIMUM OF #2 GRADE.
2. 2x6 NOMINAL LUMBER:
   - 2.1. UP TO 20'-0" LONG TO BE SPRUCE OF HEM-FIR.
   - 2.2. OVER 20'-0" LONG TO BE DOUGLAS FIR.
3. 2x8 NOMINAL LUMBER:
   - 3.1. UP TO 20'-0" LONG TO BE SPRUCE OR HEM-FIR.
   - 3.2. OVER 20'-0" LONG TO BE DOUGLAS FIR.
4. 2x10 NOMINAL LUMBER:
   - 4.1. UP TO 20'-0" LONG TO BE HEM-FIR.
   - 4.2. OVER 20'-0" LONG TO BE DOUGLAS FIR.
5. 2x12 NOMINAL LUMBER:
   - 5.1. UP TO 20'-0" LONG TO BE HEM-FIR OR DOUGLAS FIR.
   - 5.2. OVER 20'-0" LONG TO BE DOUGLAS FIR.
6. ALL WOOD TRIM IS TO BE WINDSOR ONE BRAND, U.N.O. & INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. ALL PVC TRIM TRIM TO BE AZEK BRAND, U.N.O. & INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS., ALL PVC TO BE INSTALLED TEXTURED SIDE OUT, U.N.O.

SITE/PLOT PLAN NOTES:

1. THE FINAL SCOPE OF SITE WORK TO BE AGREED UPON BETWEEN THE OWNER & CONTRACTOR.
2. CONTRACTOR TO COORDINATE GAS, ELECTRIC, TELEPHONE & CABLE INSTALLATION W/ RESPECTIVE UTILITY COMPANIES.
3. EXISTING UNDERGROUND UTILITY LINES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF UTILITIES (PUBLIC & PRIVATE). CONTACT UNDERGROUND FACILITIES PROTECTION ORGANIZATION (UFPO) @ (800) 962-7962 BEFORE COMMENCING EXCAVATION OPERATIONS.

GENERAL ELECTRIC NOTES:

GE1. ELECTRICAL SERVICE: PROVIDE A 200 AMP SERVICE, W/ A 200 AMP SQUARE "D" OR CUTLER-HAMMER MAIN PANEL. THE SERVICE TO THE HOUSE SHALL BE INSTALLED UNDERGROUND.

GE2. TELEPHONE & CATV SERVICES SHALL ALSO BE INSTALLED UNDERGROUND TO HOUSE. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE INSTALLATION W/ EACH RESPECTIVE UTILITY COMPANY. CONTRACTOR TO SCHEDULE A MEETING W/ ALL UTILITIES PRIOR TO START OF CONSTRUCTION TO ENSURE PROPER COORDINATION. UNDERGROUND TELEPHONE WIRING TO HAVE THE CAPACITY FOR A MINIMUM OF THREE SEPARATE PHONE LINES.

GE3. SMOKE DETECTORS & C/O DETECTORS TO BE HARD WIRED IN SERIES.

SYMBOLS AND ABBREVIATIONS

U.N.O.	UNLESS NOTED OTHERWISE
O.C.	ON CENTER
T.O.	TOP OF
T.O.W.	TOP OF WALL
T.O.C.	TOP OF CONCRETE
C.L.	CENTER LINE
PL.	PLATE
T&G	TONGUE AND GROOVE
LVL	LAMINATED VENEER LUMBER
LSL	LAMINATED STRAND LUMBER
OSB	ORIENTED STRAND BOARD

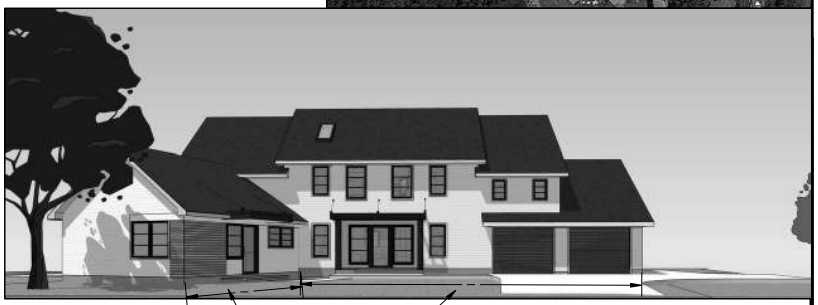
(SD) SMOKE DETECTOR

(CO/SD) SMOKE/CARBON MONOXIDE DETECTOR

(HD) HEAT DETECTOR

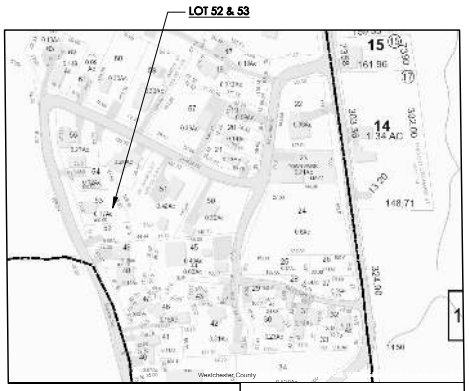
MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS [TABLE R602.7.5]

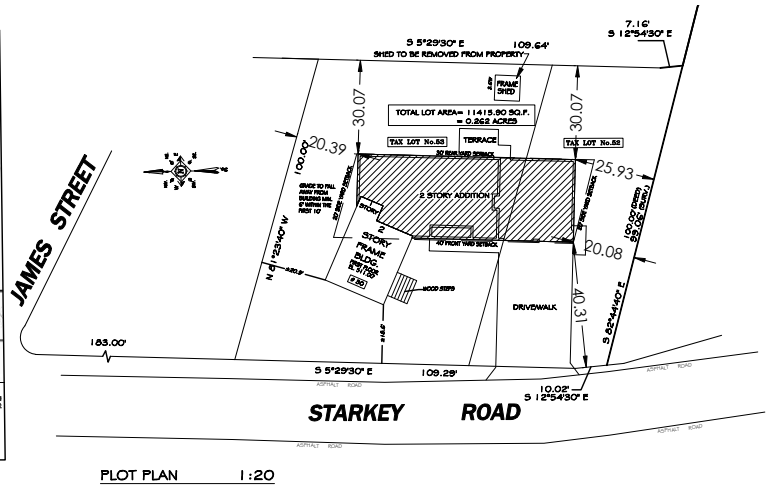
HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES) [PER TABLE R602.3(5)]	
	16	24
</= 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4



Existing Cottage (Previously Renovated to Comply w/ 2020 RCNYS)

New Addition





PLOT PLAN 1:20

LICENSED ENGINEER:
RICHARD J. SKOP
44 SOUTHWICK DR.
ORCHARD PARK, NY 14127
PHONE (716) 725-5990
FAX (716) 763-6854

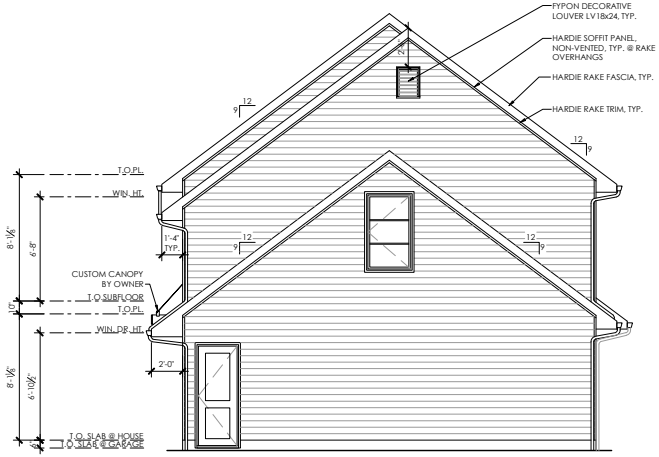
PROFESSIONAL SEAL

STATE OF NEW YORK · RICHARD J. SKOP · No. 087321 · LICENSED PROFESSIONAL ENGINEER

8/28/2021

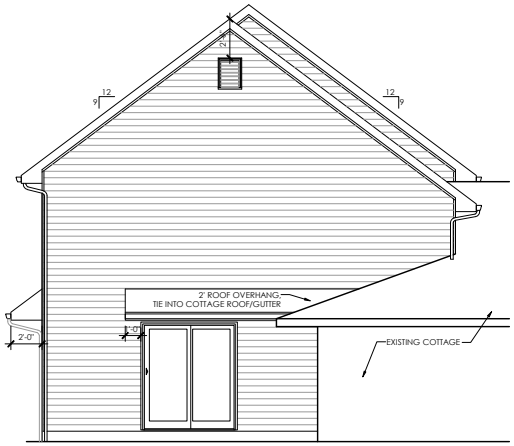
SHEET INDEX

FRONT ELEVATION



RIGHT SIDE ELEVATION

REAR ELEVATION



LEFT SIDE ELEVATION

HARDIE TRIM NOTES:

- ALL CORNERS, WINDOW & DOOR TRIM TO BE: HARDIE BATTEN, PF WHITE 4/4x2½"
- DOOR & WINDOW FLANGES; ADD SHIM TO ENSURE LEVEL INSTALLATION OF TRIM
- USE BATTENS FOR INSIDE CORNERS, UNDERSIDE OF SOFFIT & RAKE SOFFIT @ WALLS
- USE PELLA TABS FOR TRIM INSTALLATION, ALL S/S NAILS, MINIMAL NAIL HEAD EXPOSURE, TOUCH UP & CAULK ALL JOINTS W/ MATCHING WHITE
- INSTALL ACCORDING TO PELLA INSTALLATION REQUIREMENTS TO ENSURE WARRANTIES

HARDIE SIDING NOTES:

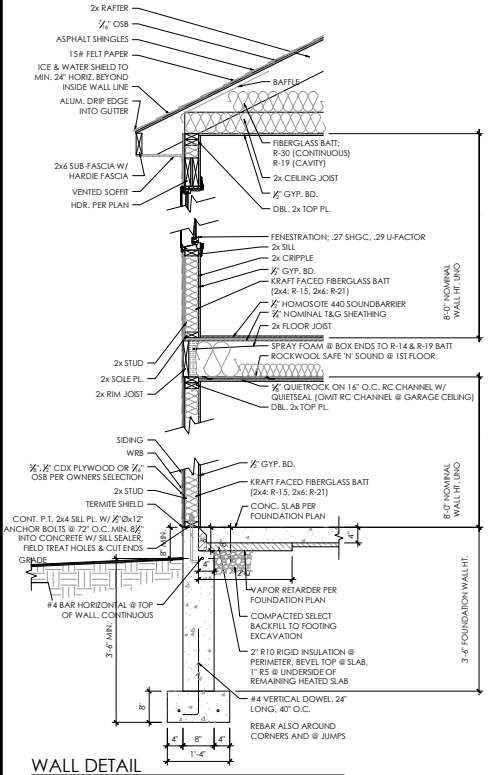
- 7"X144" W/ 5" BLIND NAIL INSTALLATION & EXPOSURE, STAGGER JOINTS AS PER HARDIE INSTALLATION GUIDELINES, PF WHITE
- RAKE SOFFIT - NON VENTED 4/4x12", PF WHITE
- FASCIA SOFFIT - VENTED 4/4x16"; GARAGE & DOOR ROOFS 4/4x24", PF WHITE
- FASCIA & RAKE FASCIA 4/4x6", PF WHITE

ELEVATIONS

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

ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

SHEET
1

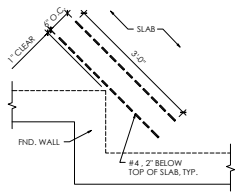


WALL DETAIL

SCALE: 3/4"=1'-0"

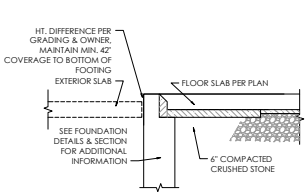
FOUNDATION NOTES

1. **CONCRETE WALL SPECS (SEE DETAIL AND/OR PLAN FOR SIZE AND/OR REBAR REQUIREMENTS):**
   - 1.1. **WALLS: 3000 PSI (AIR ENTRAINED 5-7%) U.N.O.**
2. **CONCRETE FOOTINGS (SEE DETAIL AND/OR PLAN FOR SIZE AND/OR REBAR REQUIREMENTS):**
   - 2.1. **BASEMENT FOOTINGS: 3000 PSI**
   - 2.2. **GARAGE AND PORCH FOOTINGS: 3000 PSI**
3. **GARAGE FLOOR TO BE 4000 PSI, 4" THICK CONCRETE SLAB, AIR ENTRAINED 5-7%, OVER 4" CRUSHED STONE. TOP OF GARAGE SLAB TO BE 6" DOWN FROM TOP OF HOUSE FLOOR SLAB. PITCH SLAB TOWARD OVERHEAD DOORS. BUILDER TO COORDINATE DOOR CUT OPENINGS WITH GRADES ON SITE.**
4. **1/2"Ø ANCHOR BOLTS, MIN. 10" LONG x 6'-0" O.C., EXTENDING 7" INTO CONCRETE.**
   - 4.1. **USE STAINLESS STEEL OR GALVANIZED ANCHOR BOLTS, WASHERS AND NUTS WHERE PRESSURE TREATED LUMBER IS USED FOR A SILL PLATE.**
   - 4.2. **SILL SEALER UNDER ALL SILL PLATES. (1) 2x4 SILL PLATE @ HOUSE WALLS; (1) 2x4 P.T. SILL PLATE @ ALL GARAGE & GARAGE/HOUSE COMMON WALL(S) U.N.O.**
5. **EXTERIOR FOUNDATION WALL MEMBRANE SYSTEM ON FOUNDATION WALLS.**
6. **ELECTRICAL GROUNDING TO CONFORM TO THE NYS RESIDENTIAL BUILDING CODE SECTION E3608, SPECIFICALLY E3608.1.2**
7. **FOUNDATION CONSTRUCTION IS CAPABLE OF ACCOMMODATING ALL LOADS AND OF TRANSMITTING THE RESULTING LOAD TO THE SUPPORTING SOIL AND IN FULL COMPLIANCE WITH R301 OF THE RCNYS.**



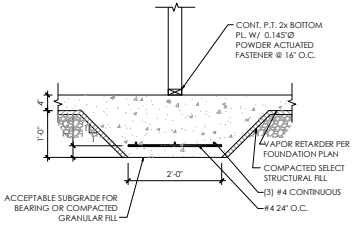
RE-ENTRANT CORNER REINFORCING

SCALE: 3/4"=1'-0"



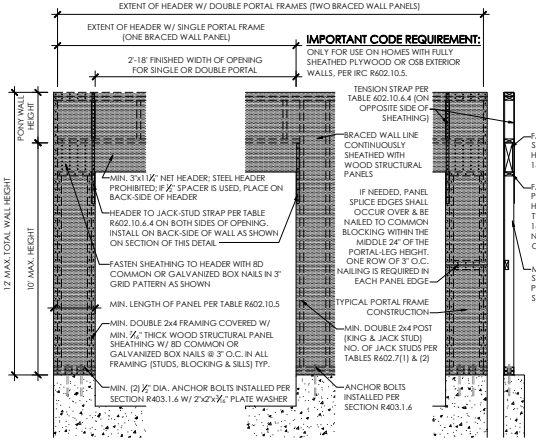
FOUNDATION SECTION

SCALE: 3/4"=1'-0"



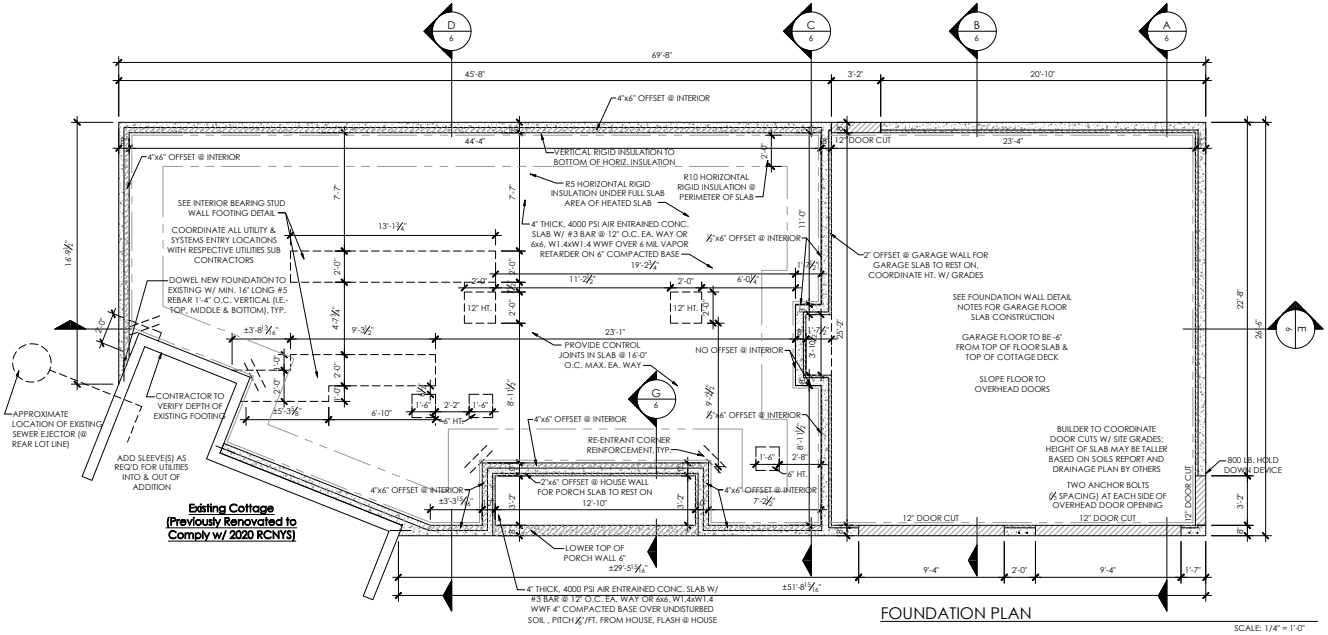
INTERIOR BEARING STUD WALL FOOTING

SCALE: 3/4"=1'-0"



BRACED WALL METHOD CS-PF

SCALE: 1/2"=1'-0"

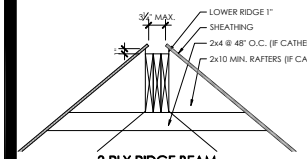


FOUNDATION PLAN

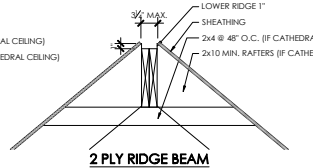
SCALE: 1/4" = 1'-0"

ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

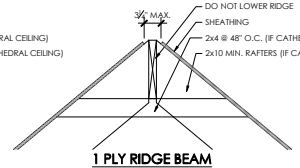
SHEET
2



3 PLY RIDGE BEAM



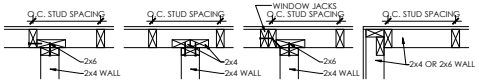
2 PLY RIDGE BEAM



1 PLY RIDGE BEAM

RIDGE VENT SLOT DETAILS

SCALE: 1"=1'-0"

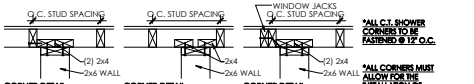


CORNER DETAIL: 2x4 INTERSECTING WALL @ STUD SPACING

CORNER DETAIL: 2x4 INTERSECTING WALL BETWEEN STUD SPACING

CORNER DETAIL: 2x4 INTERSECTING WALL @ STUD SPACING W/ WINDOW JACKS

CORNER DETAIL: 2x4 OR 2x6 EXTERIOR WALL



CORNER DETAIL: 2x6 INTERSECTING WALL @ STUD SPACING

CORNER DETAIL: 2x6 INTERSECTING WALL BETWEEN STUD SPACING

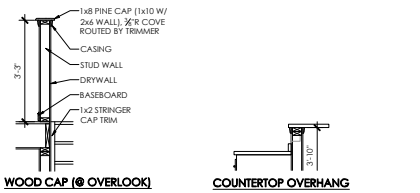
CORNER DETAIL: 2x6 INTERSECTING WALL @ STUD SPACING W/ WINDOW JACKS

***ALL C.T. SHOWER CORNERS TO BE FASTENED @ 12" O.C.**

***ALL CORNERS MUST ALLOW FOR THE INSTALLATION OF INSULATION**

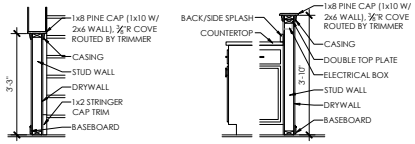
CORNER DETAILS FOR EXT. & INT. WALLS

SCALE: 1"=1'-0"



WOOD CAP (@ OVERLOOK)

COUNTERTOP OVERHANG

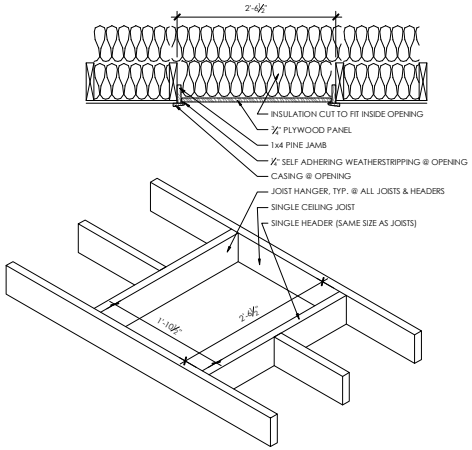


WOOD CAP (@ STAIRS)

WOOD CAP (VANITY OR BASE CAB.)

1/2 WALL DETAILS

SCALE: 1/2"=1'-0"



CEILING ATTIC ACCESS DETAIL

SCALE: 1"=1'-0"

NOTE: MINI SPLITS ALONG W/ HVAC SYSTEMS TO BE REVIEWED & RECOMMENDED BY HVAC CONTRACTOR & OWNER. SECOND FLOOR LOCATIONS INCLUDE BEDROOM 2, BEDROOM 3 & STUDIO. FIRST FLOOR LOCATIONS INCLUDE BEDROOM 1 & FAMILY ENTERTAINING

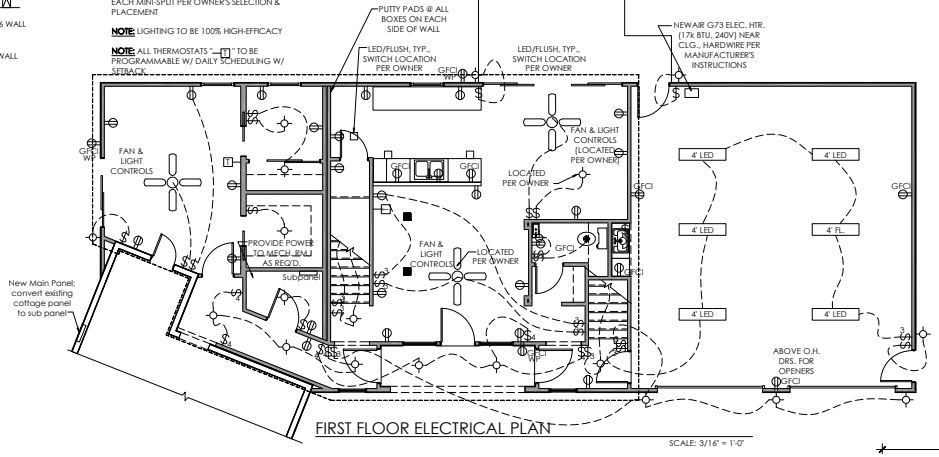
NOTE: PROVIDE DEDICATED OUTLET & SHUT OFF FOR EACH MINI-SPLIT PER OWNER'S SELECTION & PLACEMENT

NOTE: LIGHTING TO BE 100% HIGH-EFFICACY

NOTE: ALL THERMOSTATS "T" TO BE PROGRAMMABLE W/ DAILY SCHEDULING W/ SETBACK

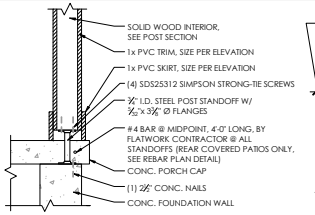
NOTE: ANY DUCTS IN UNCONDITIONED SPACES TO BE INSULATED TO A MIN. R-8 & HAVE MIN. R-19 ABOVE AND BELOW DUCT.

NOTE: HVAC CONTRACTOR TO SEAL DUCTS TO 4.0 CFM/100 S.F. CONDITIONED FLOOR AREA W/ UL 181 PRODUCTS APPROPRIATE FOR THE DUCT MATERIAL TYPE.



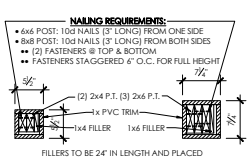
FIRST FLOOR ELECTRICAL PLAN

SCALE: 3/16" = 1'-0"

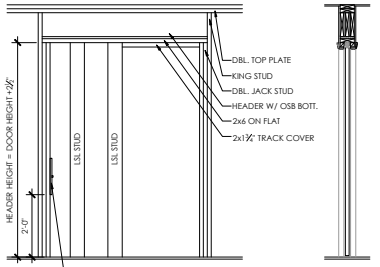


PORCH/PATIO POST DETAILS

SCALE: 1"=1'-0"



6x6 & 8x8 POST SECTION

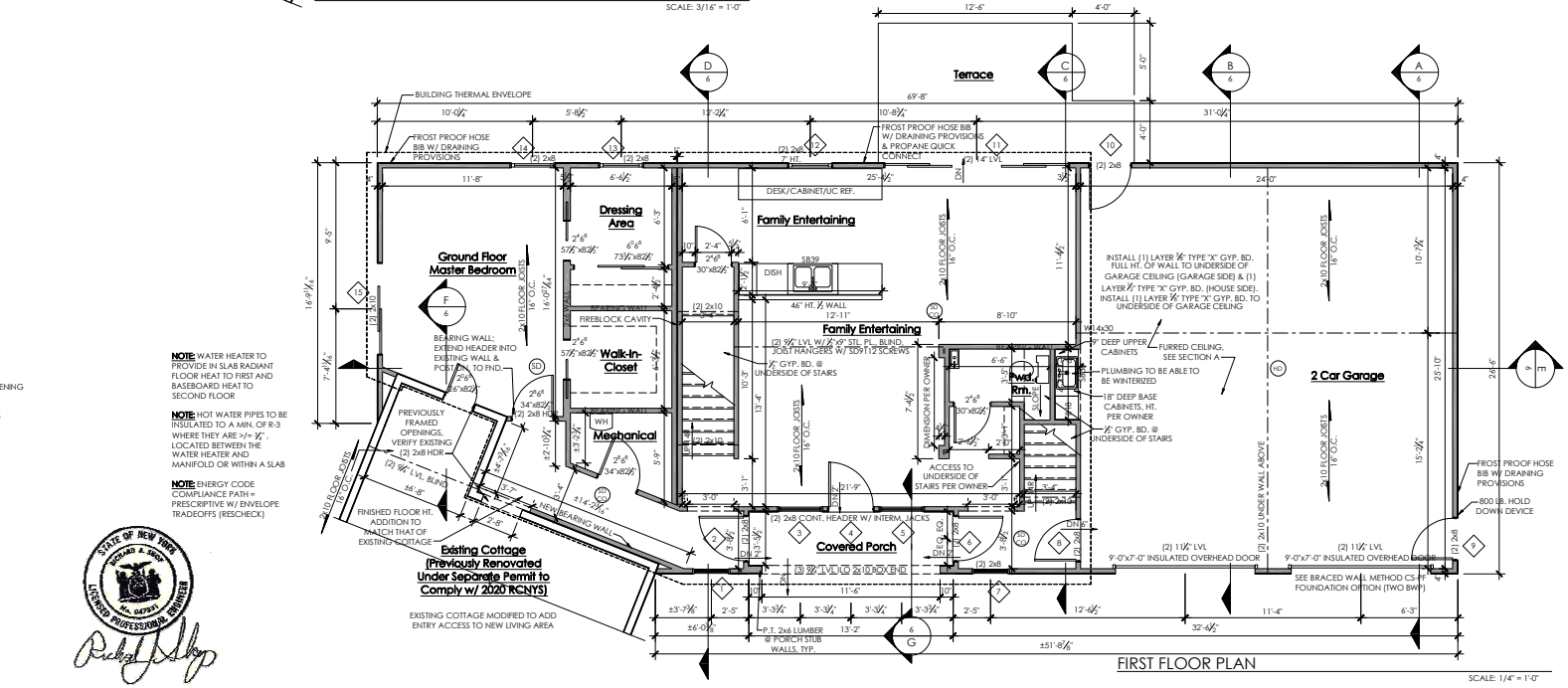


POCKET DOOR DETAILS

SCALE: 1/2"=1'-0"

LIGHT & VENT CALCULATIONS

ROOM	SQ. FT.	4% VENTILATION REQ'D VENT	4% VENTILATION ACT. VENT	8% LIGHTING REQ'D DAYLIGHT	8% LIGHTING ACT. DAYLIGHT
Family Entertaining/Kitchen	422.0	16.88	20.20	33.50	58.80
Bedroom 1	175.0	7.00	14.40	14.00	20.95
Home Office/Studio	254.0	10.16	14.40	20.32	30.65
Bedroom Suite Above Gar.	284.0	11.36	19.20	22.72	29.60
Bedroom 2	181.0	7.24	21.20	14.48	29.62



NOTE: WATER HEATER TO PROVIDE IN SLAB RADIANT FLOOR HEAT TO FIRST AND BASEBOARD HEAT TO SECOND FLOOR

NOTE: HOT WATER PIPES TO BE INSULATED TO A MIN. OF R-3 WHERE THEY ARE >/= ¾", LOCATED BETWEEN THE WATER HEATER AND MANIFOLD OR WITHIN A SLAB

NOTE: ENERGY CODE COMPLIANCE PATH = PRESCRIPTIVE W/ ENVELOPE TRADEOFFS (RESCHECK)

FIRST FLOOR PLAN

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

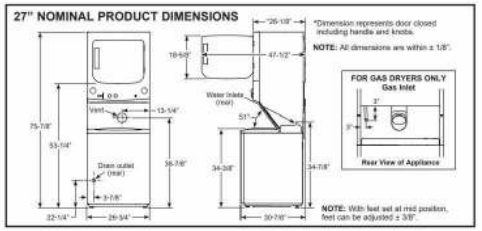
ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

SHEET
3

VELUX SKYLIGHT SCHEDULE						
Mark	Size		R.O.		Type	Notes
	Width	Height	Width	Height		
FSD06	23⅜"	46⅝"	22⅝"	45⅝"	Fixed	Deck Mounted/Dressing Alcove
FSD06	23⅜"	46⅝"	22⅝"	45⅝"	Fixed	Deck Mounted/Sitting Area

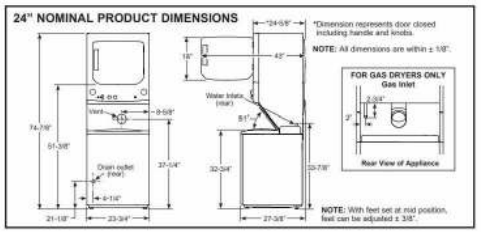
PELLA WINDOW & EXTERIOR DOOR SCHEDULE													CONTRACTOR TO VERIFY ALL WINDOWS & DOORS PRIOR TO PURCHASING & VERIFY PURCHASED WINDOWS & DOORS MEET LIGHT/VENT AND EGRESS REQUIREMENTS (VALUES EQUAL OR GREATER THAN PELLA LIFESTYLE & 250 SERIES REQUIRED)
Mark	Location	Model	Size		R.O.		Type	Material	Color		Hand	Inserts (GBG)	Notes
			Width	Height	Width	Height			Exterior	Interior			
1	Left Hall	Lifestyle	29"	59"	29⅝"	59⅝"	Casement	Wood Clad	Black	White	Left	2 Horiz.	Tempered
2	Left Hall Entry	Lifestyle	36"	81⅛"	36⅝"	82"	Swing Door	Wood Clad	Black	White	Right	N/A	Tempered, Egress
3	Family Entertaining	Lifestyle	35"	71"	35⅝"	71⅝"	Casement	Wood Clad	Black	White	Left	2 Horiz.	Tempered
4	Family Entertaining	Lifestyle	36"	81⅛"	36⅝"	82"	Swing Door	Wood Clad	Black	White	Left	N/A	Tempered, Egress
5	Family Entertaining	Lifestyle	35"	71"	35⅝"	71⅝"	Casement	Wood Clad	Black	White	Right	2 Horiz.	Tempered
6	Right Hall Entry	Lifestyle	36"	81⅛"	36⅝"	82"	Swing Door	Wood Clad	Black	White	Left	N/A	Tempered, Egress
7	Right Hall	Lifestyle	29"	59"	29⅝"	59⅝"	Casement	Wood Clad	Black	White	Left	2 Horiz.	Tempered
8	Garage Entry	Per Owner	32"	80"	33"	82⅛"	Swing Door	Steel	Per Owner	Per Owner	Left	N/A	Exterior/20 Min. Fire Rated/Self Closer
9	Garage Side	Per Owner	32"	80"	34"	82⅛"	Swing Door	Steel	Per Owner	Per Owner	Left	N/A	Exterior/Single Light
10	Garage Rear	Per Owner	32"	80"	34"	82⅛"	Swing Door	Steel	Per Owner	Per Owner	Right	N/A	Exterior/Single Light
11	Family Entertaining	250 SERIES	143⅝"	79⅝"	144"	80"	Sliding Door	Vinyl	Black	White	OXXO	N/A	Tempered
12	Family Entertaining	Lifestyle	35"	35"	35⅝"	35⅝"	Casement	Wood Clad	Black	White	Right	N/A	
13	Dressing Area	Lifestyle	35"	47"	35⅝"	47⅝"	Casement	Wood Clad	Black	White	Right	N/A	
14	Bedroom 1	Lifestyle	35"	59"	35⅝"	59⅝"	Casement	Wood Clad	Black	White	Left	N/A	
15	Bedroom 1	250 SERIES	71⅛"	79⅝"	72"	80"	Sliding Door	Vinyl	Black	White	XO	N/A	Tempered, Egress
16	Dressing Alcove	Lifestyle	29"	59"	29⅝"	59⅝"	Casement	Wood Clad	Black	White	Left	2 Horiz.	WOCD
17	Bedroom Suite 3	Lifestyle	35"	65"	35⅝"	65⅝"	Casement	Wood Clad	Black	White	Left	2 Horiz.	Egress, WOCD
18	Bedroom Suite 3	Lifestyle	35"	65"	35⅝"	65⅝"	Casement	Wood Clad	Black	White	Right	2 Horiz.	Egress, WOCD
19	Bath 3	Lifestyle	29"	59"	29⅝"	59⅝"	Casement	Wood Clad	Black	White	Right	2 Horiz.	Tempered, WOCD
20	Home Office/Studio	Lifestyle	25"	35"	25⅝"	35⅝"	Casement	Wood Clad	Black	White	Right	2 Horiz.	WOCD
21	Bath 4	Lifestyle	25"	35"	25⅝"	35⅝"	Casement	Wood Clad	Black	White	Right	2 Horiz.	Tempered, WOCD
22	Attic	Per Owner	32"	80"	34"	82⅛"	Swing Door	Steel	Per Owner	Per Owner	Left	N/A	Exterior
23	Attic	Lifestyle	35"	59"	35⅝"	59⅝"	Casement	Wood Clad	Black	White	Left	2 Horiz.	WOCD
24	Home Office/Studio	250 SERIES	47⅝"	59⅝"	48"	60"	Sliding Window	Vinyl	Black	White	OX	N/A	WOCD
25	Home Office/Studio	250 SERIES	47⅝"	59⅝"	48"	60"	Sliding Window	Vinyl	Black	White	XO	N/A	WOCD
26	Sitting Area	250 SERIES	59⅝"	59⅝"	60"	60"	Sliding Window	Vinyl	Black	White	OX	N/A	WOCD
27	Sitting Area	250 SERIES	59⅝"	59⅝"	60"	60"	Sliding Window	Vinyl	Black	White	XO	N/A	WOCD
28	Bedroom Suite 3	Lifestyle	35"	41"	35⅝"	41⅝"	Casement	Vinyl	Black	White	Right	N/A	
29	Bath 2	Lifestyle	25"	41"	25⅝"	41⅝"	Casement	Vinyl	Black	White	Left	N/A	Tempered
30	Bedroom 2	Lifestyle	105"	59"	105⅝"	59⅝"	Casement	Vinyl	White	White	L/O/R	N/A	Egress, WOCD

INTERIOR DOOR SCHEDULE								CONTRACTOR TO VERIFY ALL DOORS PRIOR TO PURCHASING
Mark	Size		R.O.		Type	Hand	Jamb Size/Notes	Style
	Width	Height	Width	Height				
2'-6"	32"	80"	34"	82⅛"	Swing	Left	4⅝"/Mechanical	?
2'-8"	32"	80"	34"	82⅛"	Swing	Right	4⅝"/Bedroom 1	?
2'-6"	24"	80"	26"	82⅛"	Swing	Left	6⅝"/Cottage	?
2'-8"	28"	80"	57⅛"	82⅛"	Pocket	N/A	6⅝"/Bedroom 1 Walk-In-Closet	?
2'-6"	28"	80"	57⅛"	82⅛"	Pocket	N/A	6⅝"/Bedroom 1 Dressing Area	?
6'-8"	72"	80"	73⅛"	82⅛"	Bipass	N/A	4⅝"/Bedroom 1 Dressing Area	?
2'-6"	28"	80"	30"	82⅛"	Swing	Right Outswing	4⅝"/Powder Room	?
2'-8"	28"	80"	30"	82⅛"	Swing	Left	4⅝"/Under Stairs	?
2'-6"	32"	80"	65⅛"	82⅛"	Pocket	N/A	6⅝"/Bath 2	?
2'-8"	28"	80"	57⅛"	82⅛"	Pocket	N/A	6⅝"/Bedroom 2 Walk-In-Closet	?
2'-8"	32"	80"	34"	82⅛"	Swing	Right	4⅝"/Bedroom 2 Hall Access	?
2'-6"	28"	80"	57⅛"	82⅛"	Pocket	N/A	6⅝"/Bedroom 2 Large Storage	?
2'-6"	32"	80"	34"	82⅛"	Bifold	N/A	4⅝"/Bedroom 2 Small Storage	?
2'-6"	28"	80"	30"	82⅛"	Bifold	N/A	Landing Laundry	?
2'-6"	30"	80"	32"	82⅛"	Swing	Right	4⅝"/Bedroom Suite 3	?
2'-6"	28"	80"	57⅛"	82⅛"	Pocket	N/A	6⅝"/Bath 3	?
2'-6"	30"	80"	32"	82⅛"	Swing	Right	Home Office	?
2'-6"	28"	80"	30"	82⅛"	Swing	Right	4⅝"/Home Office Closet	?
2'-6"	28"	80"	30"	82⅛"	Swing	Left	4⅝"/Bath 4	?
2'-6"	32"	80"	34"	82⅛"	Swing	Left	4⅝"/Attic/Exterior/Insulated	?



GAS DRYER REAR EXHAUST DETAIL & DIMS.

SCALE: N/A



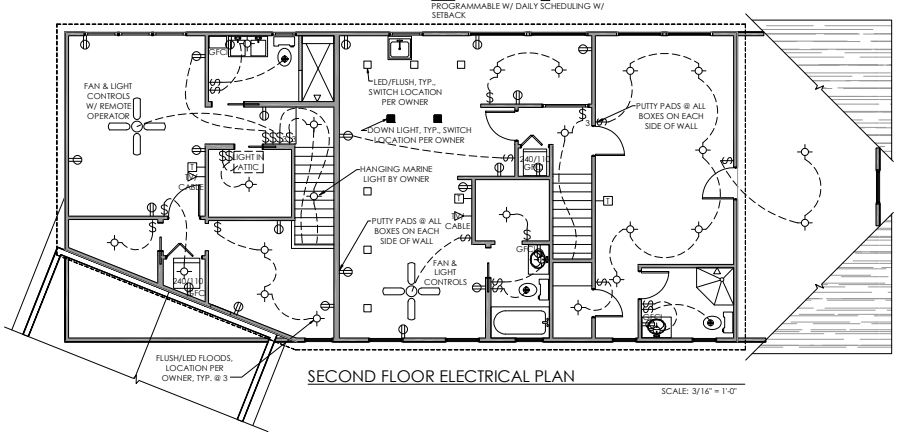
ELECTRIC DRYER REAR EXHAUST DETAIL & DIMS.

SCALE: N/A

NOTE: PROVIDE DEDICATED OUTLET & SHUT OFF FOR EACH MINI-SPLIT PER OWNER'S SELECTION & PLACEMENT

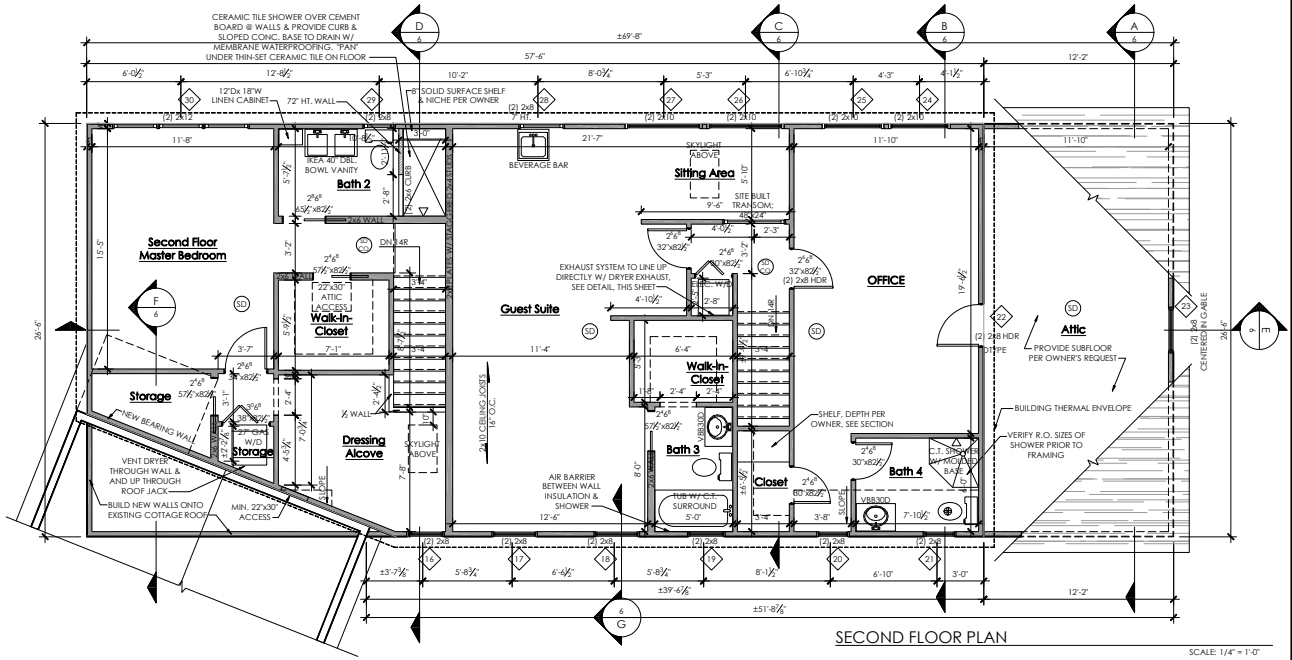
NOTE: LIGHTING TO BE 100% HIGH-EFFICACY

NOTE: ALL THERMOSTATS "T" TO BE PROGRAMMABLE W/ DAILY SCHEDULING W/ SETBACK



SECOND FLOOR ELECTRICAL PLAN

SCALE: 3/16" = 1'-0"



SECOND FLOOR PLAN

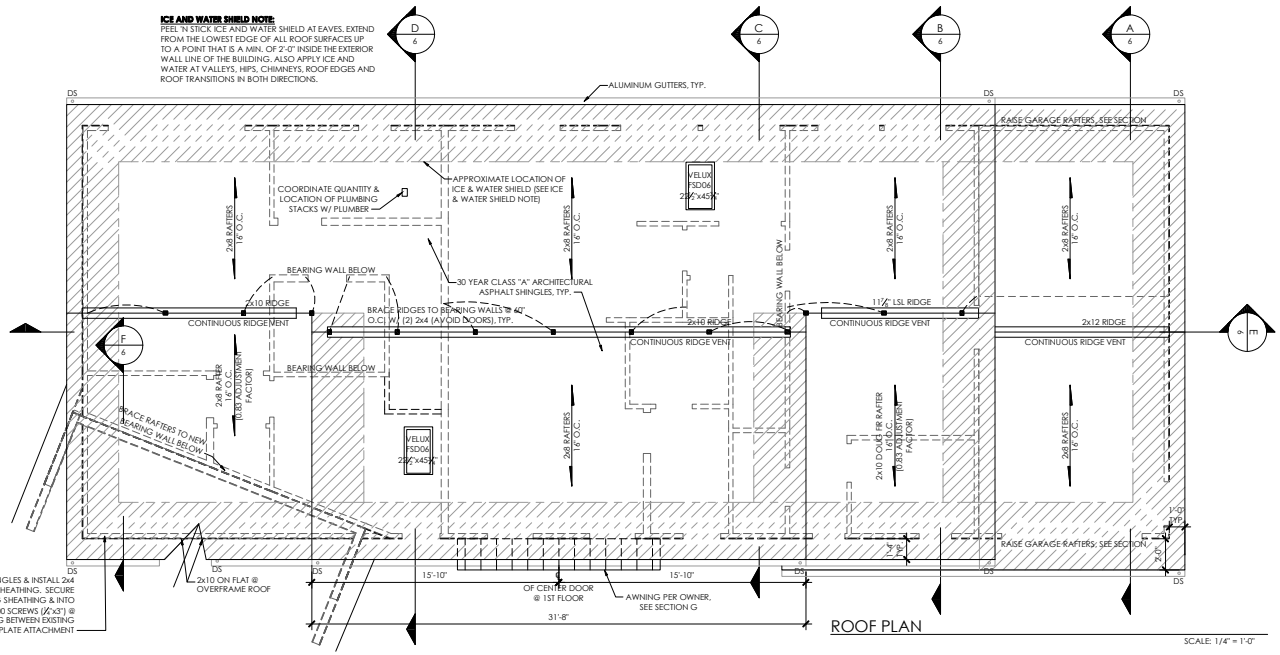
SCALE: 1/4" = 1'-0"

ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

SHEET
4

AIR BARRIER AND INSULATION INSTALLATION		
COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA
General Requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material.
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.	
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.
Floors (including above garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing; and extends from the bottom to the top of all perimeter floor framing members.
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with Class I vapor retarder with overlapping joints taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the crawl space walls.
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.	
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the drywall.	Recessed light fixtures installed in the building thermal envelope shall be air tight and IC rated.
Plumbing and wiring		Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs.	Exterior walls adjacent to showers and tubs shall be insulated.
Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.	
HVAC register boots	HVAC register boots that penetrate building thermal envelope shall be sealed to the subfloor or drywall.	
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.	

ICE AND WATER SHIELD NOTE:
PEEL N STICK ICE AND WATER SHIELD AT EAVES. EXTEND FROM THE LOWEST EDGE OF ALL ROOF SURFACES UP TO A POINT THAT IS A MIN. OF 2'-0" INSIDE THE EXTERIOR WALL LINE OF THE BUILDING. ALSO APPLY ICE AND WATER AT VALLEYS, HIPS, CHIMNEYS, ROOF EDGES AND ROOF TRANSITIONS IN BOTH DIRECTIONS.



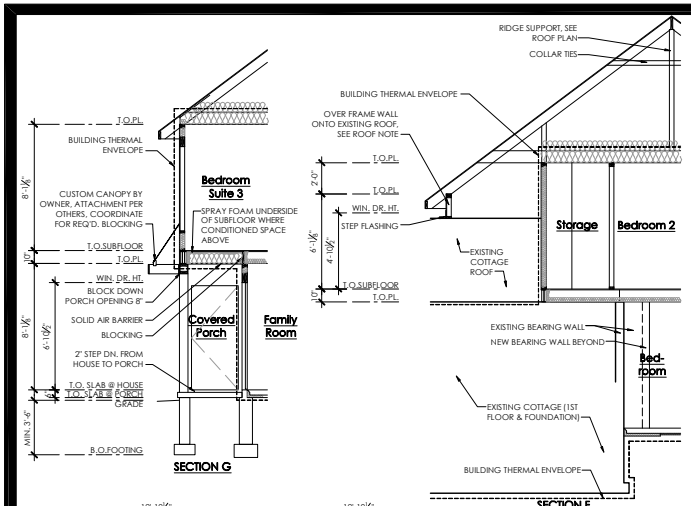
ROOF PLAN

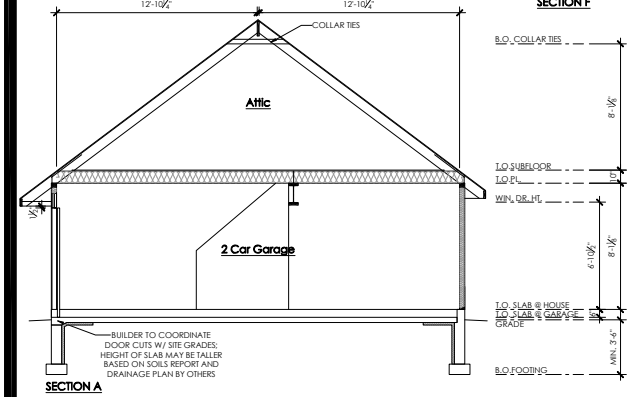
SCALE: 1/4" = 1'-0"

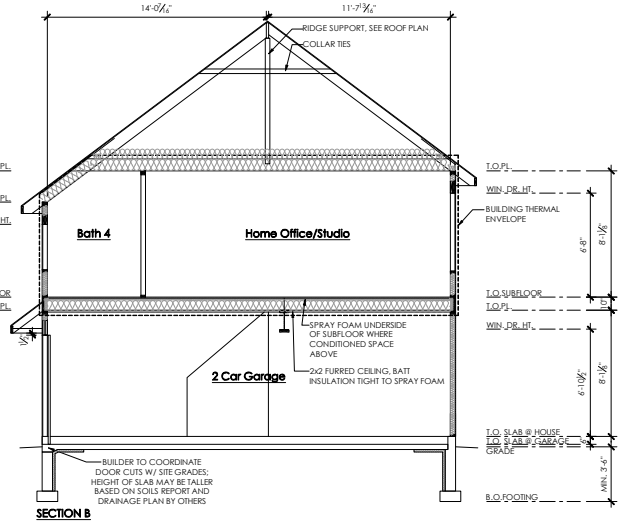
STATE OF NEW YORK
RICHARD A. BISHOP
LICENSED PROFESSIONAL ENGINEER

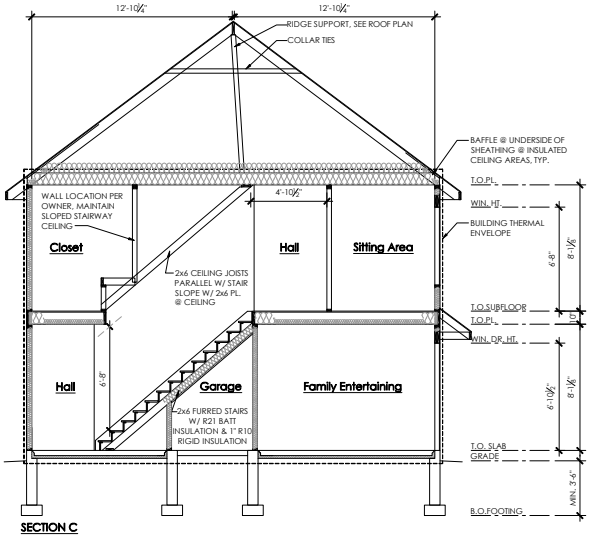
ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

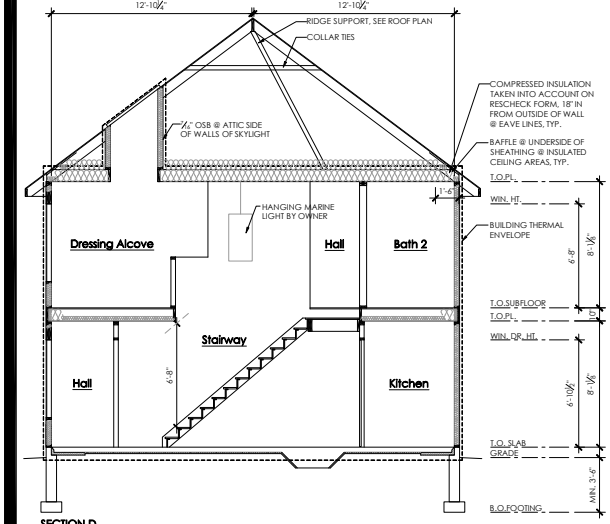
SHEET
5

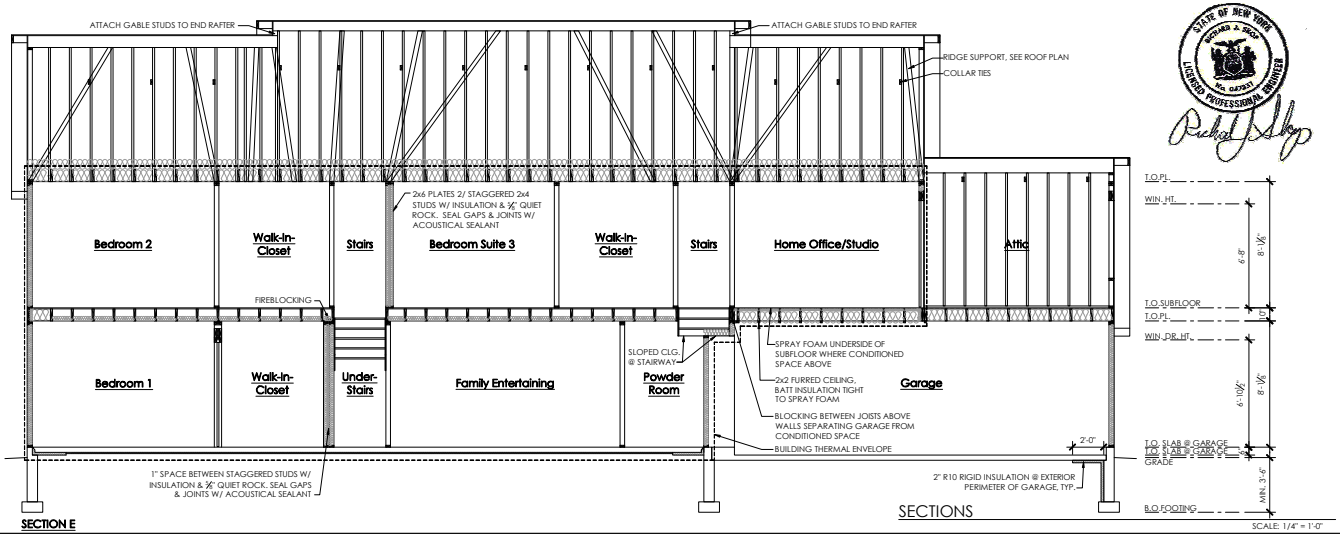










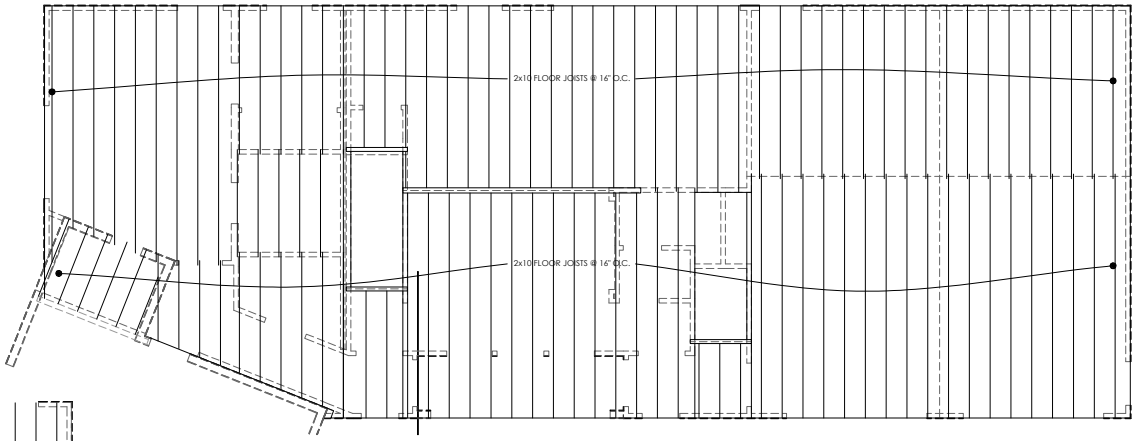


SECTIONS

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

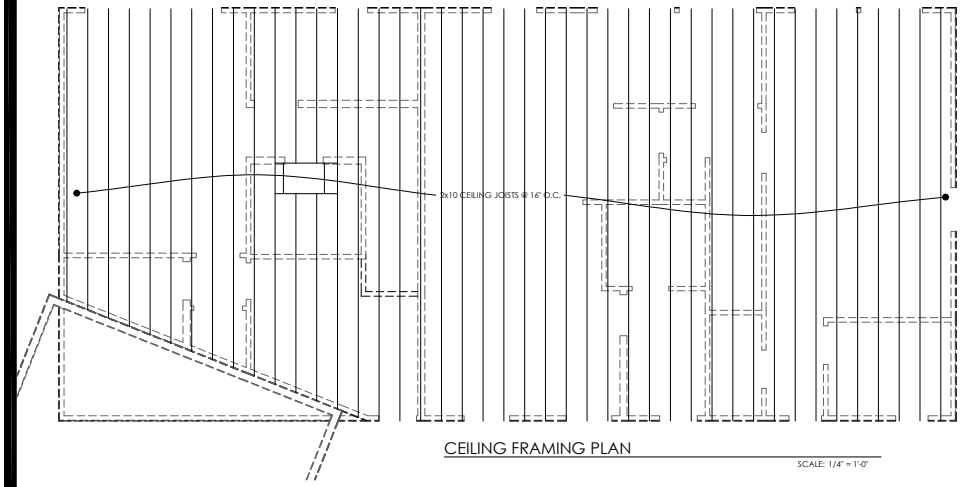
ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

SHEET
6



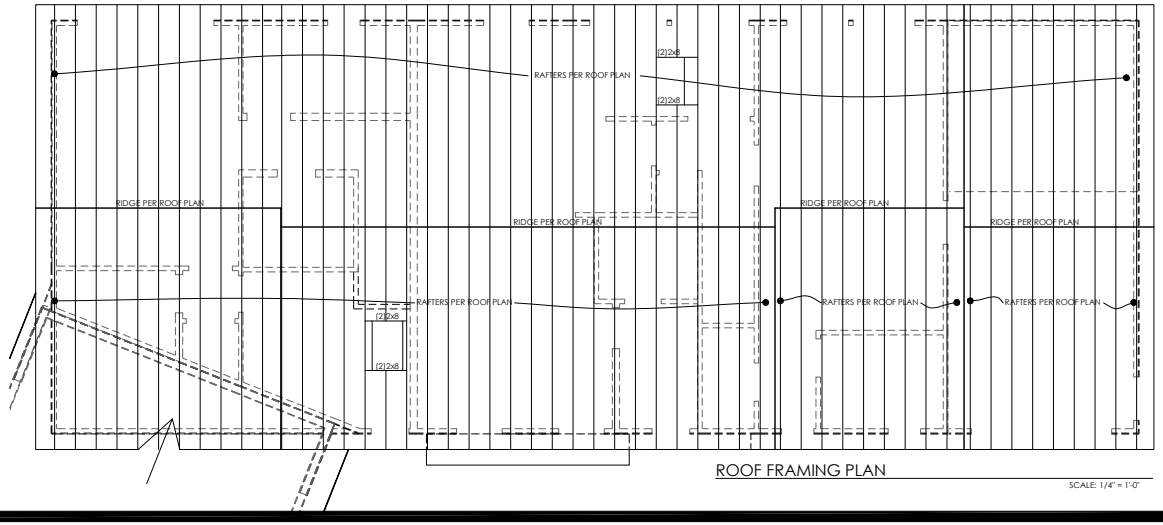
FLOOR FRAMING PLAN

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



CEILING FRAMING PLAN

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

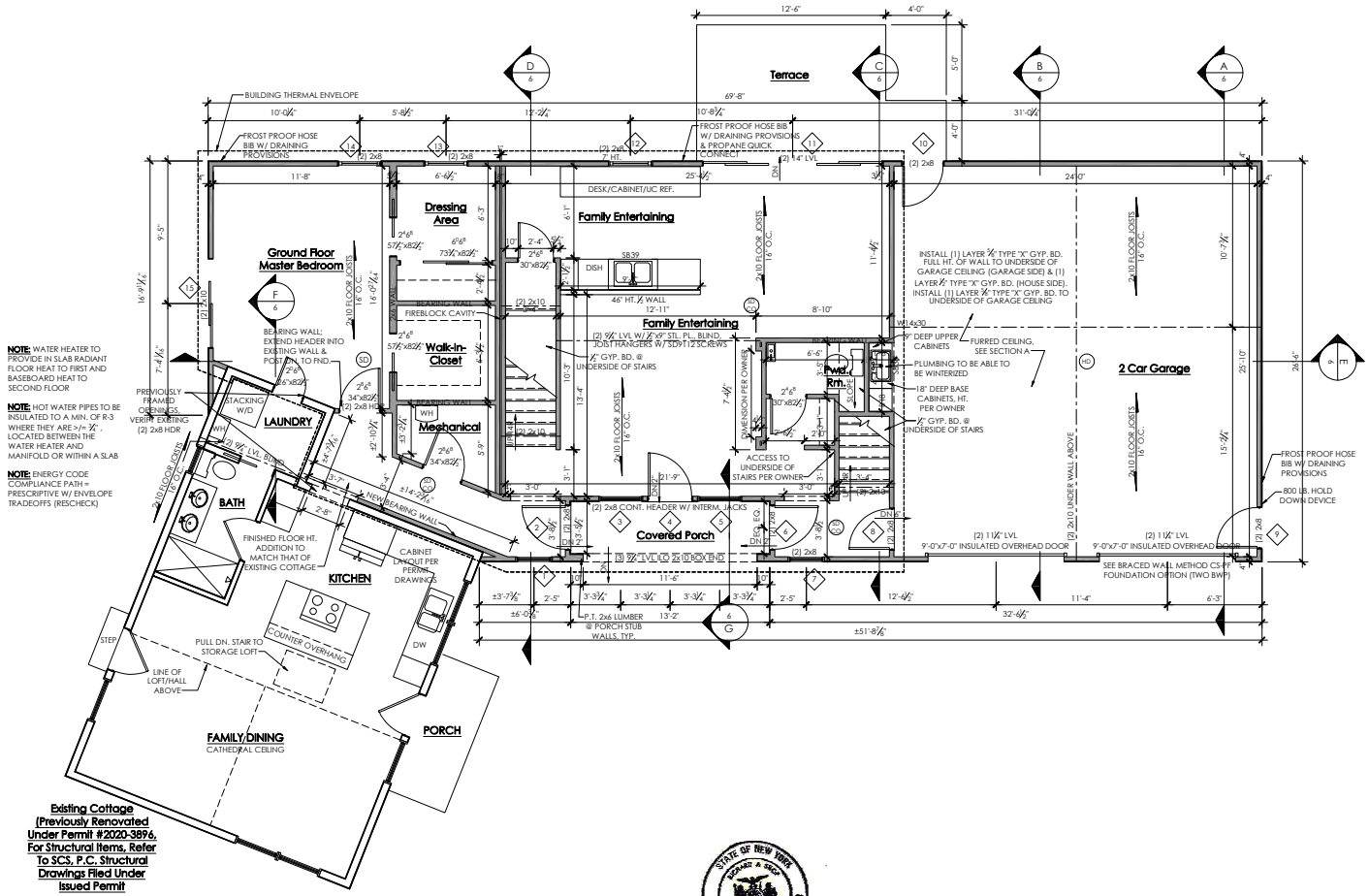


ROOF FRAMING PLAN

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

ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

SHEET
7

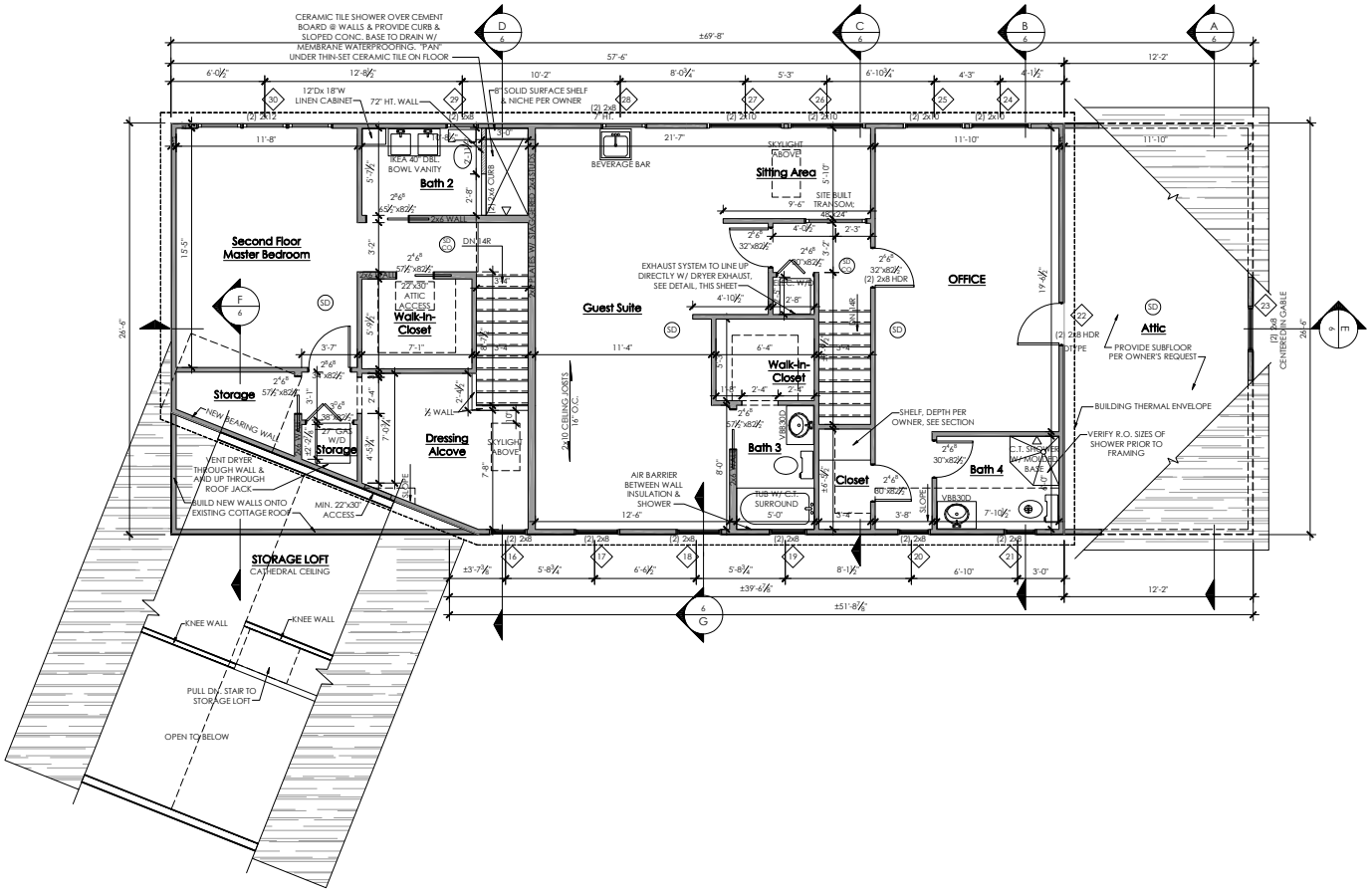


FIRST FLOOR PLAN

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

ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

SHEET
8
Add. #1



SECOND FLOOR PLAN

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

ADDITION TO GRIMALDI RESIDENCE
34 STARKEY ROAD, NORTH CASTLE, NY 10504

SHEET
9
Add. #1

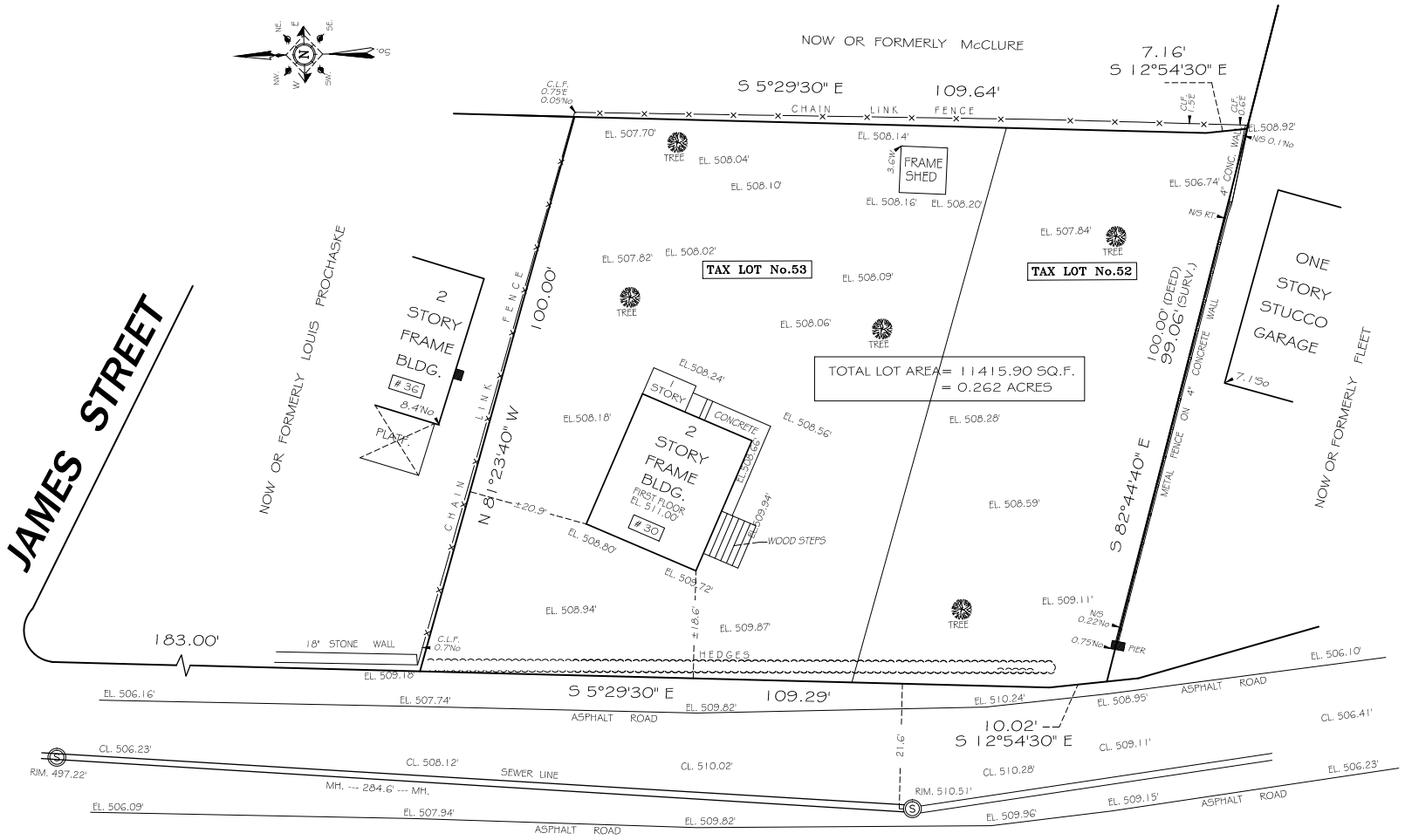
(NOT FOR TITLE PURPOSES) — LEGEND —

No. NORTH | So. SOUTH | E. EAST | F.E. FIRE ESCAPE | W.W. WINDOW WELL | C.D. CELLAR DOOR | ENT.UND. ENT. UNDER | ENT. ENTRANCE | L.A. LOW AREA | A. AREAWAY | CL. CLEAR | RT. RIGHT

LIGHT POST | UTILITY POLE | CATCH BASIN | WATER VALVE | GAS VALVE | PARKING METER | TRAFFIC SIGN | HYDRANT HYD. | ELECTRIC BOX | TREE PIT | SEWER MANHOLE | ELECTRIC MANHOLE | TELEPHONE MANHOLE | D.W.S WATER

JOB # 20211-W

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
STATE OF NEW YORK



SURVEYED
FEBRUARY 15, 2021

BLOCK:	1
LOT (s):	52 & 53
SECTION:	123.05
COUNTY:	WESTCHESTER
DWG BY:	Srdjan B.
CHK'D BY:	

TOPOGRAPHICAL SURVEY

CAUTION: BEFORE PERFORMING ANY DIGGING OR DRILLING ON THIS SITE, IT IS REQUIRED THAT SUBSURFACE SERVICES, INCLUDING THE UNDERGROUND MAINS BE MARKED AND IDENTIFIED BY THE UTILITY INVOLVED IN COMPLIANCE WITH INDUSTRIAL CODE 53 OF NEW YORK STATE.

1) ALL ELEVATION REFER TO WESTCHESTER DATUM (NAVD88) NORTH AMERICAN VERTIKAL DATUM

2) UNDERGROUND UTILITY INFORMATION SHOWN WAS OBTAINED FROM VARIOUS COMPANIES AND CITY AGENCIES AND IS NOT GUARANTEED FOR ACCURACY OR COMPLETENESS.

3) THIS IS TO CERTIFY THAT THERE ARE NO APPARENT STREAMS NOR NATURAL WATER COURSES IN THE PROPERTY AS SHOWN ON THIS SURVEY

SCALE: 1"=20'

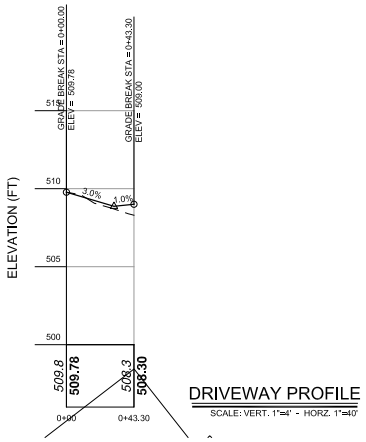
STATE OF NEW YORK
VINCENT TEUTONICO
050307
LICENSED LAND SURVEYOR

VINCENT M. TEUTONICO
N.Y.S LIC. No.050307
BIG APPLE LAND SURV. D.
65 MEADOW LANE GROUND LEVEL
NEW ROCHELLE, NY 10805
OFF.(914)365-1847 ; FAX (914)365-1849
E-mail: BIGAPPLELS@YAHOO.COM

LOCATION MAP
NOT TO SCALE

SITE DATA:

OWNER / DEVELOPER:	MICHAEL & PAM GRIMALDI 34 STARKEY ROAD NORTH CASTLE, NY, 10604
PROJECT LOCATION:	34 STARKEY ROAD WEST HARRISON, NY, 10604
EXISTING TOWN ZONING:	R-½A, ONE FAMILY RESIDENTIAL, ½ ACRE
PROPOSED USE:	R-½A, ONE FAMILY RESIDENTIAL, ½ ACRE
TOWN TAX MAP DATA:	SECTION 123.05, BLOCK 1, LOT 52 SECTION 123.05, BLOCK 1, LOT 53
SITE AREA :	0.262 ACRES (11,415.90 SF)
SEWAGE FACILITIES:	PUBLIC SEWERS
WATER FACILITIES:	DRILLED WELL

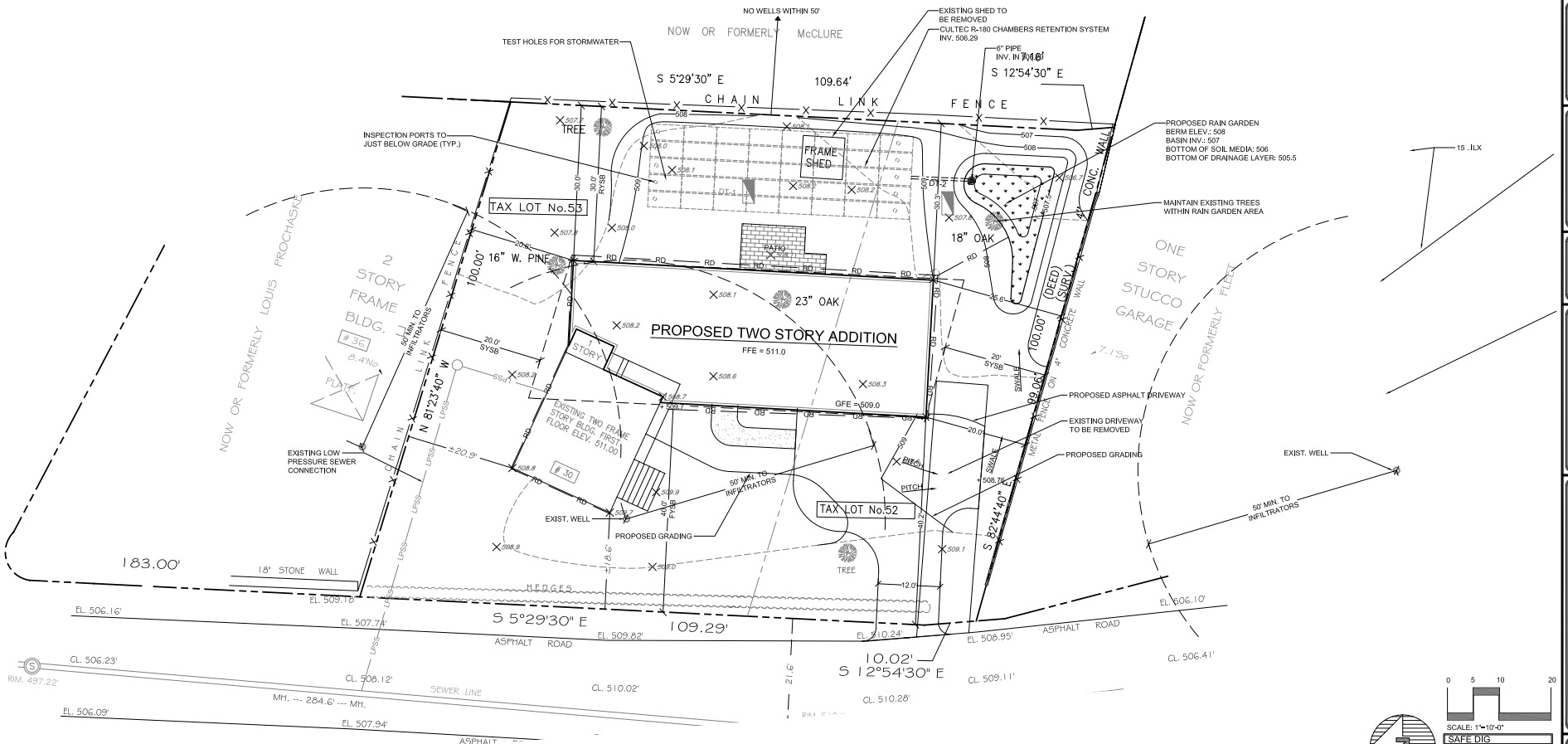


DRIVEWAY PROFILE
SCALE: VERT. 1"=4' - HORZ. 1"=40'

ZONING SCHEDULE:

ZONING DISTRICT:	R-1/2 A, SINGLE FAMILY RESIDENTIAL		
DIMENSIONAL REGULATIONS:	REQUIRED	PROVIDED	VARIANCE REQUIRED
MINIMUM SIZE OF LOT:			
MINIMUM LOT AREA:	1/2 Acre or (21,780 SF)	11,415 SF.	SEE NOTE 1
MINIMUM FRONTAGE:	125 FT.	119.31 FT.	SEE NOTE 1
MINIMUM LOT WIDTH:	125 FT.	121.01 FT.	SEE NOTE 1
MINIMUM LOT DEPTH:	100 FT.	100 FT.	SEE NOTE 1
MINIMUM YARD DIMENSIONS:			
PRINCIPAL BUILDING:			
FRONT YARD SETBACK:	40 FT.	18.6 FT.	SEE NOTE 1
REAR YARD SETBACK:	30 FT.	30 FT.	NONE
ONE SIDE YARD SETBACK:	20 FT.	20 FT.	NONE
MAXIMUM HEIGHT:			
PRINCIPAL BUILDING - STORIES:	2 1/2	2	NONE
PRINCIPAL BUILDING - FEET:	30 FEET	28 FT	NONE
MAXIMUM % OF LOT TO BE OCCUPIED:			
GROSS LAND COVERAGE: (4,000 SF + 24% LOT AREA OVER 10,000 SF)	4,339.6 SF	(BLDGS,STEPS+PAVE,WALK) 2359+1247=3606 SF Total	NONE
MINIMUM DWELLING SIZE:	900 SF	>900 SF	NONE

NOTE 1: PRE-EXISTING, NON-CONFORMING



NOTE:
1. THIS IS NOT A SURVEY. ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY VINCENT M. TEUTONICO, DATED 02/15/21. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

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

0 5 10 20
SCALE: 1"=10'-0"

SAFE DIG
Before You Dig, Drill or Blast!
Call 811

PROJECT # 21-26

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

Joseph C. Riina, P.E.
NYS Lic. No. 64431

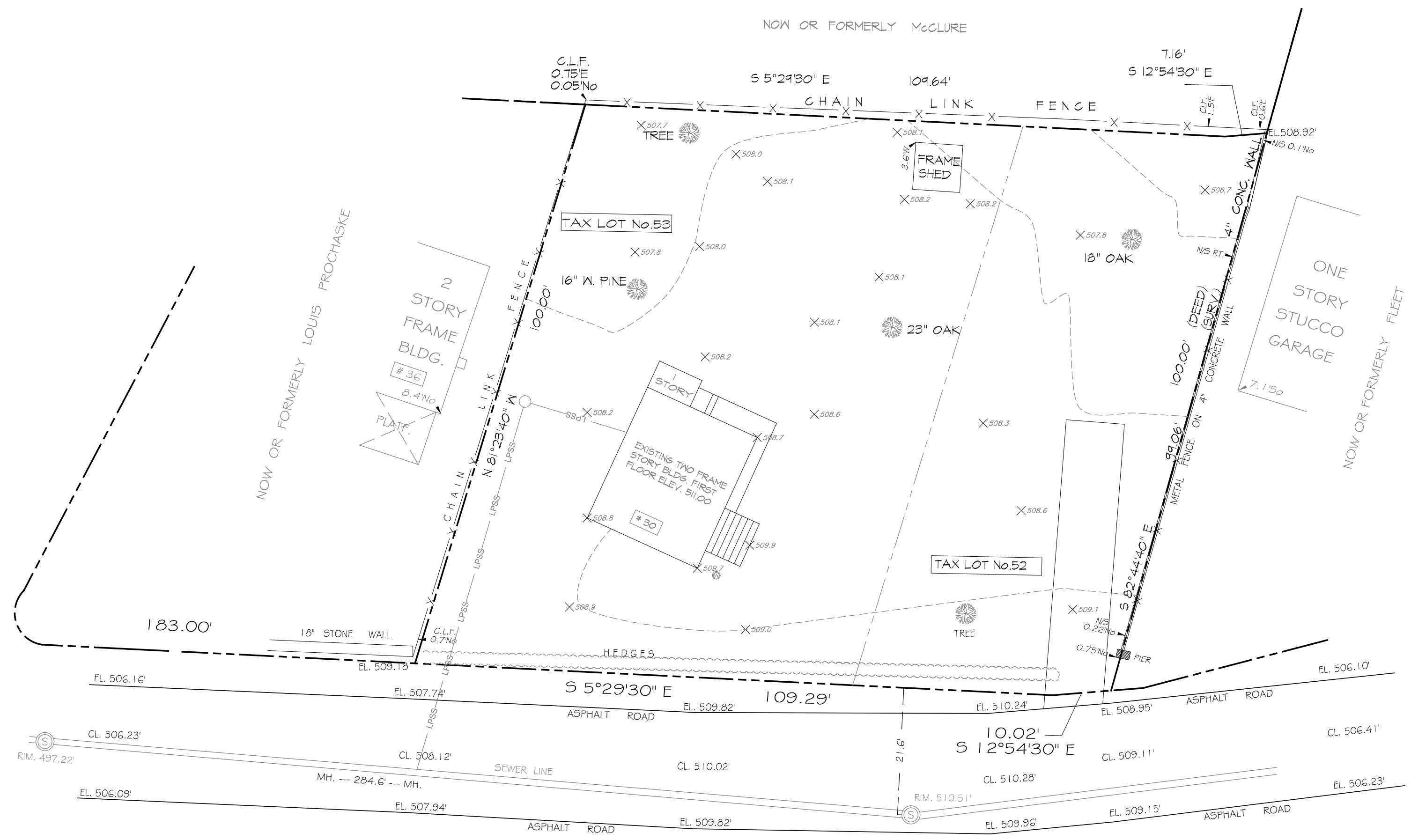
Revisions:		
No.	Date	Comments
1	08-25-21	Town Comment

SCALE: 1" = 10'
DRAWN BY: GO
DATE: 08-03-21

SITE PLAN

SITE PLAN
PREPARED FOR
MICHAEL & PAM GRIMALDI
34 STARKEY ROAD
Town of North Castle Westchester County, NY

Sheet 1 of 5



SCALE: 1"=10'-0"

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PROJECT # 21-26

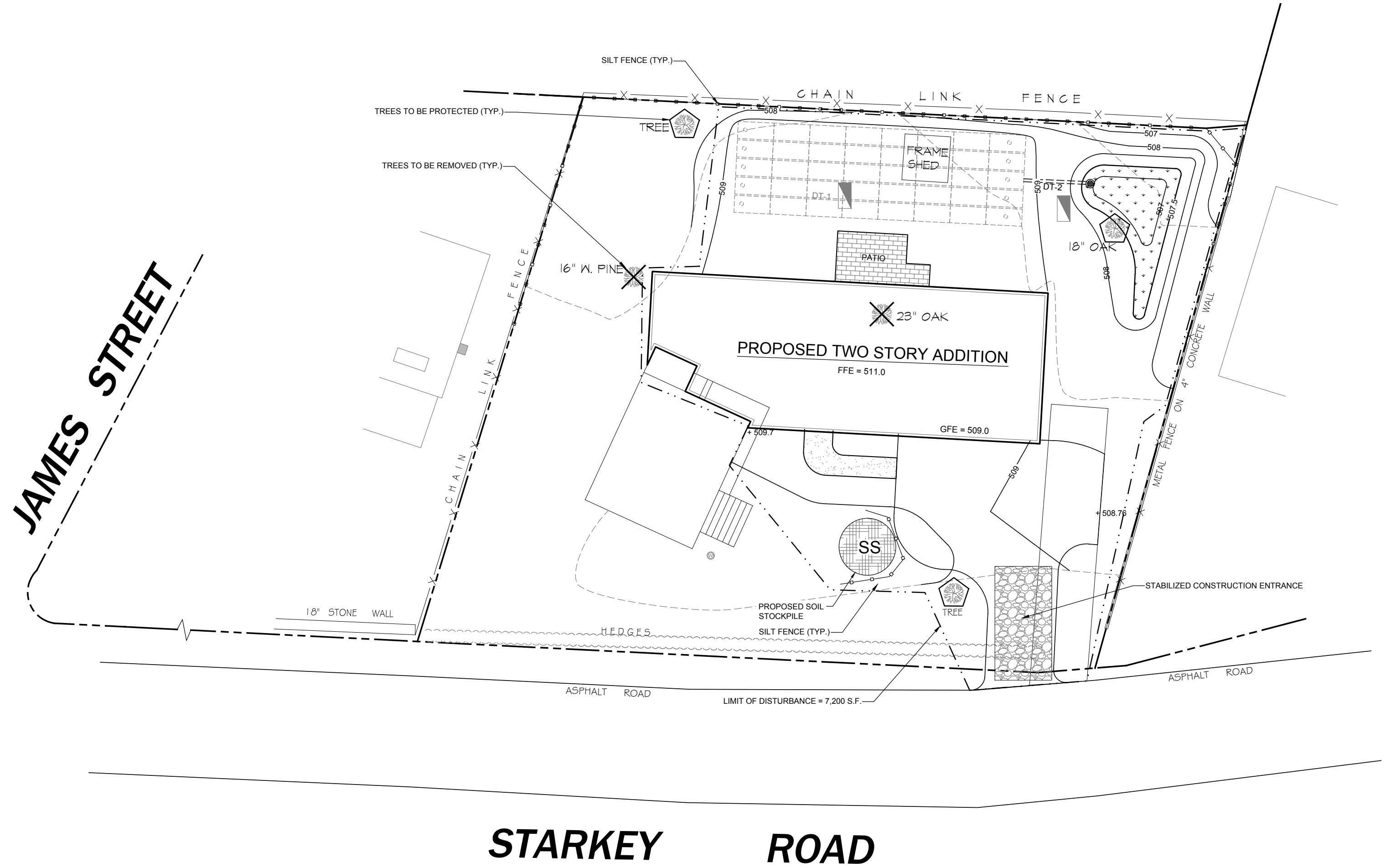
Engineer: Joseph C. Riina, P.E. NYS Lic. No. 64431

SCALE: 1" = 10'
DRAWN BY: GO
DATE: 08-03-21

EXISTING CONDITIONS PLAN

SITE PLAN PREPARED FOR
MICHAEL & PAM GRIMALDI
34 STARKEY ROAD
Town of North Castle, Westchester County, NY

Sheet 2 of 5



SCALE: 1"=10'-0"

SAFE DIG
Before You Dig, Drill or Blast!
CALL US TOLL FREE 811 or 1-800-962-7962

NOTE:
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251-F Underhill Avenue, Yorktown Heights, NY 10598
(914) 962-4488 - Fax: (914) 962-7386
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Engineer: Joseph C. Riina, P.E.
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Revisions:

No.	Date	Comments

SCALE: 1" = 10'
DRAWN BY: GO
DATE: 08-03-21

EROSION & SEDIMENT CONTROL PLAN

SITE PLAN
PREPARED FOR
MICHAEL & PAM GRIMALDI
34 STARKEY ROAD
Town of North Castle, Westchester County, NY

Sheet 3 of 5

GENERAL EROSION CONTROL NOTES:

1. Contractor shall be responsible for compliance with all sediment and erosion control practices. The sediment and erosion control practices are to be installed prior to any major soil disturbances, and maintained until permanent protection is established. Road surface flows from the site should be dissipated with tracking pad or appropriate measures during adjacent road shoulder regrading. Contractor is responsible for the installation and maintenance of all soil erosion and sedimentation control devices throughout the course of construction.
2. Catch basin inlet protection must be installed and operating at all times until tributary areas and basin have been stabilized. When possible flows should be stabilized before reaching inlet protection structure. Timely maintenance of sediment control structures is the responsibility of the Contractor.
3. All structures shall be maintained in good working order at all times. The sediment level in all sediment traps shall be closely monitored and sediment removed promptly when maximum levels are reached or as ordered by the engineer. All sediment control structures shall be inspected on a regular basis, and after each heavy rain to insure proper operation as designed. An inspection schedule shall be set forth prior to the start of construction.
4. The locations and the installation times of the sediment capturing standards shall be as specified in these plans, as ordered by the Engineer, and in accordance with the latest edition of the "New York Standards and Specifications for Erosion and Sediment Control" (NYSSESC).
5. All topsoil shall be placed in a stabilized stockpile for reuse on the site. All stockpile material required for final grading and stored on site shall be temporarily seeded and mulched within 7 days. Refer to soil stockpile details.
6. Any disturbed areas that will be left exposed more than 7 days and not subject to construction traffic, shall immediately receive temporary seeding. Mulch shall be used if the season prevents the establishment of a temporary cover. Disturbed areas shall not be limed and fertilized prior to temporary seeding.
7. All disturbed areas within 500 feet of an inhabited dwelling shall be wetted as necessary to provide dust control.
8. The contractor shall keep the roadways within the project clear of soil and debris and is responsible for any street cleaning necessary during the course of the project.
9. Sediment and erosion control structures shall be removed and the area stabilized when the drainage area has been properly stabilized by permanent measures.
10. All sediment and erosion control measures shall be installed in accordance with current edition of NYSSESC.
11. All regraded areas must be stabilized appropriately prior to any rock blasting, cutting, and/or filling of soils. Special care should be taken during construction to insure stability during maintenance and integrity of control structures.
12. Any slopes graded at 3:1 or greater shall be stabilized with erosion blankets to be staked into place in accordance with the manufactures requirements. Erosion blankets may also be required at the discretion of Town officials or Project Engineer. When stabilized blanket is utilized for channel stabilization, place one half the volume of seed mix prior to laying net, and place the remaining seed after laying the stabilized blanket.
13. To prevent heavy construction equipment and trucks from tracking soil off-site, construct a pervious crushed stone pad. Locate and construct pads as detailed in these plans.
14. Contractor is responsible for controlling dust by sprinkling exposed soil areas periodically with water as required. Contractor to supply all equipment and water.
15. Contractor shall be responsible for construction inspections as per the Town of North Castle requirements.

MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROL STRUCTURES:

1. Trees and vegetation shall be protected at all times as shown on the detail drawing and as directed by the Engineer.
2. Care should be taken so as not to channel concentrated runoff through the areas of construction activity on the site.
3. Fill and site disturbances should not be created which causes water to pond off site or on adjacent properties.
4. Runoff from land disturbances shall not be discharged or have the potential to discharge off site without first being intercepted by a control structure, such as a sediment trap or the sediment pond. Sediment shall be removed before exceeding 50% of the retention structure's capacity.
5. For finished grading, adequate grade shall be provided so that water will not pond on lawns for more than 24 hours after rainfall, except in swale flow areas which may drain for as long as 48 hours after rainfall.
6. All swales and other areas of concentrated flow shall be properly stabilized with temporary control measures to prevent erosion and sediment travel. Surface flows over cut and fill areas shall be stabilized at all times.
7. All sites shall be stabilized with erosion control materials within 7 days of final grading.
8. Temporary sediment trapping devices shall be removed from the site within 30 days of final stabilization.

MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROL STRUCTURES:

1. Trees and vegetation shall be protected at all times as shown on the detail drawing and as directed by the Engineer.
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4. Runoff from land disturbances shall not be discharged or have the potential to discharge off site without first being intercepted by a control structure, such as a sediment trap or the sediment pond. Sediment shall be removed before exceeding 50% of the retention structure's capacity.
5. For finished grading, adequate grade shall be provided so that water will not pond on lawns for more than 24 hours after rainfall, except in swale flow areas which may drain for as long as 48 hours after rainfall.
6. All swales and other areas of concentrated flow shall be properly stabilized with temporary control measures to prevent erosion and sediment travel. Surface flows over cut and fill areas shall be stabilized at all times.
7. All sites shall be stabilized with erosion control materials within 7 days of final grading.
8. Temporary sediment trapping devices shall be removed from the site within 30 days of final stabilization.

MAINTENANCE SCHEDULE:

	DAILY	WEEKLY	MONTHLY	AFTER RAINFALL	NECESSARY TO MAINTAIN FUNCTION	AFTER APPROVAL OF INSPECTOR
SILT FENCE	– – –	YES	YES	YES	INSPECT/ CLEAN/ REPLACE	REMOVE
CONSTRUCT. ENTRANCE	YES	YES	– – –	YES	INSPECT/ CLEAN/ REPLACE	REMOVE

MAINTENANCE OF PERMANENT CONTROL STRUCTURES DURING CONSTRUCTION:

The stormwater management system and outlet structure shall be inspected on a regular basis and after every rainfall event. Sediment build up shall be removed from the inlet protection regularly to insure detention capacity and proper drainage. Outlet structure shall be free of obstructions. All piping and drain inlets shall be free of obstruction. Any sediment build up shall be removed.

MAINTENANCE OF CONTROLS AFTER CONSTRUCTION:

Controls (including respective outlet structures) should be inspected periodically for the first few months after construction and on an annual basis thereafter. They should also be inspected after major storm events.

DEBRIS AND LITTER REMOVAL:

Twice a year, inspect outlet structure and drain inlets for accumulated debris. Also, remove any accumulations during each mowing operation.

STRUCTURAL REPAIR/REPLACEMENT:

Outlet structure must be inspected twice a year for evidence of structural damage and repaired immediately.

EROSION CONTROL:

Unstable areas tributary to the basin shall immediately be stabilized with vegetation or other appropriate erosion control measures.

SEDIMENT REMOVAL:

Sediment should be removed after it has reached a maximum depth of five inches above the stormwater management system floor.

CONSTRUCTION SEQUENCE:

1. Prior to the beginning of any site work the major features of the construction must be field staked by a licensed surveyor. These include the proposed house, limits of disturbance, and Stormwater practices.
2. Prior to commencement of work, an on-site preconstruction meeting will be held. This will be attended by the Owner responsible for any fines or penalties, the Operator responsible for complying with the approved construction drawings including the E&SC plan and details, the Environmental Planner responsible for E&SC monitoring during construction, town representatives from the Engineering Department and Code Enforcement.
3. Temporary erosion and sediment controls (E&SCs) as shown on the approved construction drawings shall be installed as detailed.
4. Remove existing vegetative cover and other surface features in the limit of construction.
5. Excavate for the house construction. Upon completion of foundation backfill and grade area around the foundation walls.
6. Install rain garden and drainage structures. Entry to the system shall be blocked until the site has reached final stabilization.
7. Install underground services to house.
8. Install final plantings.
9. Topsoil, rake, seed and mulch all disturbed areas.
10. Upon stabilization of all disturbed areas and approval from the Town representative remove all temporary erosion and sediment controls

TOPSOIL:

Existing topsoil will be removed and stored in piles sufficiently as to avoid mixing with other excavation. Stockpiles shall be surrounded by erosion control as outlined on these plans. The furnishing of new topsoil shall be of a better or equal to the following criteria (SS713.01 NYSDOT):

1. The pH of the material shall be 5.5 to 7.6.
2. The organic content shall not be less than 2% or more than 70%.
3. Gradation:

SIEVE SIZE	% PASSING BY WGT.
2 INCH	100
1 INCH	85 TO 100
1/4 INCH	65 TO 100
NO. 200 MESH	20 TO 80

PERMANENT VEGETATIVE COVER:

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.
2. Seed mixtures for use on swales and cut and fill areas.

MIXTURE		LBS./ACRE
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. SEEDING
   - 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.

TEMPORARY VEGETATIVE COVER:

SITE PREPARATION:

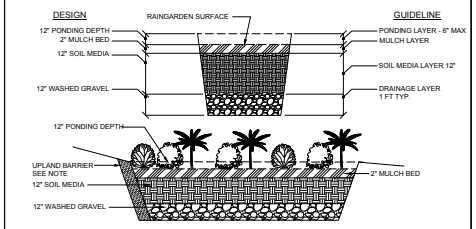
1. Install erosion control measures.
2. Scarify areas of compacted soil.
3. Fertilize with 10-10-10 at 400/acre.
4. Lime as required to ph 6.5.

SEED SPECIES:

MIXTURE	LBS./ACRE
Rapidly germinating annual ryegrass	20
Perennial ryegrass	20
Cereal oats	36

SEEDING:

Same as permanent vegetative cover



SOIL MEDIA SPECIFICATIONS:
COMPOSITION - 50% SAND, 20-30% TOPSOIL W/ LESS THAN 5% CLAYS, 20-30% LEAF COMPOST
POROSITY - 0.20

DRAINAGE LAYER SPECIFICATIONS:
POROSITY - 0.40

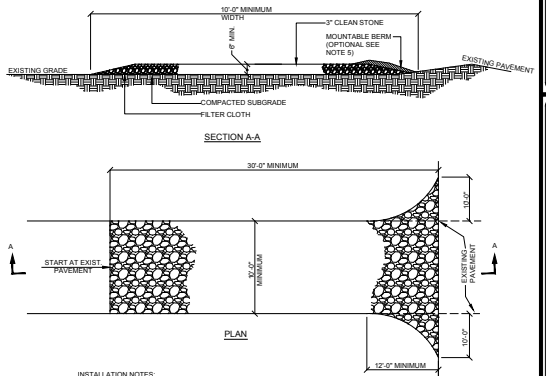
PLANT SPECIFICATIONS:

Suggested Shrubs List
WITCH HAZEL(Hamemelis virginiana)
WINTERBERRY(Ilex verticillata)
ARROWWOOD (Viburnum dentatum)
BROOK-SIDE ALDER (Alnus serrulata)
RED-OISER DOGWOOD (Cornus stolonifera)
SWEET PEPPERBUSH (Clethra alnifolia)

Suggested Herbaceous Plant List
CINNAMON FERN (Osmunda cinnamomea)
CUTLEAF CONEFLOWER (Rudbeckia laciniata)
WOOLGRASS (Scirpus cyperinus)
NEW ENGLAND ASTER (Aster novea-angliae)
FOX SEDGE (Carex culpinoidea)
SPOTTED JOE-PYE WEED (Eupatorium maculatum)
SWITCH GRASS (Panicum virgatum)
GREAT BLUE LOBELIA (Lobelia siphatica)
WILD BERGAMOT (Monarda fisulosa)
RED MILKWEED (Asclepias incarnata)

NOTE:
1. The upland side of the rain garden shall be protected from upgradient subsurface conditions with the installation of either a 12" thick clay barrier or placement of 6 mil polyethylene sheeting along the excavated side-walls of the drainage layers.

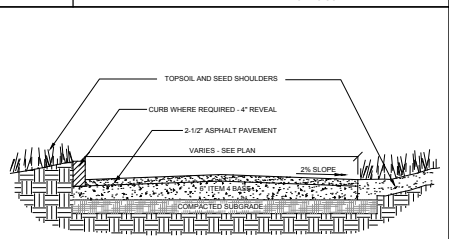
SW-1 RAIN GARDEN DETAIL
NOT TO SCALE



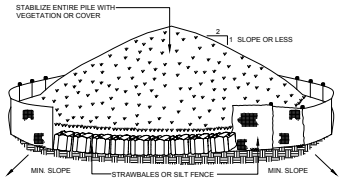
INSTALLATION NOTES:
1. Stone size - use 3" min. Stone, or reclaimed or recycled concrete equivalent.
2. Length - as required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply.
3. Thickness - not less than six (6) inches.
4. Width - 10 foot minimum, but not less than the full width at points where ingress or egress occur. 24 ft if single entrance to site.
5. Surface water - all surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
6. Maintenance - the entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right of way this may require periodic top dressing with additional stone as conditions demand and repair and/or cleanouts of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public right of way must be removed immediately.
7. Washing - wheels shall be cleaned to remove sediment prior to entrance onto public right of way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
8. Periodic inspection and needed maintenance shall be provided after each rain

SYMBOL

E-2 STABILIZED CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



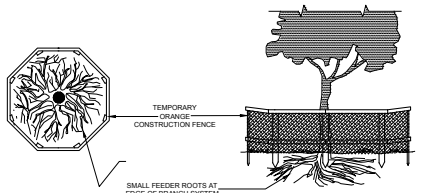
R-1 TYPICAL RESIDENTIAL DRIVEWAY DETAIL
NOT TO SCALE



SYMBOL

NOTES:
1. Area chosen for stockpiling operations shall be dry and stable.
2. Maximum slope of stockpile shall be 1:2.
3. Upon completion of soil stockpiling, each pile shall be surrounded with either silt fencing or strawbales, then stabilized with vegetation or covered.
4. See detail for installation of silt fence.

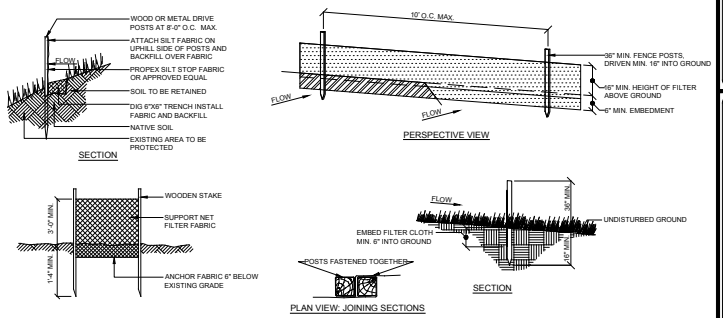
E-3 SOIL STOCKPILE DETAIL
NOT TO SCALE



SYMBOL

NOTES:
1. Contractor shall use the tree trunk armor detail for isolated trees that require protection.
2. As an alternate, the contractor may protect trees in the vicinity of regular heavy traffic / construction areas or clusters of trees to be protected as per the construction fence detail.

E-4 TREE TRUNK ARMOR / TREE PROTECTION DETAIL
NOT TO SCALE



SYMBOL

NOTES:
1. Filter cloth to be fastened securely to upgrade side of post: steel posts (either T or U Type) or 2" hardwood posts at top and mid section.
2. When two sections of filter cloth adjoin each other they shall be overlapped by 6 inches and folded. Filter cloth shall be Mirafi 100x, Stabilinka T140n or approved equal
3. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence or the capacity reaches 50%.
4. Excavate 6 inch trench along the silt fence line and bury the fabric.
5. Unroll a section at a time and position the post against the back (downstream) wall of the trench.
6. Drive the post into the ground until the netting is approximately 2 inches from the trench bottom.
7. Lay the toe-in flap of fabric onto the undisturbed bottom of the trench, backfill the trench and tamp the soil. Steeper slopes require an intercept trench.
8. Join sections as shown above.

E-1 SILT FENCE DETAIL
NOT TO SCALE

PROJECT # 21-26

Site Design Consultants
Civil Engineers • Land Planners
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E&SC & SITE DETAILS

SITE PLAN PREPARED FOR
MICHAEL & PAM GRIMALDI
34 STARKEY ROAD
Town of North Castle Westchester County, NY

Sheet 4 of 5

CULTEC RECHARGER 180HD SPECIFICATIONS

GENERAL

CULTEC RECHARGER® 180HD CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT. THE CHAMBERS MAY BE USED FOR RETENTION, RECHARGING, DETENTION OR CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.

CHAMBER PARAMETERS

1. THE CHAMBERS SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE CHAMBER SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE EXTERIOR.
3. THE CHAMBER SHALL BE ARCHED IN SHAPE.
4. THE CHAMBER SHALL BE OPEN-BOTTOMED.
5. THE CHAMBER SHALL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS OR SEPARATE END WALLS.
6. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER® 180HD SHALL BE 20.5 INCHES (521 MM) TALL, 30 INCHES (914 MM) WIDE AND 7.33 FEET (2.23 M) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER® 180HD SHALL BE 6.33 FEET (1.93 M).
7. MAXIMUM INLET OPENING ON THE CHAMBER ENDWALL IS 15 INCHES (375 MM) HDPE.
8. THE CHAMBER SHALL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLV® FC-24 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. MAXIMUM ALLOWABLE O.D. IN THE SIDE PORTAL IS 12.25 INCHES (311 MM).
9. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV® FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 MM) TALL, 16 INCHES (408 MM) WIDE AND 24.2 INCHES (614 MM) LONG.
10. THE NOMINAL STORAGE VOLUME OF THE RECHARGER® 180HD CHAMBER SHALL BE 3.445 FT3 / FT (0.32 M3 / M) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A SINGLE RECHARGER® 180HD STAND ALONE UNIT SHALL BE 25.25 FT3 (0.72 M3) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER® 180HD AS AN INTERMEDIATE UNIT SHALL BE 23.91 FT3 (0.62 M3) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF THE LENGTH ADJUSTMENT AMOUNT PER RUN SHALL BE 3.445 FT3 (0.32 M3) - WITHOUT STONE.
11. THE NOMINAL STORAGE VOLUME OF THE HVLV® FC-24 FEED CONNECTOR SHALL BE 0.913 FT3 / FT (0.085 M3 / M) - WITHOUT STONE.
12. THE RECHARGER® 180HD CHAMBER SHALL HAVE SEVENTY-EIGHT DISCHARGE HOLES BORED INTO THE SIDEWALLS OF THE UNIT'S CORE TO PROMOTE LATERAL CONVEYANCE OF WATER.
13. THE RECHARGER® 180HD CHAMBER SHALL HAVE 14 CORRUGATIONS.
14. THE ENDWALL OF THE CHAMBER, WHEN PRESENT, SHALL BE AN INTEGRAL PART OF THE CONTINUOUSLY FORMED UNIT. SEPARATE END PLATES CANNOT BE USED WITH THIS UNIT.
15. THE RECHARGER® 180HD STAND ALONE/STARTER UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO FULLY FORMED INTEGRAL ENDWALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS.
16. THE RECHARGER® 180HD END UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE FULLY OPEN END WALL AND HAVING NO SEPARATE END PLATES OR END WALLS.
17. THE HVLV® FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE RECHARGER® 180HD AND ACT AS CROSS FEED CONNECTIONS.
18. CHAMBERS MUST HAVE HORIZONTAL STIFFENING FLEX REDUCTION STEPS BETWEEN THE RIBS.
19. THE CHAMBER SHALL HAVE A RAISED INTEGRAL CAP AT THE TOP OF THE ARCH IN THE CENTER OF EACH UNIT TO BE USED AS AN OPTIONAL INSPECTION PORT OR CLEAN-OUT.
20. THE UNITS MAY BE TRIMMED TO CUSTOM LENGTHS BY CUTTING BACK TO ANY CORRUGATION ON THE LARGE RIB END.
21. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2015 CERTIFIED FACILITY.
22. MAXIMUM ALLOWABLE COVER OVER THE TOP OF THE CHAMBER SHALL BE 12.0' (3.66 M).
23. THE CHAMBER SHALL BE DESIGNED AND MANUFACTURED TO MEET THE MATERIAL AND STRUCTURAL REQUIREMENTS OF IAPMO PS 63-2019, INCLUDING RESISTANCE TO AASHTO H-10 HIGHWAY LIVE LOADS, WHEN INSTALLED IN ACCORDANCE WITH CULTEC'S INSTALLATION INSTRUCTIONS.
24. THE CHAMBER SHALL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.

CULTEC FC-24 FEED CONNECTOR SPECIFICATIONS

GENERAL

CULTEC HVLV (HIGH VOLUME, LOW VELOCITY) FEED CONNECTOR POLYETHYLENE CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT. THE CHAMBERS MAY BE USED TO MANIFOLD CULTEC RECHARGER® MODEL 180HD CHAMBER SYSTEMS FOR RETENTION, RECHARGING, DETENTION, AND CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.

CHAMBER PROPERTIES

1. THE CHAMBERS SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT (203-775-4416).
2. CONTACT CULTEC, INC. AT 203-775-4416 FOR SUBMITTAL PACKAGES AND TO PURCHASE PRODUCT.
3. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV FC FEED CONNECTOR SHALL BE 12 INCHES TALL, 16 INCHES WIDE. THE HVLV FC-48 IS 84 INCHES LONG. THE HVLV FC-24 IS 24.2 INCHES LONG
4. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR SHALL BE 0.819 CF/LF.
5. THE CHAMBER SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE EXTERIOR.
6. THE HVLV FC FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS, AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE RECHARGER 180HD.
7. ALL CHAMBERS SHALL BE ARCHED IN SHAPE.
8. HEAVY DUTY UNITS ARE DESIGNED ACCORDING TO AASHTO HS-20 LOAD RATING (40,000 LBS. (AXLE) WHEN BURIED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
9. HEAVY DUTY UNITS ARE DESIGNATED BY A COLORED STRIPE ALONG THE LENGTH OF THE CHAMBER.
10. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2015 CERTIFIED FACILITY.

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE MAY BE USED WITH CULTEC CONTACTOR® AND RECHARGER® STORMWATER INSTALLATIONS TO PROVIDE A BARRIER THAT PREVENTS SOIL INTRUSION INTO THE STONE.

GEOTEXTILE PARAMETERS

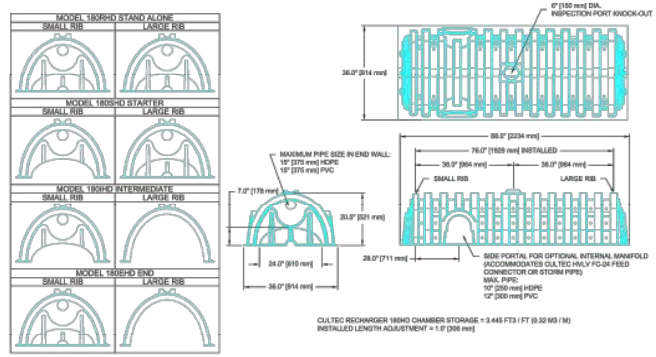
1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
3. THE GEOTEXTILE SHALL HAVE A TYPICAL WEIGHT OF 4.5 OZ/SY (142 G/M).
4. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH VALUE OF 120 LBS (532 N) PER ASTM D4632 TESTING METHOD.
5. THE GEOTEXTILE SHALL HAVE AN ELONGATION @ BREAK VALUE OF 50% PER ASTM D4632 TESTING METHOD.
6. THE GEOTEXTILE SHALL HAVE A MULLEN BURST VALUE OF 225 PSI (1551 KPA) PER ASTM D3786 TESTING METHOD.
7. THE GEOTEXTILE SHALL HAVE A PUNCTURE STRENGTH VALUE OF 65 LBS (289 N) PER ASTM D4833 TESTING METHOD.
8. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE VALUE OF 340 LBS (1513 N) PER ASTM D6241 TESTING METHOD.
9. THE GEOTEXTILE SHALL HAVE A TRAPEZOID TEAR VALUE OF 50 LBS (222 N) PER ASTM D4533 TESTING METHOD.
10. THE GEOTEXTILE SHALL HAVE A AOS VALUE OF 70 U.S. SIEVE (0.212 MM) PER ASTM D4751 TESTING METHOD.
11. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY VALUE OF 1.7 SEC-1 PER ASTM D4491 TESTING METHOD.
12. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATE VALUE OF 135 GAL/MIN/SF (5500 L/MIN/SM) PER ASTM D4491 TESTING METHOD.
13. THE GEOTEXTILE SHALL HAVE A UV STABILITY @ 500 HOURS VALUE OF 70% PER ASTM D4355 TESTING METHOD.

CULTEC NO. 4800™ WOVEN GEOTEXTILE

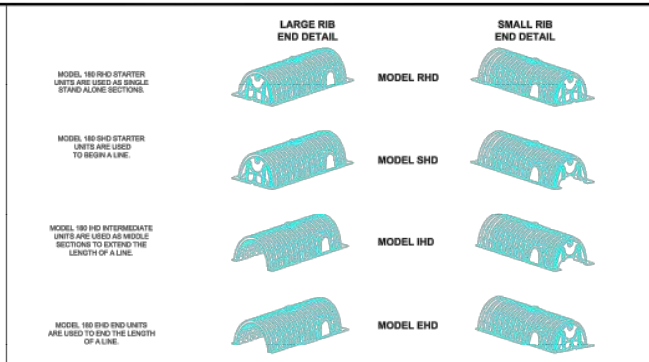
CULTEC NO. 4800 WOVEN GEOTEXTILE IS DESIGNED AS A UNDERLAYMENT TO PREVENT SCOURING CAUSED BY WATER INVERSION WITHIN THE CULTEC CHAMBERS AND FEED CONNECTORS UTILIZING THE CULTEC MANIFOLD FEATURE. IT MAY ALSO BE USED AS A COMPONENT OF THE CULTEC SEPARATOR ADS TO ACT AS A BARRIER TO PREVENT SOIL/CONTAMINANT INTRUSION INTO THE STONE WHILE ALLOWING FOR MAINTENANCE.

GEOTEXTILE PARAMETERS

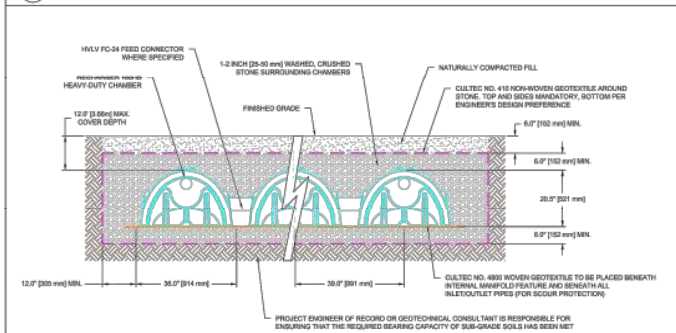
1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
2. THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
3. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH OF 550 X 550 LBS (2,448 X 2,448 N) PER ASTM D4632 TESTING METHOD.
4. THE GEOTEXTILE SHALL HAVE A ELONGATION @ BREAK RESISTANCE OF 10 X 20% PER ASTM D4632 TESTING METHOD.
5. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE OF 5,070 X 5,070 LBS/FT (74 X 74 KN/M) PER ASTM D4595 TESTING METHOD.
6. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 2% STRAIN OF 960 X 1,096 LBS/FT (14 X 16 KN/M) PER ASTM D4595 TESTING METHOD.
7. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 5% STRAIN OF 2,740 X 2, 740 LBS/FT (40 X 40 KN/M) PER ASTM D4595 TESTING METHOD.
8. THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 10% STRAIN OF 4,800 X 4,800 LBS/FT (70 X 70 KN/M) PER ASTM D4595 TESTING METHOD.
9. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE RESISTANCE OF 1,700 LBS (7,560 N) PER ASTM D6241 TESTING METHOD.
10. THE GEOTEXTILE SHALL HAVE A TRAPEZOIDAL TEAR RESISTANCE OF 180 X 180 LBS (801 X 801 N) PER ASTM D4533 TESTING METHOD.
11. THE GEOTEXTILE SHALL HAVE AN APPARENT OPENING SIZE OF 40 US STD. SIEVE (0.425 MM) PER ASTM D4751 TESTING METHOD.
12. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY RATING OF 0.15 SEC-1 PER ASTM D4491 TESTING METHOD.
13. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATING OF 11.5 GPM/FT2 (470 LPM/M2) PER ASTM D4491 TESTING METHOD.
14. THE GEOTEXTILE SHALL HAVE A UV RESISTANCE OF 80% @ 500 HRS. PER ASTM D4355 TESTING METHOD.



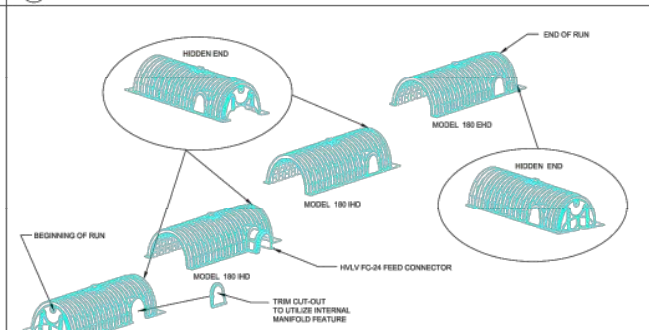
180HD 2.0 **CULTEC RECHARGER 180HD HEAVY DUTY THREE VIEW**



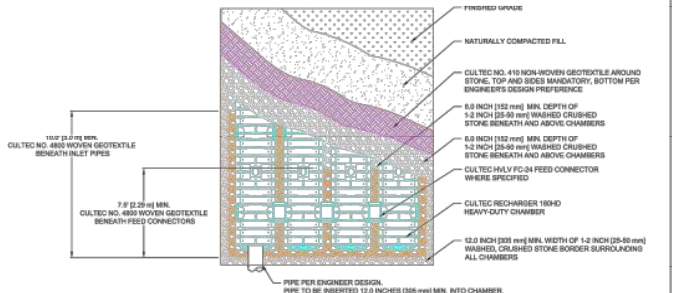
180HD 3.0 **CULTEC RECHARGER 180HD HEAVY DUTY END DETAIL INFORMATION**



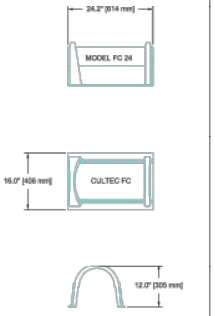
180HD 4.0 **CULTEC RECHARGER 180HD HEAVY DUTY CROSS SECTION**



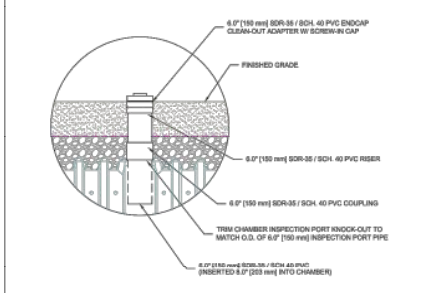
180HD 5.0 **CULTEC RECHARGER 180HD HEAVY DUTY TYPICAL INTERLOCK**



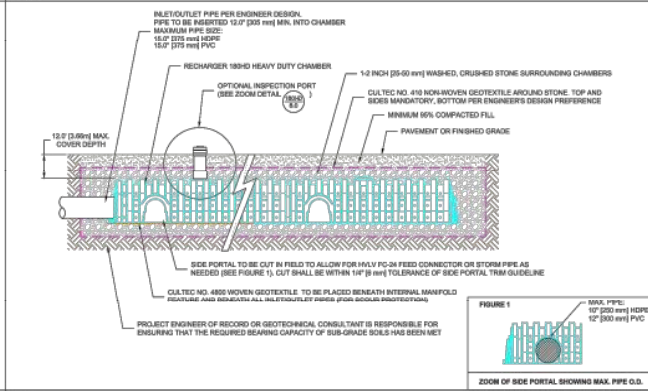
180HD 6.0 **CULTEC RECHARGER 180HD HEAVY DUTY PLAN VIEW**



180HD 7.0 **CULTEC HVLV FC-24 FEED CONNECTOR THREE VIEW**



180HD 8.0 **OPTIONAL INSPECTION PORT - ZOOM DETAIL**



180HD 9.0 **CULTEC INTERNAL MANIFOLD DETAIL - OPTIONAL INSPECTION PORT DETAIL**

CULTEC, Inc.
Subsurface Stormwater Management Systems
P.O. Box 280
878 Federal Road
Brookfield, CT 06804
www.cultec.com
PH: (203) 775-4416
PH: (800) 4-CULTEC
FX: (203) 775-1462
tech@cultec.com

THIS DRAWING WAS PREPARED TO SUPPORT THE DESIGN ENGINEER FOR THE PROPOSED SYSTEM. IT IS THE ULTIMATE RESPONSIBILITY OF THE DESIGN ENGINEER TO ASSURE THAT THE STORMWATER SYSTEM'S DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE CULTEC PRODUCTS ARE DESIGNED IN ACCORDANCE WITH CULTEC'S MINIMUM REQUIREMENTS. CULTEC INC. DOES NOT APPROVE PLANS, SIZING, OR SYSTEM DESIGNS. THE DESIGNING ENGINEER IS RESPONSIBLE FOR ALL DESIGN DECISIONS.

RECHARGER 180HD
DETAIL SHEET
NON-TRAFFIC APPLICATION

CULTEC STORMWATER CHAMBER			
PROJECT NO:		DATE:	2019
DRAWN BY:	CULTEC, INC	CHECKED BY:	TECH
SCALE:	N.T.S.	SHEET NO:	1 OF 1

PROJECT # 21-26

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

Engineer of Record
Joseph C. Riina, P.E.
NYS Lic. No. 64431

Revisions

No.	Date	Comments

SCALE: 1" = 10'
DRAWN BY: GO
DATE: 08-03-21

CULTEC DETAILS

SITE PLAN
PREPARED FOR
MICHAEL & PAM GRIMALDI
34 STARKEY ROAD
Town of North Castle Westchester County, NY

Sheet 5 of 5

STORMWATER MANAGEMENT PLAN

Prepared for

Grimaldi Residence
34 Starkey Road
Town of North Castle , NY

Prepared by:

Site Design Consultants
251F Underhill Avenue
Yorktown Heights, New York 10598
914-962-4488

Joseph C. Riina, P.E.
NYS Lic. No. 64431
CPESC No. 2670
CPSWQ No. 0073

July 2021

STORMWATER MANAGEMENT PLAN

Prepared for

Michael & Pam Grimaldi
34 Starkey Road
Town of North Castle, NY

Property Owner: Michael & Pam Grimaldi
34 Starkey road
West Harrison, NY 10604
914-275-5335

Site Engineer: Joseph C. Riina, P.E.
NYS Lic. No. 64431
CPESC No. 2670
CPSQW No. 0073

Site Design Consultants
251-F Underhill Avenue
Yorktown Heights, NY 10598
914-962-4488

July 2021

Table of Contents

Appendices

1.0 Project Description

The subject property is located at 34 Starkey Road in the Town of North Castle, New York. The existing lot has an area of 0.262 acres and is zoned R-1A. There is an existing house, driveway, and deck which is proposed to be expanded. Most of the site is open lawn and landscaping, with shrubs and fencing along most of the property boundary. The site is serviced by public sewer and has a drilled well for water supply.

It is proposed to expand by adding to the existing home. The existing driveway will be removed and a new one constructed keeping the current entry point from Starkey Road. A stormwater management system is proposed to capture and treat runoff from the new impervious surfaces which will exceed 500 sf, and adjoining areas from the 90% storm event and retain the 25 year storm event.

The total disturbance proposed for the site will be 7,200 SF. This disturbance will be managed during construction by implementing this stormwater management plan which will control stormwater runoff and related erosion potential. During construction, temporary erosion and sediment control measures will be installed and maintained. After construction surface runoff will be drain to a Rain Garden.

The following Report and Plans describe in detail the design and implementation of the Stormwater Management Plan.

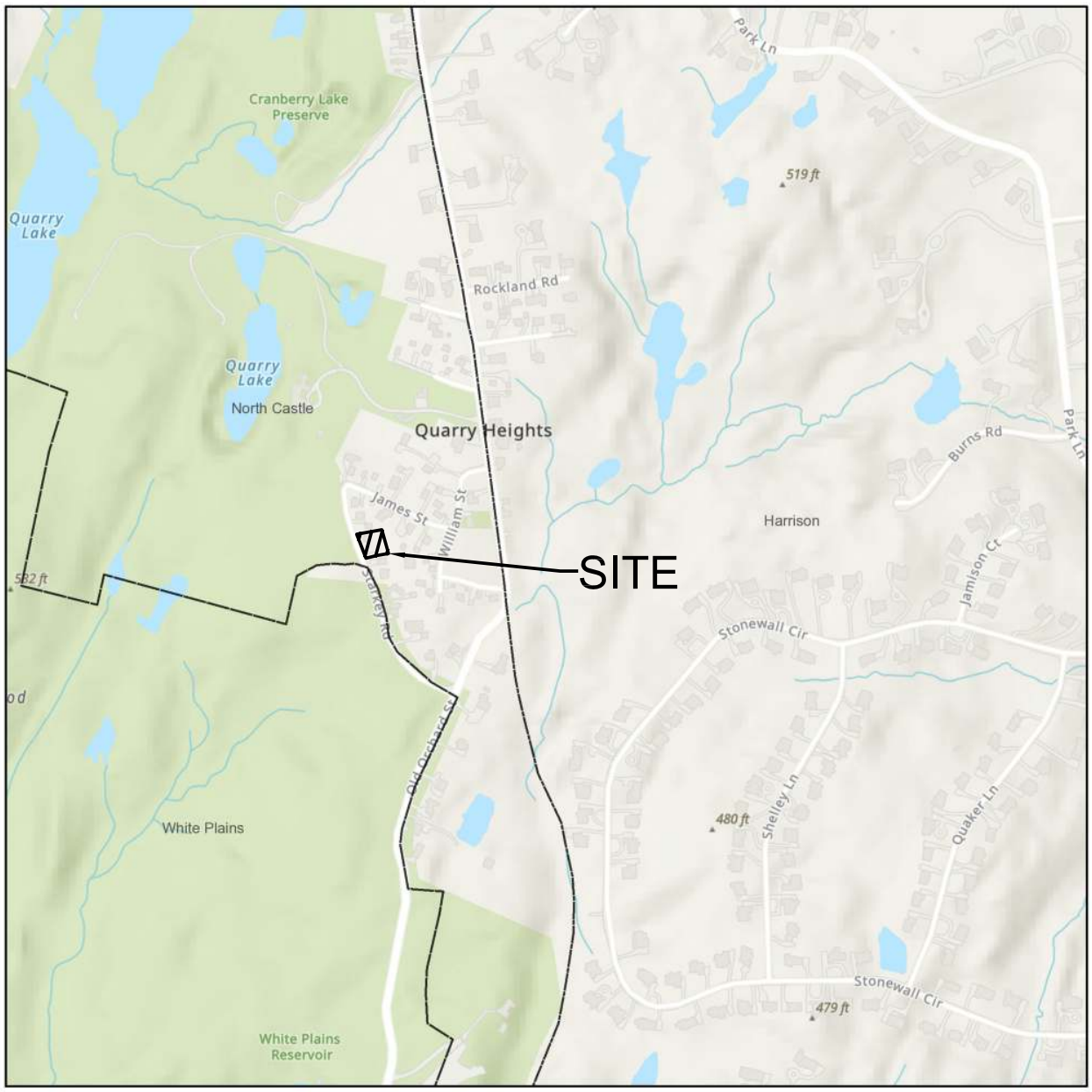
2.0 Site Hydrology

The proposed improvements will not significantly change the surface runoff patterns. The site has very little grade change sloping downward from front to back Currently, the surface runoff pattern is away from the building in the back yard, to a low point at the southeast corner of property. Most of the surface runoff is sheet flow. The majority of this area is lawn with a small amount of wood line.

Under the proposed condition the general direction of the surface runoff will not be altered. It is proposed that all of the surface runoff from the new impervious areas will be collected and retained up to and including the 25 year storm. The proposed improvements as shown will result in an increase in the imperviousness of the area. Therefore, there will be an increase in the volume of runoff generated by the project for a given rainfall event. This will be mitigated with the stormwater management system.

In the planning, design and construction of the development, stormwater will be managed to minimize or eliminate potential off-site impacts. The proper implementation of temporary sediment and erosion control measures are used to achieve this goal. Erosion and Sediment Control measures have been established and will be implemented during construction until the completion of the project. The Erosion and Sediment Control measures incorporate the sequence of construction and designed measures to be installed, operated and maintained during all aspects of construction. The erosion and sediment control measures are designed in accordance with the NYS Standards and Specifications for Erosion and Sediment Control.

Mapping Westchester County



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Municipal Boundaries

N

GIS http://giswww.westchestergov.com
Michaelian Office Building
148 Martine Avenue Rm 214
White Plains, New York 10601

FIGURE 1.1 - LOCATION MAP

PREPARED FOR

GRIMALDI

Town of North Castle Westchester Co., New York

Site Design Consultants

Civil Engineers • Land Planners

251 F Underhill Avenue Yorktown Heights, NY 10598
(914) 962-4488 - Fax (914) 962-7386
email sdc@cloud9.net

NOT TO SCALE
DATE: 7/7/21

3.0 Soils

On-site soils were classified by using the USDA Natural Resources Conservation Service (NRCS) Websoil survey for Westchester County, NY, see Figure 4.1 – Soil Map.

The predominant soil type for this project is Charlton / Chatfield complex, which has a hydrologic classification of "B". The erosion hazard level for these soil at the given slope is low. These soil properties are essential in the design and proper construction management of the site.

4.0 Stormwater Regulatory Requirements

Regulatory Obligation

Since the project disturbance is less than one acre, the filing of a Notice of Intent with the NYS DEC for compliance with General Permit 0-20-001 is not required. Therefore, the project only needs to comply with the provisions of the Town of North Castle Code Chapter 267 Stormwater Management. This project as designed complies with the Town Code Chapter 267.

A stormwater analysis has been performed and Stormwater Management Systems have been designed to provide for water quality treatment and the retention of stormwater. The basis of analysis was to capture, treat and retain the 90% storm event with a runoff depth of 1.5" and to attenuate the 25 year storm which has a runoff depth of 6.5". The rain garden has the capacity to retain and infiltrate the water quality volume with an overflow to retain the difference of the 25 year storm event in Cultec 180 Chambers.

5.0 Reducing Pollutant Impact

Stormwater Management During Construction

The Erosion and Sediment Control measures will be implemented during all phases of construction until the completion of the project. This will minimize or eliminate the potential short-term adverse impacts which may occur during construction. After completion, the erosion and sediment control will become a maintenance plan to ensure that permanent erosion and sediment controls continue to function and prevent the transport of sediments.

The plans includes the Sequence of Construction and designed measures to be installed, operated and maintained during all aspects of construction. The appropriate measures were selected and detailed in plan for implementation by the site contractor. The main objective of the plan is to prevent erosion from occurring by stabilization of the construction site where possible. Sediment controls are to be used as a containment system to allow the removal of sediment from runoff to the greatest extent possible before leaving the work site. Control methods and standards utilized are provided in the NYS GUE&SC.

Prior to completion of the project, all permanent structural features will be cleaned, restored, and re-vegetated as necessary. The erosion and sediment control phase of the project is complete when all work is completed, and all areas are stabilized. The post-construction Stormwater Management Inspection and Maintenance agreement will describe the long-term inspection schedule, periodic maintenance requirements, and the responsible party.

6.0 Methodology

To satisfy the requirements of the Town of North Castle standard practices have been selected. These practices meet either attenuation or water quality goals. The practices selected and the sizing analyses are found in Chapter 6 of the NYS DEC Stormwater Management Design Manual January, 2015.

Water Quality Volume (WQv)

The Treatment volumes are determined as prescribed by the standard methods as outlined in the NYS DEC SMDM. This Water Quality Volume WQv requirement is normally based on the 90% rainfall event. This equates to 90% of the average rainfall for the specific region. With the design provided, this entire volume will be captured and retained for an extended period of 24-hours for pollutants to settle out of the contained runoff. The volumes to be treated have been calculated as shown in the following table.

Water Quality Volume

Drainage Area	WQv based on 90% Rainfall Event	Volume Provided Treatment	Pretreatment Provided	Surface Area
DA-1	365 cf	365 cf	Rain-Garden	228 sf min

7.0 Hydrologic Analysis

A hydrologic analysis was performed for the area of interest or subject to development site for existing and proposed conditions. For the purpose of this analysis the existing and proposed conditions were compared to determine the increase in runoff volume to be controlled. The method used to compute project runoff was the Soil Conservation Service TR-55. The basis for the analysis was the Type III, 24-hour storm, for the 25-year storm event. The rainfall depth for the 25-year storm is 6.5 inches. The runoff coefficient “CN” and Time of Concentration for existing and post-development conditions were computed using Standard TR-55 criteria. The summary of the input can be found in Appendix C.

For the portion of the site analyzed, runoff leaves the site via one path. The chosen design point contains the flow from the lawn area toward a low point on the southeastern property

corner where it leaves the site. This area was called DA-1, and consists of half of the existing house and the rear yard. The tributary area is 6,905 sf of which 463 sf is impervious with a runoff coefficient Cn of 73.

Under the proposed condition DA-1, which includes the proposed addition and driveway has a tributary area of 7,386 sf with 2,833 sf of impervious area and a CN number of 75. Runoff from this area will drain to the proposed rain garden. It is proposed that there will be a total of 218 SF of filter bed for the water quality volume generated at the 90% storm event. The rain garden will be constructed as detailed. Typically, the stormwater would be attenuated comparing the existing and proposed runoff scenarios then controlling the rate of discharge to mimic existing peak flow conditions. In this case there is no possible point of discharge since a municipal drainage system does not exist and a point discharge to the rear is not possible due to possible impacts to neighboring properties. Therefore, the entire 25 year storm is being stored within a Cultec R-180 system which has been designed to receive and store overflow from the raingarden. The area which the Cultec units are to be placed does not have the required soil depth to meet the minimum criteria for infiltration. Soil testing in this location found sandy well drained soils to a depth of 48". The total depth of 74.5" is required to allow for 3' separation from the from the bottom of the Cultec 180 units to rock. Even though the area is being raised by 12", there is still 14.5" of additional separation needed. With that said, the Cultecs are being used for storage only although by the nature of the well-drained soils there will be infiltration occurring. The raingarden is the primary point of infiltration to allow for the dissipation of the retained stormwater.

The contributing watershed is limited to the project site with the design point which is the lowest point of the site where all of the current surface runoff flows to. The following table summarizes the runoff calculations shown in Appendix C.

Drainage Summary:

Storm Frequency	Existing, cfs	Proposed, cfs	Net Change, cfs	% Change
25 year	0.81	0.00	0.81	-100%

The peak rate of discharge from the 24-hour rainfall for each rainfall event shows no increase over the existing condition; therefore, there are no downstream impacts associated with this project. The rain garden and Cultec units have been sized to attenuate peak flows from the 25-year.

8.0 Selected Stormwater Management Practices (SMPs)

Since the only requirement is the attenuation of the increase in stormwater runoff during the 25-year storm event most of the runoff from the impervious areas is being collected and detained with a controlled release with no increase in peak runoff over existing conditions.

The selected practices are as follows:

Rain Garden NYSDEC SMDM:

A Water Quality Volume was determined for each of the treatment areas and discharged into the associated Rain Garden. The Stormwater Management Practice selected is a Rain Garden as described in the NYS DEC SMDM. This design is a combination of an extended detention and peat/sand filter bed for the treatment of water. The basin is supplemented with plantings and blended into the landscape features of the project. The Basin has been located at the lowest possible hydraulic location to intercept and treat runoff. As described in earlier sections of this report, the required Water Quality Volume has been exceeded in the design. The Water Quality Volumes are summarized in Section 6.2. A typical cross section of the proposed Rain Garden can be found in the Plan Set.

The Rain Garden is designed to have runoff sheet flow directly into the system. The Rain Garden has been sized to provide attenuation of peak flows up to the 25-year storm. Attenuation is provided through extended detention and exfiltration of runoff through the filter bed. This will provide the necessary storage for channel and flood protection. The bottom of the pond should maintain a 2 foot separation from the ground water table. The soil logs noted above indicate that sufficient depth is available at the proposed location to provide the required separation.

The following is the size criteria for the practice as per Chapter 6 of the NYS SMDM:

- Typical length to width ratio of 1.5:1;
- Filter media shall be a peat/sand mix (reed-sedge hemic peat shall be used);
- Provide the required minimum filter bed surface area;

See Routing Calculations in Appendix C for sizing calculations.

9.0 Stormwater Management Practice Justification and Design

The selection of the management practice was based on evaluating the site to determine what would best fit the conditions providing maximum benefits. The goal was to select practices which would meet treatment and attenuation standards and minimize the disturbance footprint. The selection of Stormwater Practices was based on the surface and subsurface conditions of the site. In addition, the site design concept is to create a natural and environmentally sensitive setting. The well-drained soils made it very clear that infiltration was a possible practice. Therefore, a Rain Garden was selected for its low profile and aesthetically appealing qualities. These calculations are located in Appendix C.

10.0 Erosion and Sediment Control Selection

Stabilized Construction Entrance:

This has been specified for the entrance of the driveway in compliance with the NYSSESC. The installation will occur at the beginning of the project as described in the Suggested Construction Sequence. It will be maintained so as to prevent the tracking of sediment off-site. The location and detail can be found on the Construction Drawings.

Silt / Sediment Fence:

Silt fence has been specified to control and contain sediment from leaving areas under disturbance to undisturbed areas. The type, placement, and installation shall meet the requirements of the NYSGUESC. The fence shall be installed as best as possible following the contours and will be spaced in accordance with the same criteria. The fence will be inspected daily, repaired, and sediment removed. The location and details can be found on the site plan.

Soil Stockpile:

Areas are provided for temporary stockpiling of delivered soil material for the construction. These areas will be contained with sediment fence to prevent the movement of sediment. The stockpiles if not active for less than 14 days will be seeded and mulched. The stockpile areas were placed to best suit the proposed construction activity. The stockpile will be installed as described in the Construction Sequence. The location and detail can be found on the site plan.

Temporary and Permanent Vegetative Cover:

Disturbed areas that will not contain structures or other improvements must be stabilized. The stabilization may be temporary and in other cases permanent vegetative cover. The vegetative cover specifications are based on the NYS ES&C Manual. On the Construction Plans are notes, locations, and specifications as to the vegetative cover requirements. In the notes, there are specific situations and time constraints related to stabilization of disturbed areas. The specifications give seed and fertilizer mixes as well as placement.

11.0 Construction Sequence

A key object of the SWPPP is to reduce erosion and sedimentation potentials for the project. The construction sequence was developed to assist the site contractor. Its intent is to coordinate the installation of E&SCs with the site disturbing activities as a means to minimize the adverse impacts of the site work.

Construction Sequence

1. Prior to the beginning of any site work the major features of the construction must be field staked by a licensed surveyor. These include the proposed house, limits of disturbance, and Stormwater practices.
2. Prior to commencement of work, an on-site preconstruction meeting will be held. This will be attended by the Owner responsible for any fines or penalties, the Operator responsible for complying with the approved construction drawings including the E&SC plan and details, the Environmental Planner responsible for E&SC monitoring during construction, town representatives from the Engineering Department and Code Enforcement.
3. Temporary erosion and sediment controls (E&SCs) as shown on the approved construction drawings shall be installed as detailed.
4. Remove existing vegetative cover and other surface features in the limit of construction.

5. Excavate for the house construction. Upon completion of foundation backfill and grade area around the foundation walls.
6. Install rain garden and drainage structures. Entry to the system shall be blocked until the site has reached final stabilization.
7. Install underground services to house.
8. Install final plantings.
9. Topsoil, rake, seed and mulch all disturbed areas.
10. Upon stabilization of all disturbed areas and approval from the Town representative remove all temporary erosion and sediment control

The Construction Sequence is also shown on the E&SC Notes and Details. A signature line for the Owner and Operator, if different, to certify that they have read, understand and agree to follow the Site Development, including the Construction Sequence and Erosion and Sedimentation Control Plan.

Responsible Party during and after Construction:

Michael Grimaldi
37 Starkey Road
West Harrison, NY 10604
561-818-3939

12.0 Maintenance of Stormwater Management Practices During Construction

Regular site inspections will be performed by the Town or certified inspector throughout the construction of the project. Inspections will be made weekly and after major rainfall events, i.e. ½" or greater. A report will be made of each inspection.

13.0 Maintenance of Stormwater Management Practices After Construction

This will be clearly detailed in the Stormwater Management Inspection and Maintenance Agreement. These responsibilities will reside with the Town.

The following is the proposed Inspection and Maintenance Schedule:

Control to be Inspected	Inspection Frequency	Maintenance Threshold Criteria	Maintenance Procedure
Rain Garden/ Bioretention	Quarterly	Ponding for more than 48 hours	Remove accumulated sediment and debris; weed and replace plants and mulch as needed. During winter months check for Icing on outlet Bi-weekly.

Subsurface Infiltration	Bi-annually	3"+ accumulated sediment	JetVac debris and sediment. Replace gravel surface when necessary.

Drain Inlets:

Access through grate structure and remove debris and sediment with hand tools.

In General:

- Controls should be inspected periodically for the first few months after construction and on a semi-annual basis thereafter. They should also be inspected after major storm events (greater than 0.5 inches).
- All stormwater controls shall be inspected and cleaned of any debris or sediment.
- Any erosion shall be repaired and stabilized with seeding and mulch or stone.

Please note that additional notes regarding maintenance activities are contained on the project Construction Drawings and should be adhered to during and after construction.

15.0 Conclusion

The Stormwater Management Plan has been established for this project in accordance with the requirements of Town of North Castle Code Chapter 267 Stormwater Management. This plan will effectively control stormwater generated by this project during and after construction. The management of the stormwater is based on controlling increases in peak runoff as well as water quality. The design of the water quality component not only will treat runoff due to the project, but also that which is currently not treated. Overall it would improve even the existing conditions.

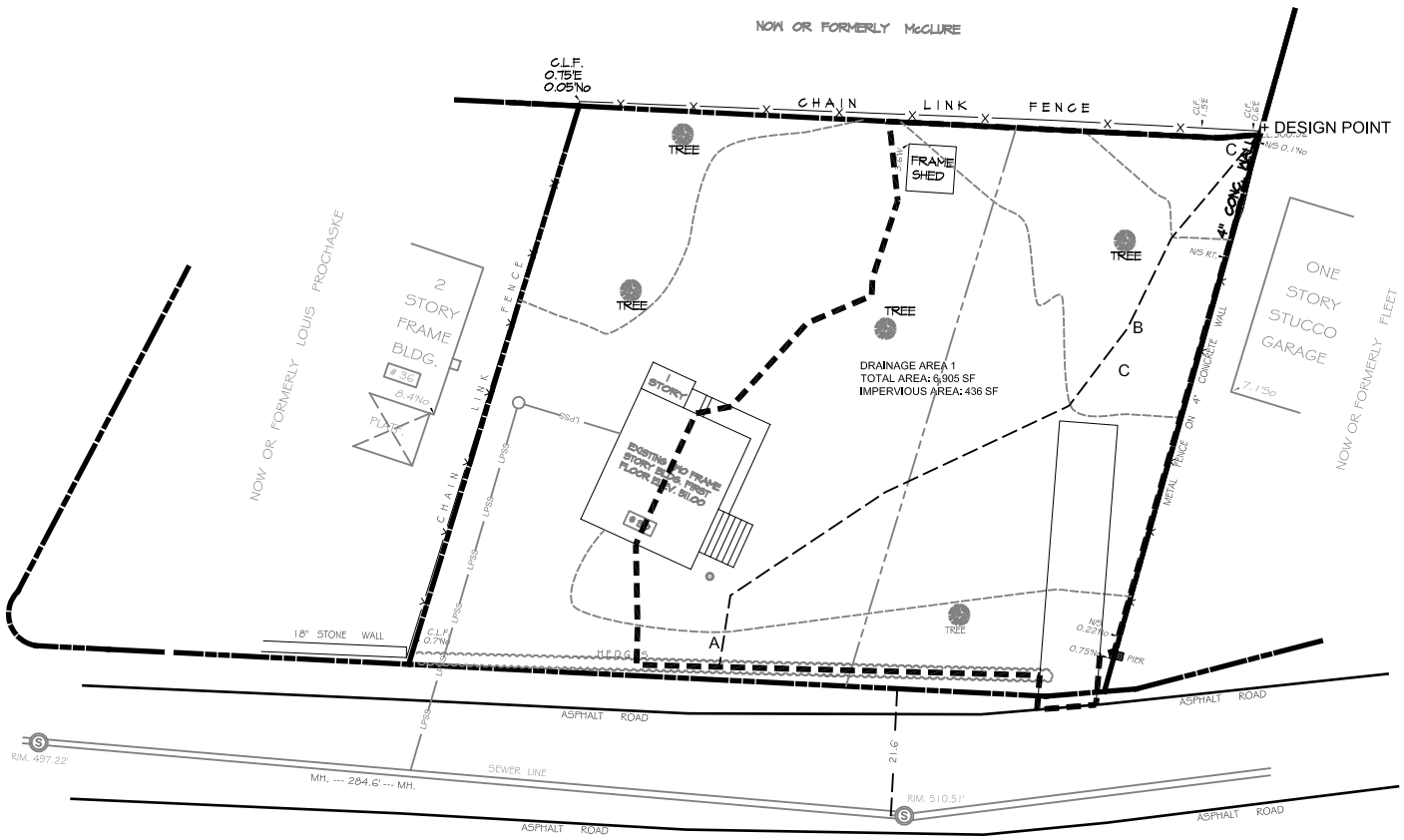
The effectiveness of the stormwater practices selected in design will be insured by implementing a maintenance plan. The maintenance plan details specific activities, safeguards and provisions to be monitored and performed by specified frequencies. By adhering to the maintenance plan, optimum performance of the stormwater practices can be expected.

In conclusion, the Stormwater Management System will not create negative downstream impacts as a result of this project.

July 7, 2021

Joseph C. Riina, P.E.
NYS License No. 64431

Figures



NOTE:
1. THIS IS NOT A SURVEY. ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY VINCENT M. TEUTONICO, DATED 02/15/21. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

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

SCALE: 1"=10'-0"

SAFE DIG
Before You Dig, Drill or Blast!

Sheet 1 of 1

SITE PLAN PREPARED FOR
MICHAEL & PAM GRIMALDI
34 STARKEY ROAD
Town of North Castle Westchester County, NY

PRE DEVELOPMENT WATERSHED

SCALE: 1" = 10'
DRAWN BY: GO
DATE: 05-11-21

Revisions:
No. Date Comments

Engineer: JOSEPH C. RUMA — STATE OF NEW YORK — LICENSED PROFESSIONAL ENGINEER
Joseph C. Ruma, P.E.
NYS License No. 085441

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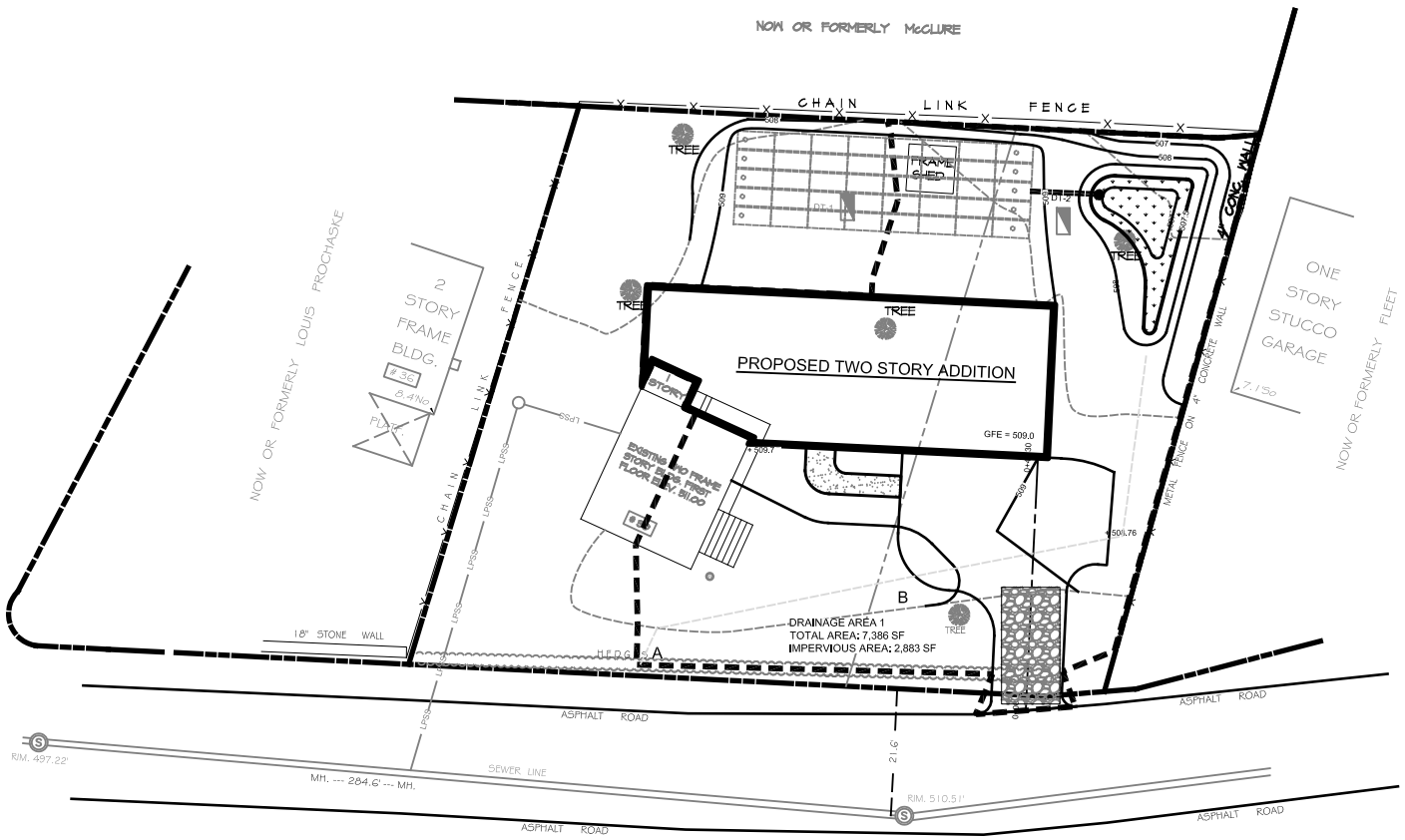
251-F Underhill Avenue, Yorktown Heights, NY 10598
(914) 962-4488 - Fax: (914) 962-7386
www.sitedesignconsultants.com

PROJECT # 21-26



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SCALE: 1"=10'-0"

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Before You Dig, Drill or Blast!

Sheet 1 of 1

SITE PLAN PREPARED FOR
MICHAEL & PAM GRIMALDI
34 STARKEY ROAD
Town of North Castle Westchester County, NY

POST DEVELOPED WATERSHED

SCALE: 1" = 10'
DRAWN BY: GO
DATE: 05-11-21

Revisions:
No. Date Comments

Engineer: JOSEPH C. RUMA — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW YORK
Joseph C. Ruma, P.E.
NYS License #071441

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www.sitedesignconsultants.com

PROJECT # 21-26


73° 45' 11" W
73° 45' 7" W
604756
604765
604774
604783
604792
604801
604810
604819
604828
604837
41° 4' 5" N
41° 4' 3" N
4547066
4547057
4547048
4547039
4547030
4547021
4547012
CrC
Soil Map may not be valid at this scale.
Map Scale: 1:413 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 5 10 20 30
Feet
0 20 40 80 120
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Westchester County, New York
Survey Area Data: Version 16, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	0.9	100.0%
Totals for Area of Interest			**0.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Appendix A

List of Approvals and Applications:

Town of North Castle Building Permit – approvals pending

Appendix B

Town of North Castle Code Chapter 267 Stormwater Management

Appendix C

Stormwater Runoff Calculations
and Stormwater Runoff Management Practices Sizing Calculations

Hydrologic Analysis

Gimaldi Project
Starkey Rd., No Castle

Rain Garden Worksheet

July 2021

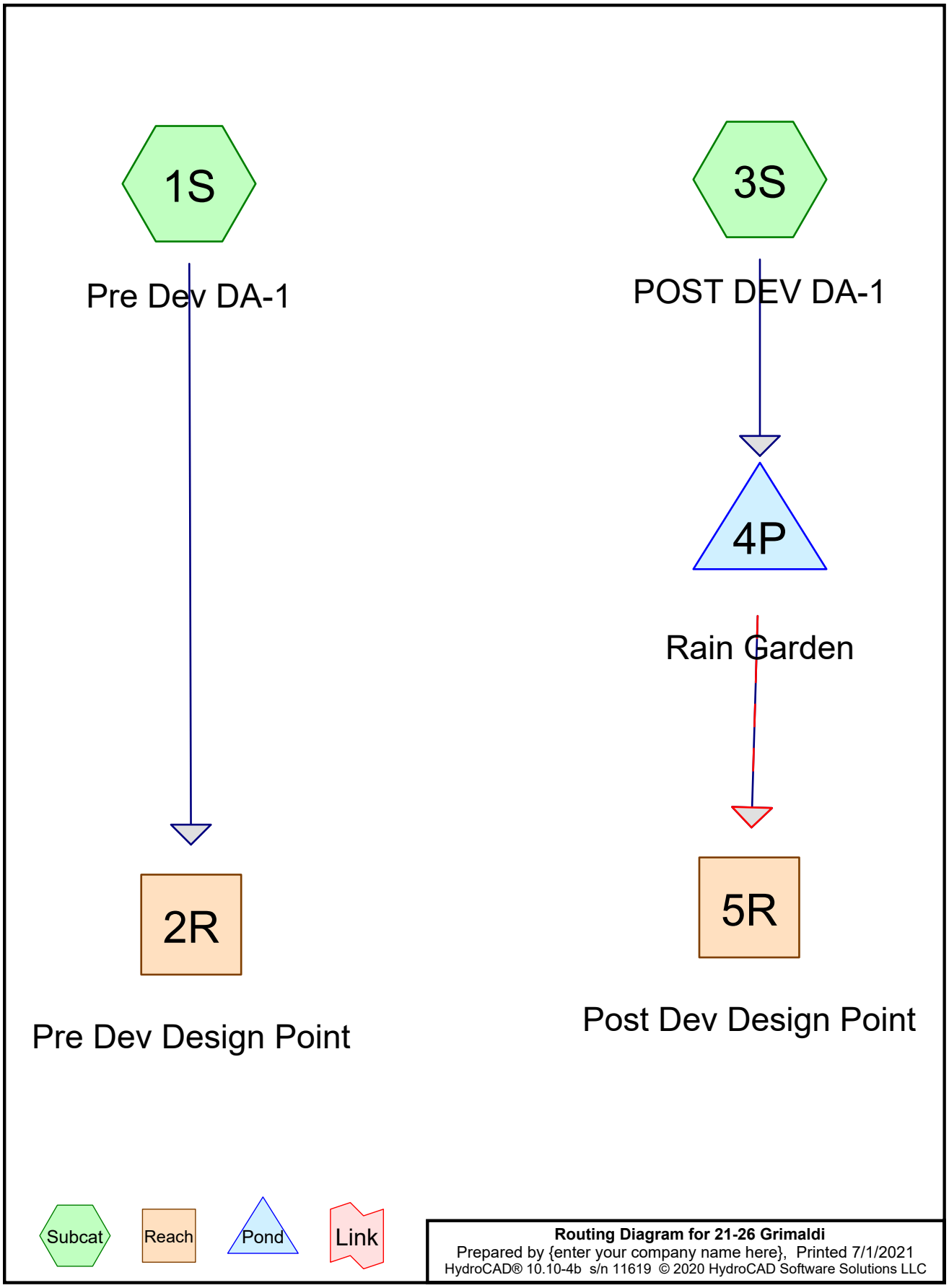
WQv ≤ VSM + VDL + (DP x ARG)
VSM = ARG x DSM x nSM
VDL (optional) = ARG x DDL x nDL

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(In)*	**Description**
1	0.17	0.07	38%	0.39	365	1.50	0
Reduced by Disconnection of Rooftops		0.00	38%	0.39	365	<<WQv after adjusting for Disconnected Rooftops	

Soil Information			
Soil Group	B		
Using Underdrains	*No*	*Okay*	
Infiltration Rate	10.00	*in/hour*	*Okay*

Rain Garden Parameters				
Enter number of Rain Gardens		1		
Enter area of each Rain Garden		229		
Enter Rain Garden Surface area	ARG	229	*sf*	
Enter depth of Soil Media	DSM	1.00	*ft*	*1 to 1.50*
Enter depth of drainage layer	DDL	1.00	*ft*	*≥ 0.50 ft*
Enter ponding depth above surface	DP	1.00	*ft*	*≤ 0.50*
Enter porosity of Soil Media	nSM	0.20		*≥20%, enter as a decimal*
Enter porosity of Drainage Layer	nDL	0.40		*≥ 40%, enter as a decimal*
Volume Provided In Soil Media	VSM	46	ft^3	
Volume Provided in Drainage Layer	VDL	92	ft^3	
Volume Provided In Ponding Area		229	ft^3	
Total Volume Provided		366	ft^3	

Determine Runoff Reduction			
Percent Reduction	100%		
Runoff Reduction	**365**	ft^3	
WQv ≤ VSM + VDL + (DP x ARG) √	OK		



Routing Diagram for 21-26 Grimaldi
Prepared by {enter your company name here}, Printed 7/1/2021

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 7139 NY Westchester

Rainfall Events Listing (selected events)

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	2.78	2
2	5-Year	NRCC 24-hr	D	Default	24.00	1	4.30	2
3	10-Year	Type III 24-hr		Default	24.00	1	5.13	2
4	25-Year	Type III 24-hr		Default	24.00	1	6.49	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.240	61	>75% Grass cover, Good, HSG B (1S, 3S)
0.110	85	Gravel roads, HSG B (1S)
0.076	98	Paved parking, HSG B (1S, 3S)
0.426	**74**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.426	HSG B	1S, 3S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.426		**TOTAL AREA**

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	0.240	0.000	0.000	0.000	0.240	>75% Grass cover, Good	1S, 3S
0.000	0.110	0.000	0.000	0.000	0.110	Gravel roads	1S
0.000	0.076	0.000	0.000	0.000	0.076	Paved parking	1S, 3S
0.000	**0.426**	**0.000**	**0.000**	**0.000**	**0.426**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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: Pre Dev DA-1 Runoff Area=0.257 ac 3.89% Impervious Runoff Depth>3.25"
Flow Length=135' Tc=14.3 min CN=73 Runoff=0.81 cfs 0.070 af

Subcatchment 3S: POST DEV DA-1 Runoff Area=0.169 ac 39.05% Impervious Runoff Depth>3.45"
Flow Length=120' Tc=10.7 min CN=75 Runoff=0.62 cfs 0.049 af

Reach 2R: Pre Dev Design Point Inflow=0.81 cfs 0.070 af
Outflow=0.81 cfs 0.070 af

Reach 5R: Post Dev Design Point

Pond 4P: Rain Garden Peak Elev=507.02' Storage=0.039 af Inflow=0.62 cfs 0.049 af
Outflow=0.01 cfs 0.009 af

Total Runoff Area = 0.426 ac Runoff Volume = 0.118 af Average Runoff Depth = 3.33"
82.16% Pervious = 0.350 ac 17.84% Impervious = 0.076 ac

Summary for Subcatchment 1S: Pre Dev DA-1

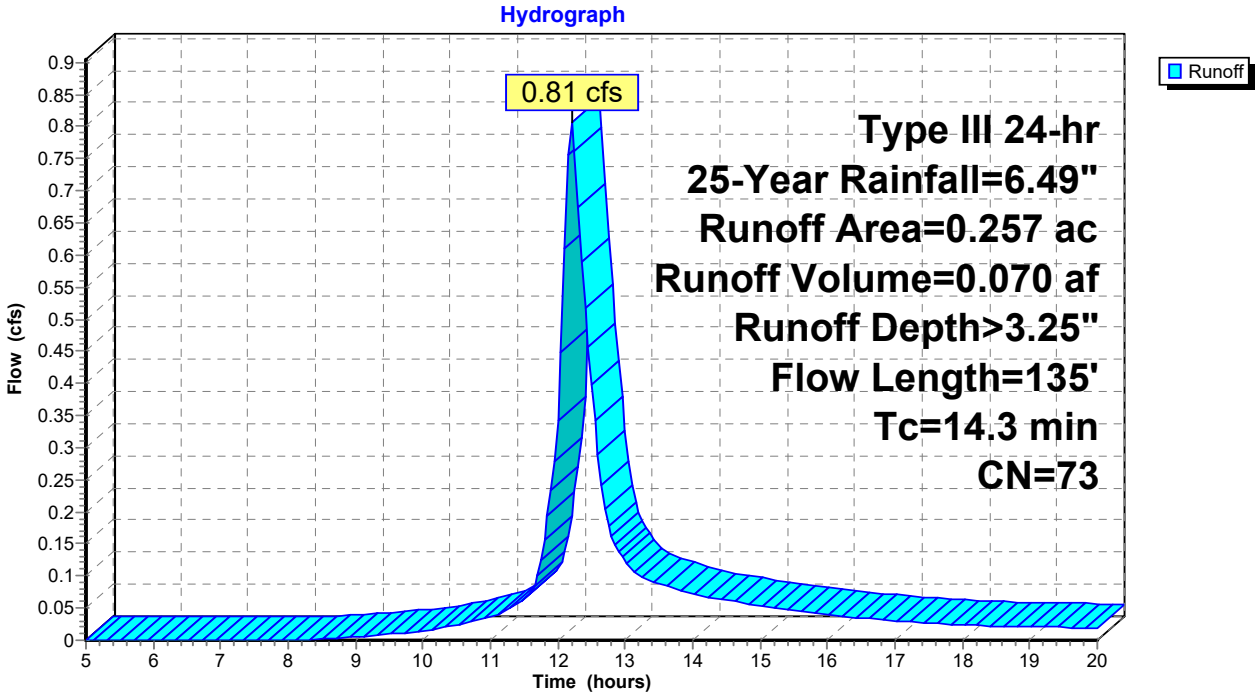
Runoff = 0.81 cfs @ 12.20 hrs, Volume= 0.070 af, Depth> 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=6.49"

Area (ac)	CN	Description
0.110	85	Gravel roads, HSG B
0.010	98	Paved parking, HSG B
0.137	61	>75% Grass cover, Good, HSG B
0.257	73	Weighted Average
0.247		96.11% Pervious Area
0.010		3.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.30"
0.2	35	0.0330	2.92		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
14.3	135	Total			

Subcatchment 1S: Pre Dev DA-1



Summary for Subcatchment 3S: POST DEV DA-1

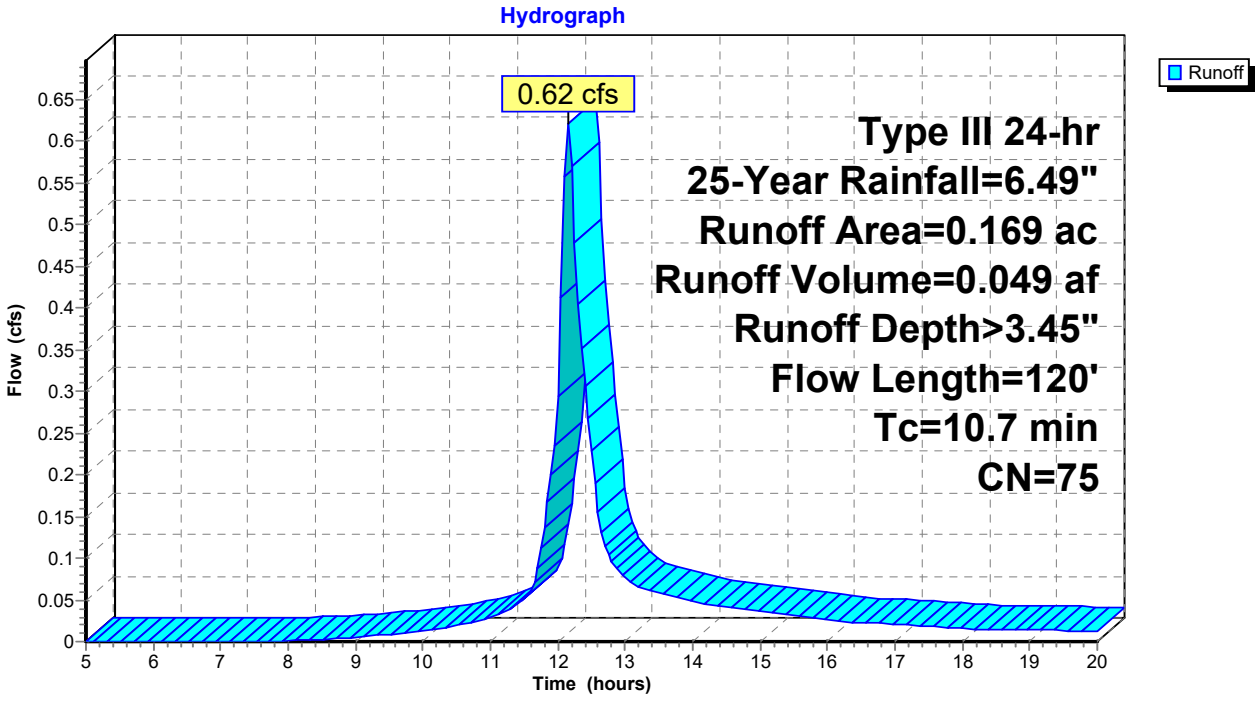
Runoff = 0.62 cfs @ 12.15 hrs, Volume= 0.049 af, Depth> 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=6.49"

Area (ac)	CN	Description
0.066	98	Paved parking, HSG B
0.103	61	>75% Grass cover, Good, HSG B
0.169	75	Weighted Average
0.103		60.95% Pervious Area
0.066		39.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	50	0.0100	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.30"
0.1	70	0.0050	13.90	13.90	**Channel Flow,** Area= 1.0 sf Perim= 0.5' r= 2.00' n= 0.012
10.7	120	Total			

Subcatchment 3S: POST DEV DA-1



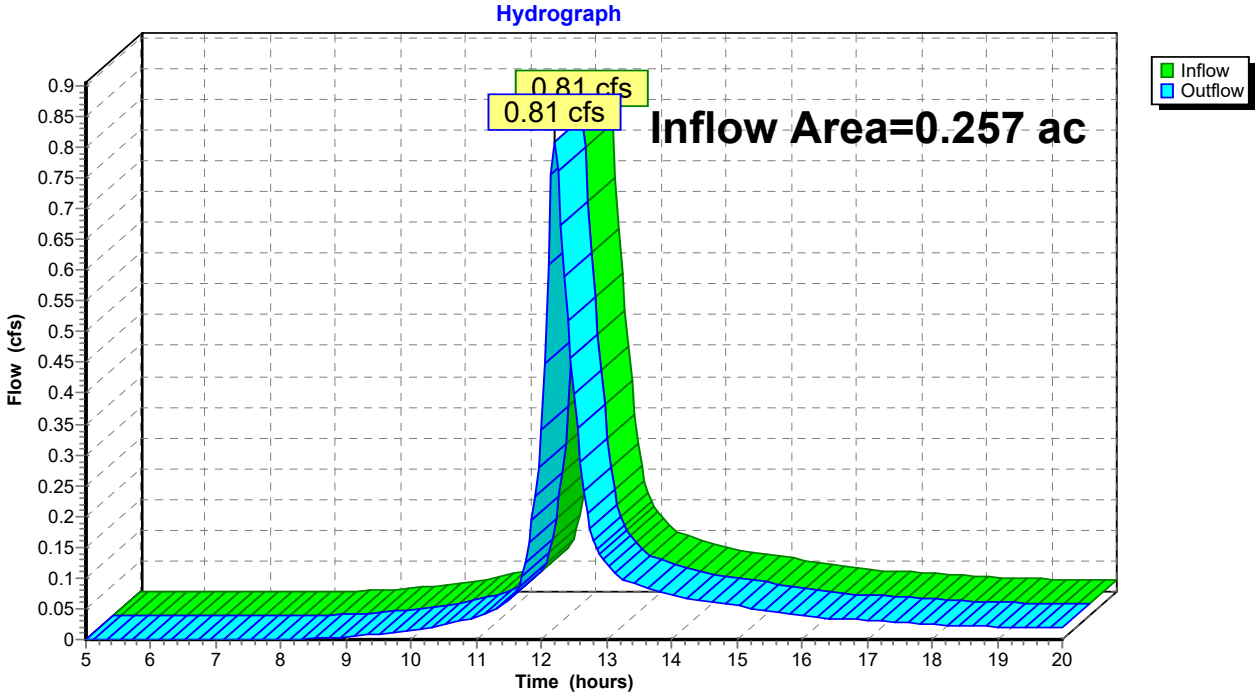
Summary for Reach 2R: Pre Dev Design Point

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.257 ac, 3.89% Impervious, Inflow Depth > 3.25" for 25-Year event
Inflow = 0.81 cfs @ 12.20 hrs, Volume= 0.070 af
Outflow = 0.81 cfs @ 12.20 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Pre Dev Design Point



Summary for Reach 5R: Post Dev Design Point

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.169 ac, 39.05% Impervious, Inflow Depth = 0.00" for 25-Year event

Routing by Stor-Ind+Trans method

Summary for Pond 4P: Rain Garden

Inflow Area = 0.169 ac, 39.05% Impervious, Inflow Depth > 3.45" for 25-Year event
Inflow = 0.62 cfs @ 12.15 hrs, Volume= 0.049 af
Outflow = 0.01 cfs @ 9.75 hrs, Volume= 0.009 af, Atten= 98%, Lag= 0.0 min
Discarded = 0.01 cfs @ 9.75 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 507.02' @ 20.00 hrs Surf.Area= 0.020 ac Storage= 0.039 af

Plug-Flow detention time= 193.5 min calculated for 0.009 af (19% of inflow)
Center-of-Mass det. time= 76.3 min (868.0 - 791.7)

Volume	Invert	Avail.Storage	Storage Description
#1	504.00'	0.009 af	**Custom Stage Data** Listed below
#2A	504.50'	0.014 af	**18.00'W x 47.31'L x 2.71'H Field A** 0.053 af Overall - 0.018 af Embedded = 0.035 af x 40.0% Voids
#3A	505.00'	0.018 af	**Cultec R-180** x 35 Inside #2 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
		0.041 af	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Cum.Store (acre-feet)
504.00	0.000
506.00	0.002
507.00	0.009

Device	Routing	Invert	Outlet Devices
#1	Discarded	504.00'	**0.01 cfs Exfiltration at all elevations**

Discarded OutFlow Max=0.01 cfs @ 9.75 hrs HW=504.03' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Pond 4P: Rain Garden - 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

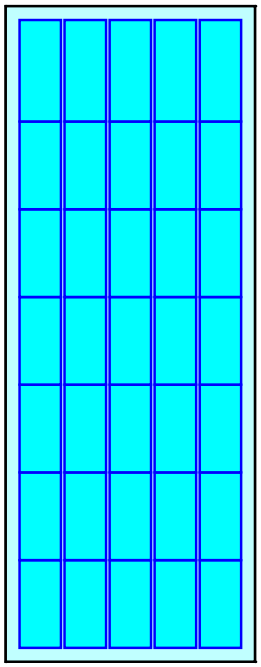
7 Chambers/Row x 6.33' Long +1.00' Row Adjustment = 45.31' Row Length +12.0" End Stone x 2 = 47.31' Base Length
5 Rows x 36.0" Wide + 3.0" Spacing x 4 + 12.0" Side Stone x 2 = 18.00' Base Width
6.0" Stone Base + 20.5" Chamber Height + 6.0" Stone Cover = 2.71' Field Height

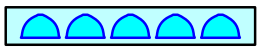
35 Chambers x 21.8 cf +1.00' Row Adjustment x 3.44 sf x 5 Rows = 779.2 cf Chamber Storage

2,306.4 cf Field - 779.2 cf Chambers = 1,527.1 cf Stone x 40.0% Voids = 610.9 cf Stone Storage

Chamber Storage + Stone Storage = 1,390.1 cf = 0.032 af
Overall Storage Efficiency = 60.3%
Overall System Size = 47.31' x 18.00' x 2.71'

35 Chambers
85.4 cy Field
56.6 cy Stone





Pond 4P: Rain Garden