## **CAPIZZI LAW OFFICES**

11 Hillside Ave., Second Floor Tenafly, NJ 07670 SQ. 201 266 8300 (o)

MATTHEW G. CAPIZZI, ESQ. N.J., N.Y., & D.C. Bars

201 266 8301 (f) Capizzilaw.com

New York Office: 1 Blue Hill Plaza Lobby Level, Suite 1509 Pearl River, NY 10965 Reply to New Jersey Office

January 5, 2022

### **Initial Submittal for Completeness Review**

### Via Overnight Mail

Nancy Wehmann – Secretary Borough of Alpine Zoning Board of Adjustment 100 Church Street Alpine, NJ 07620

Re: Marrow – Alpine ZBA (the "Applicant")

92 Ruckman Road; Block 90, Lot 6 (the "Property")

Dear Ms. Wehmann:

As you know, this office represents the above Applicant regarding their variance application before the Alpine Zoning Board of Adjustment seeking an in-ground pool and covered patio at the Property. To that end, enclosed please find the following for completeness review:

- 1. Board of Adjustment Application, Rider to the Application/Reasons for Relief, and Letter of Denial dated December 13, 2021 attached hereto (3 copies);
- 2. Tax Assessor's 200 Foot Property Owners List with Proof of Payment of Taxes attached thereto (3 copies);
- 3. Photo Exhibit (3 copies);
- 4. Prior Borough of Alpine Zoning Board of Adjustment Resolution dated March 20, 2014 (3 copies);
- 5. Soil Moving Calculations prepared by McNally, Doolittle Engineering, L.L.C., dated December 17, 2021 (3 copies);
- 6. Storm Drainage Report prepared by McNally, Doolittle Engineering, L.L.C., dated December 20, 2021 (3 copies);

Ms. Nancy Wehmann – Secretary January 5, 2022 Page 2 of 2

- 7. Pool, Septic Plan, & Soil Erosion and Sediment Control Plan prepared by McNally, Doolittle Engineering, L.L.C., dated October 23, 2021 and last revised as of December 20, 2021 consisting of one (1) sheet; and
- 8. Applicant's W9 and Checks:
  - Check # 313710 in the amount of \$250.00 (Application Fee)
  - Check # 313706 in the amount of \$2,000.00 (Escrow Fee)

Kindly advise when this matter has been deemed complete and assigned a hearing before the Alpine Board of Adjustment.

Thank you.

Very truly yours,

Goria Duby, Paralegal

MGC/gd Enclosures

### SCHEDULE E

### APPLICATION TO BOROUGH OF ALPINE BOARD OF ADJUSTMENT

FOR OFFICIAL USE ONLY:
Date Application filed:
Fee Paid: Amount Date
Date file complete:
Time period expires.
Application received by:
SECTION 1. APPEAL FROM DENIAL OF BUILDING PERMIT:
If this application has arisen as the result of the denial of a zoning permit, applicant shall secure from the administrative officer an appeal form giving reasons for denying the zoning permit and shall submit it with this application.
SECTION 2 INFORMATION REGARDING THE APPLICANT:  A) The Applicant's full legal name is
Tracy Marrow
B) The Applicant's mailing address is <u>c/o Matthew Capizzi, Esq.</u>
11 Hillside Ave., 2nd Fl Tenafly, NJ 07670
C) The Applicant's telephone number is 201-266-8300
(Business telephone number)
D) The Applicant is a:CORPORATION PARTNERSHIP INDIVIDUAL
OTHER (please specify)
E) If the Applicant is a corporation or a partnership, applicant shall attach a list of the names and addresses of persons having a 10% interest or more in the corporation or partnership.
F) The relationship of the Applicant to the property in question is:  OWNER TENANT OR LESSE PURCHASER UNDER CONTRACT  OTHER (please specify)
G) If the Applicant is not the owner of the property in question, the Applicant must obtain and submit a copy of this application signed by the owner in the space provided in <u>Section 9.</u>

SECTION 3 INFORMATION REGARDING THE PROPERTY:
A) The address of the Property is 92 Ruckman Road, Alpine NJ 076200
B) The location of the Property is approximately 288 feet from the intersection of Ruckman Road and Route 9W
C) The tax map Block number (s) is 90; the lot number (s) is
6 . (See tax bill or deed or call tax office for this information).
D) The zone in which the Property is located is RA (The Zoning Official's Office can help determine this information.
E) The dimensions of the Property are 243.75' x 369.9'
F) The size of the Property is 71,289 square feet.
G) The Property is located: (check as applicable)
1) within 200 feet of another municipality
2) adjacent to an existing or proposed country road xx 9W Palisades Boulevard
3) Adjacent to other country land
4) Adjacent to a State highway 9W Palisades Boulevard
H) Have there been any previous Board of Adjustment or Planning Board hearings involving this Property? YES NO
I) If the answer to "H" is YES, attach a copy of the written decision(s) adopted by the applicable Board and a copy of the Application(s) presented to such Board.  See attached prior Zoning Board of Adjustment resolution dated March 20, 2014
SECTION 4. INFORMATION ABOUT REQUESTED RELIEF:
A) "PROPOSAL" – Attach a narrative statement entitled "PROPOSAL" setting forth the particulars of the existing or proposed use of the PROPERTY and a narrative description of the proposed physical changes to the PROPERTY. (Include all physical improvements such as structures, additions, landscaping, etc.)  See attached.

B) "REASONS FOR RELIEF" – Attach a narrative statement entitled "REASONS FOR RELIEF" setting for the facts relied upon to support Applicant's claim of right to relief.

See attached.

	1) int	terpretati	on of developm	ent ordinance or map	45					
	2) ap	pear of a	action of admini	strative officer						
	3) V	ariance:	"C" – variance	e AXX						
			D – use vari	ance ^^^						
	4) a	ميله طلبياء	"D" – non-use	variance						
	4) a.	subdivisi	ion application	to follow						
	4) a. subdivision  b. subdivision application to follow  5) a. site plan  b. site plan application to follow  6) values of let to about street requirement									
	3) a.	site plan	n annlication to	fallow	-					
	6) 11/6	. Site piai	application to	no avinous ant						
	0) wa	aontion t	ot to abut sireet							
	/) ex	ception t	o the official illa	ap						
D)	Sections of the	he ordina	ance from which	h a variance is ought, th	ist the specific Articles and e requirement itself and the h a list to this application.)					
	Art.		Section	Required	Proposed					
	Art.		Section	Required Required Required	Proposed					
	A set		Section	Required	Proposed					
Minim Ruckr 23.7' (1) us SEC	num Rear Yard Soman Road (75' M Proposed), Minime e variance for alt CTION 5.	etback as t in. Reg. v. num Side Y erations pr INFOI	to Building (100' Min 73.1'), Minimum Ro Yard Setback as to oposed in the Buffe RMATION ABO	n. Req. v. 60.9' Proposed), Mi ear Yard Setback as to Acces Accessory Structure (30' Min. er Zone OUT EXPERTS:	nimum Front Yard Setback as to sory Structure (30' Min. Req. v. Req. v. 25.8' Proposed), and a D					
			on, although no cessing of this a		lly requested to enable the					
A)	Applicant's A	Attorney hew G.	: Telephone Nui Capizzi, Esq.	mber 201-266-8300						
	Address: 11	Hillside	Ave., 2nd FL,	Tenafly, New Jersey (	07670					
B) Applicant's Engineer: Telephone Number 201-337-9051 Name: McNally, Doolittle Engineering, L.L.C.										
			po Road, Oak							
	<del>);</del>									
C)	Applicant's A	Architect	:Telephone Nu	mber N/A						
	Name:		•		i					
	Address:									
					=======================================					
D)	Applicant's I	Planner:	Telephone Nu	mber N/A						
,	Name:		•							
	Address:									
	<del></del>									
E)	Other Expert	_	none Number							
8	Name:									
	Address:									

C) NATURE OF APPLICATION, check appropriate items.

### SECTION 6 INFORMATION ABOUT REQUIRED EXHIBITS

A "complete application" requires the following submissions.

Please che	ck if item is submitted with this form:
A) 🗸	Copies of this application
	Plot plans.
	Copies of 200-foot radius map.
	Copy of "authorized" application form if Applicant is not the property's owner.
E) ~	List of property owners within 200 feet of the Property.
	Copy of owner's notice and newspaper notice.
G)	List of others served, e.g. County, State, etc.
H) ~	Proof of payment of real estate taxes.
I) 🗸	Application fee. (Ord. 16-18A, 18-7).
	e above submissions must be prepared and submitted in a accordance with Zoning ructions number(s)
SECTION	7 NOTICE:
Applicant	is responsible to publish and serve notice of this application in accordance with
Zoning Bo	pard instruction number: however, notice may not be effected until this is certified as complete by:
Borough E	Ingineer
<b>Board Atto</b>	orney

#### SECTION 8 VERIFICATION AND AUTHORIZATION:

### A) APPLICANT'S VERIFICATION

I hereby certify that the above statements made by me and the statements and information contained in the papers submitted in connection with this application are true. I am aware that if any of the foregoing statements are willfully false, I am subject to punishment.

	12-29-21	Applicant's Signature
	Date	Applicant's Signature
B)	OWNER'S AUTHORIZAT	ION
	I hereby certify that I	reside at 92 Ruckman Road
	in the County of Bergen	, and State of New Jersey
	and that I am the owner of al	If that certain lot, piece or parcel of land known as
		on the Tax Map of Alpine , which
		above application, and that said application is hereby
	12-29-21	Tracy L. Manow
	Date	Owner's Signature

## CAPIZZI LAW OFFICES

11 Hillside Ave., Second Floor Tenafly, NJ 07670 MATTHEW G. CAPIZZI, ESQ. 201 266 8300 (o) N.J., N.Y., & D.C. Bars 201 266 8301 (f) Capizzilaw.com

> New York Office: 1 Blue Hill Plaza Lobby Level, Suite 1509 Pearl River, NY 10965 Reply to New Jersey Office

> > January 5, 2022

### Rider to the Application

Members of the Zoning Board of Adjustment Borough of Alpine 100 Church Street Alpine, NJ 07620

Re: Proposal and Reasons for Relief

Marrow – Alpine ZBA 92 Ruckman Road, Block 90, Lot 6

Dear Members of the Board:

The Property is a corner lot with frontage along 9W to the East and Ruckman Road to the North. The Property is located in the Borough's R-A Zone which requires a lot area of 87,120, where the property only provides 71,289 sf. The Property is also irregularly shaped.

The Property is also located in the B Buffer Zone, which requires that the first 200' off of 9W remain as open space, subject to limited exceptions. This results in approximately 38,000 sf (53%) of the lot area remaining as open space.

The Buffer Zone restrictions resulted in the existing home being located along the westerly portion of the lot, outside of the buffer zone. Prior variance was required to create the existing improvements.

In 2014, the Zoning Board granted variance relief as to construct a new single-family dwelling. The variance relief included: (1) use variance relief to construct a circular driveway, timber guide rail, Belgium block curb, planting island, walkways, drainage appurtenances, and well; (2) bulk variance relief as to front yard setback along Ruckman Road, side yard setback, and rear yard setback.

The Applicant now proposes to further improve the Property by: (1) slight modifications to the driveway turnaround, (2) covered terrace over existing patio, (3) new stone patio, and (4) inground pool with slide.

Members of the Zoning Board of Adjustment January 5, 2022 Page 2 of 2

The driveway improvements will require (d)(1) variance relief as we are proposing additional modifications within the buffer zone that do not fall within one of the enumerated exceptions. The covered terrace, new stone patio and inground pool with slide will require variance relief as to front yard setback along Ruckman and rear yard setback, both caused by roofing an existing patio and accessor structure setback at the westerly and southerly property lines triggers by the inground pool and associated slide.

The variances are all triggered by the hardships imposed on the light by virtue of the Buffer Zone consuming more than 50% of the lot requiring all improvements to be located on the westerly half of the lot, the shape of the lot and the undersized nature of the lot.

The granting of the variances will not have any substantial negative impact upon the neighborhood. The pool updates woodlands, the pool slide abuts a commercial parking lot and covered terrace provides a setback greater setback than the existing house. Moreover, the Southerly property line will be buffered with evergreen landscaping to screen the house from the commercial parking lot.

Therefore, we request the application be granted.

Respectfully Submitted,

Matthew G. Capizzi, Esq.

MGC/gd



## **Borough of Alpine**

100 Church Street • Alpine, New Jersey 07620-1095 Tel (201) 784-2901 x22 • Fax (201) 784-1407

#### Construction Department

### **Zoning Review**

December 13, 2021

Capizzi Law Office 11 Hillside Avenue – 2<sup>nd</sup> Floor Tenafly, NJ 07670

RE:

92 Ruckman Road

Block 90 Lot 6

Tracy Marrow c/o Matthew G. Capizzi, Esq.

11 Hillside Ave, Tenafly, NJ 07670

Zoning Application # Z 81-2021 Septic Alteration to Pressure Dosed Field, Construction of

Covered Terrace, Pool, and Drainage Improvements.

Dear Mr. Capizzi:

The applicant has submitted the following documents for review:

- 1. Cover letter Titled Submittal for Zoning Review by Capizzi Law Offices dated December 1, 2021
- 2. Application for Zoning Review signed by Matthew G. Capizzi, Attorney for Applicant, Dated November 29, 2021
- 3. Site Plan by McNally, Doolittle Engineering, LLC., Dated October 23, 2021

Note: This review is limited to the Alpine Zoning Ordinance only, Septic / Soil Movement / Drainage / Tree Buffer and related waivers shall be reviewed under separate letter by the Alpine Borough Engineer.

Upon a review of the application to determine conformance to the Zoning Regulations of the Borough of Alpine, I offer the following comments.

#### The Application is Denied for the following reason:

The property is located in the R-A Residential Zone.

# A review of the approved Resolution for the Dwelling Approved March 20, 2014, confirms the following findings:

The undersized lot located at the Southwest Corner of State Route 9W, and Ruckman Road was approved with the Primary Front Yard Facing State Route 9W, and with the Dwelling located behind the 200 Foot B Buffer Zone Setback. The Front Yard (secondary) located on Ruckman Road was approved with a Proposed Setback at 72.6 Feet. A Use Variance was approved for disturbance within the B Buffer Zone Setback for a Driveway, Guide Rail, Planting Island, Curbing and Drainage. The Applicant for this Application Proposes to make some Minor Changes to the Driveway Area within the B Buffer Setback

The applicant proposes to construct a Rear Yard Covered Terrace, and Inground Pool.

- 1. The Applicant Proposes to Construct a Covered Terrace over an Existing Patio with a Rear Yard Setback of 60.9 Feet where the required Rear Yard Setback in Accordance with Alpine Borough Code §220 Attachment 1, Zone R-A is 100.0 Feet, a difference of 39.1 Feet.
- 2. The Applicant Proposes to Construct a Covered Terrace with a Front Yard Setback of 73.1 Feet where the required Front Yard Setback in Accordance with Alpine Borough Code §220 Attachment 1, is 75.0 Feet, a difference of 1.9 Feet.
- 3. The Applicant Proposes to Construct an Inground Pool and Walls with a Rear Yard Setback of 23.7 Feet, where the Required Accessory Structure Setback Distance in Accordance with Alpine Borough Code §220-13(4) (b) is 30.0 Feet, a difference of 6.3 Feet.

This denial is based on information you submitted with you application and plans. You have the right of appeal this denial to the Alpine Zoning Board of Adjustment or apply for a variance to the Alpine Zoning Board of Adjustment. Please include a copy of this letter with your variance application. Should you have any questions on how to apply for a variance please contact Nancy Wehmann, Zoning Board Secretary at 201-784-2900 x 22.

Yours truly,

Zoning Offi

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### BOROUGH OF ALPINE 100 CHURCH STREET, ALPINE, NJ 07620 TEL: 201-784-2900 X 22 – FAX: 201-784-1407

Z-S1-2021 BOROUGH OF ALPINE DEC - 2 2021

BUILDING DEPT.

### APPLICATION FOR ZONING REVIEW

CONFIRMATION OF OWNERSHIP IS REQUIRED

Date of Application 11/29/2021 Block # 90 Lot(s) 6
Name of Owner Tracy Marrow Tel#
Site Location 92 RUCKMAN ROAD P.O. Box#
Property Survey/Site Plan prepared byMCNALLY, DOOLITTLE ENGINEERING, L.L.C.
dated 10/23/2021 last revised
Name of Application (if different from owner)
State dimensions of principal building56' X 68'
State dimensions of all accessory buildings/structures POOL: 40' X 62'
Describe in detail the activity or activities to be conducted  PRESSURE DOSED FIELD, CONSTRUCTION OF COVERED TERRACE, POOL, AND DRAINAGE IMPROVMENTS.
State whether any of the activities described in #7 above are conducted as a nonconforming use (if so, state facts supporting this contention)
Has the above premises been the subject of any prior application to the Zoning Board of Adjustment or Planning Board to applicant's knowledge?
Date: 11/29/2021 Signature of Owner Print Name Matthew G. Capizzi, Esg.  Date: 11/29/2021 Signature of Applicant Aftorney for Applicant
Date: 11/29/2021 Signature of Applicant / Aftorney for Applicant Print Name / Watthew G. Capizzi, Esg.
For Office Use: Permit # 281-202/ Fee Paid \$ 450 Cash/Check 3274  Date 12/3/24 Rec'd by
Based on the information submitted above your application is:
Approved Denied
Zoning Officer Signature Date 12-13-2
If approved you must obtain all necessary pror approvals and the required UCC Permits in order to proceed with this project.
Rev. 05/30/13



### Borough of Alpine

100 Church Street • Alpine, New Jersey 07620-1095 Tel (201) 784-2900 ext. 21 (Tax Assessor) Fax (201) 784-1407

December 30, 2021

Matthew G. Capizzi, Esq. Capizzi Law Offices 11 Hillside Avenue, 2<sup>nd</sup> Floor Tenafly, NJ 07670

Re:

200 Foot Property Owners List

Street 92 Ruckman Road

Block: 90 Lot: 6

Dear Mr. Capizzi,

Attached is the list of owners within 200 feet of the subject property. We have received your check for the assessor's list fee of \$10.00. Please note that this list is only valid for 90 days from date of this letter. If I can be of further assistance, please do not hesitate to call.

Sincerely,

William Yirce, CTA, SCGREA

Borough of Alpine

Tax Assessor

Attachment

Cc:

Alpine Planning Board

Alpine Zoning Board of Adjustment Alpine Environmental Commission

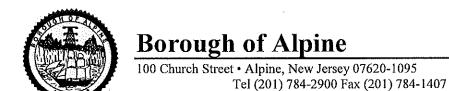
#### OWNER & ADDRESS REPORT

ALPINE

## 200 FOOT LIST AS OF DECEMBER 30, 2021 BLOCK 90 LOT 6 - 92 RUCKMAN ROAD

12/30/21 Page 1

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER		PROPERTY LOCATION	Add'l Lots
3	3	*****	15C	Current Owner ROUTE 9W BEAR MOUNTAIN, NY	10911	ROUTE 9W ON PALISADES	
90	5		15C	Current Owner ROUTE 9W BEAR MOUNTAIN, NY	10911	ROUTE 9W & RUCKMAN RD	
90	7		4A	Current Owner PO BOX 1006 ALPINE, NJ	07620	385 ROUTE 9W	
110	1		15 <b>C</b>	Current Owner ROUTE 9W BEAR MOUNTAIN, NY	10911	ROUTE 9W	
120	1		150	Current Owner ROUTE 9W BEAR MOUNTAIN, NY	10911	RUCKMAN ROAD	



December 30, 2021 Block 90 Lot 6

### **UTILITIES**

Suez Water New Jersey, Inc. 461 From Road, Suite 400 Paramus, NJ 07652

PSE&G Manager Corporate Properties 80 Park Plaza, T6B Newark, NJ 07102

Verizon 9 Gates Avenue #2 Montclair, NJ 07042

Rockland Electric Co. 390 West Route 59 Spring Valley, NY 10977

Cablevision 40 Potash Rd Oakland, New Jersey 07436

County of Bergen One Bergen County Plaza Room 580 Hackensack, NJ 07601-7076

Bergen County Utilities Authority (If sewer connection) PO Box 122 Little Ferry, NJ 07640

# **CAPIZZI LAW OFFICES**

MATTHEW G. CAPIZZI, ESQ. 20°
N.J., N.Y., & D.C. Bars 20

11 Hillside Ave., Second Floor Tenafly, NJ 07670 201 266 8300 (o) 201 266 8301 (f) Capizzilaw.com

New York Office: 1 Blue Hill Plaza Lobby Level, Suite 1509 Pearl River, NY 10965 Reply to New Jersey Office

Borough of Alpine PROOF OF PAYMENT OF TAXES

Tracy Marrow 92 Ruckman Road Block: 90, Lot: 6

<u></u>	No taxes are due and owed on this property as of (Date) _	/	15	122
	Taxes are due on this property as follows			HARRISH HARRIST AND
				Make the second

Borough of Alpine- Tax Collector

## **SOIL MOVING CALCULATIONS**

For

## **MARROW**

## **92 RUCKMAN ROAD**

Lot 6 - Block 90

**ALPINE** 

**Bergen County, NJ** 

**DATE:** 12/17/21

Prepared By:

Matthew Greco, P.E.

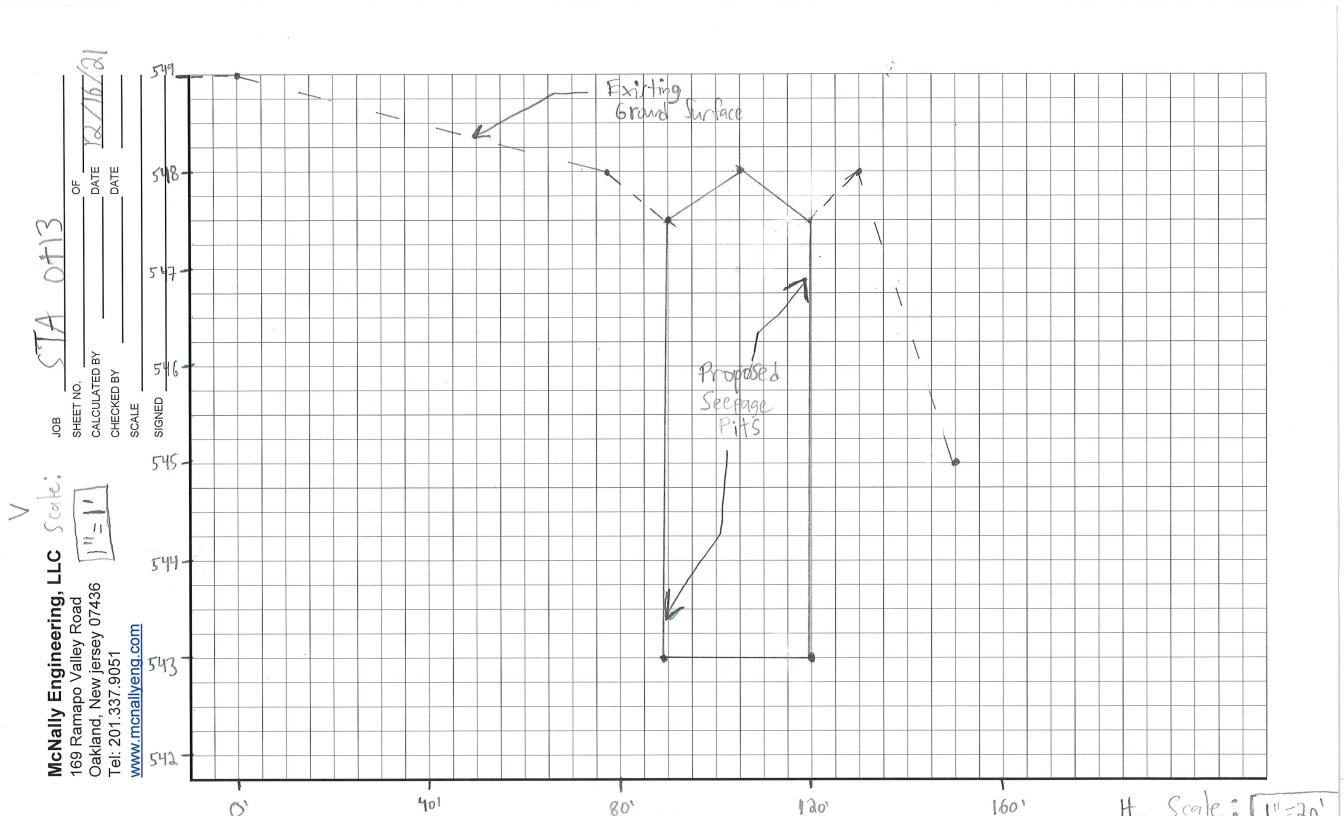
License #46966

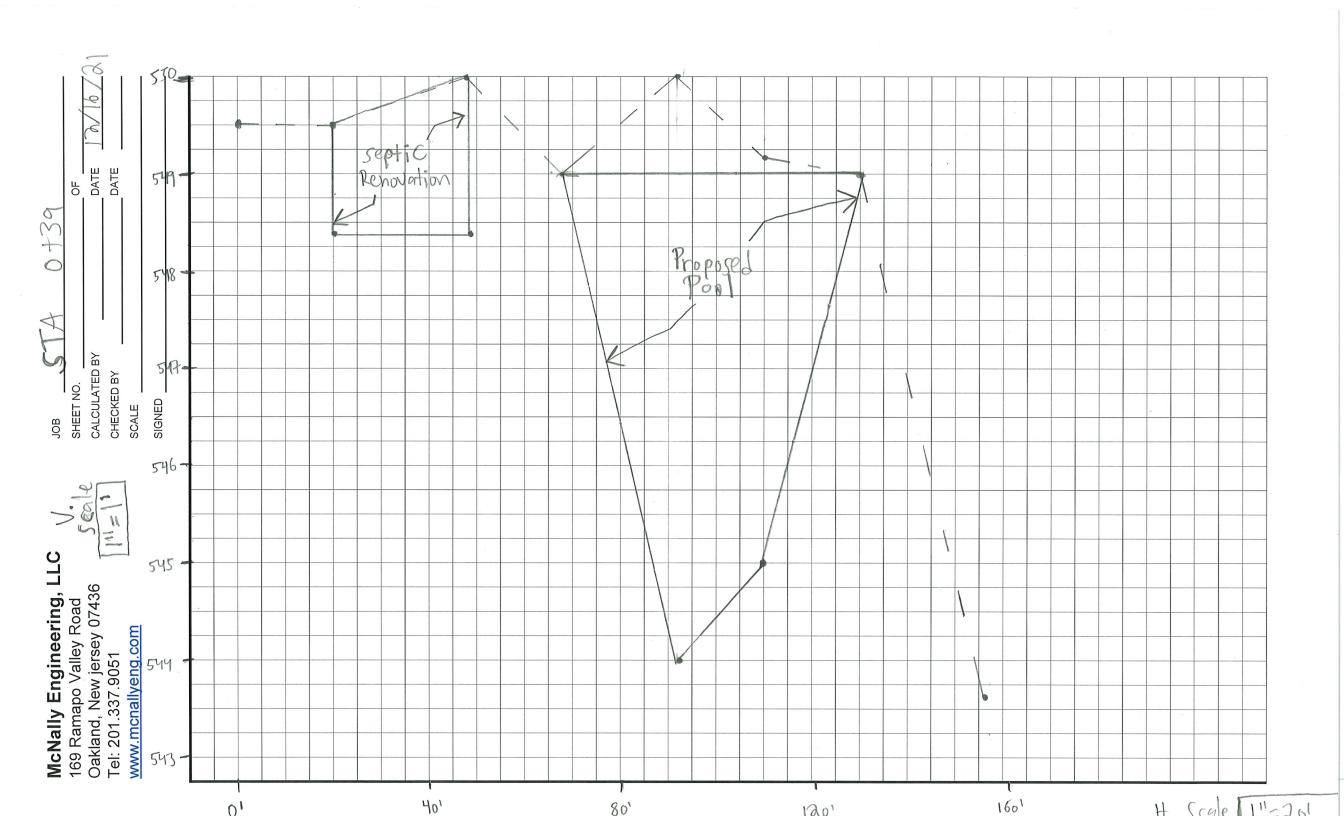
McNally, Doolittle Engineering, L.L.C.

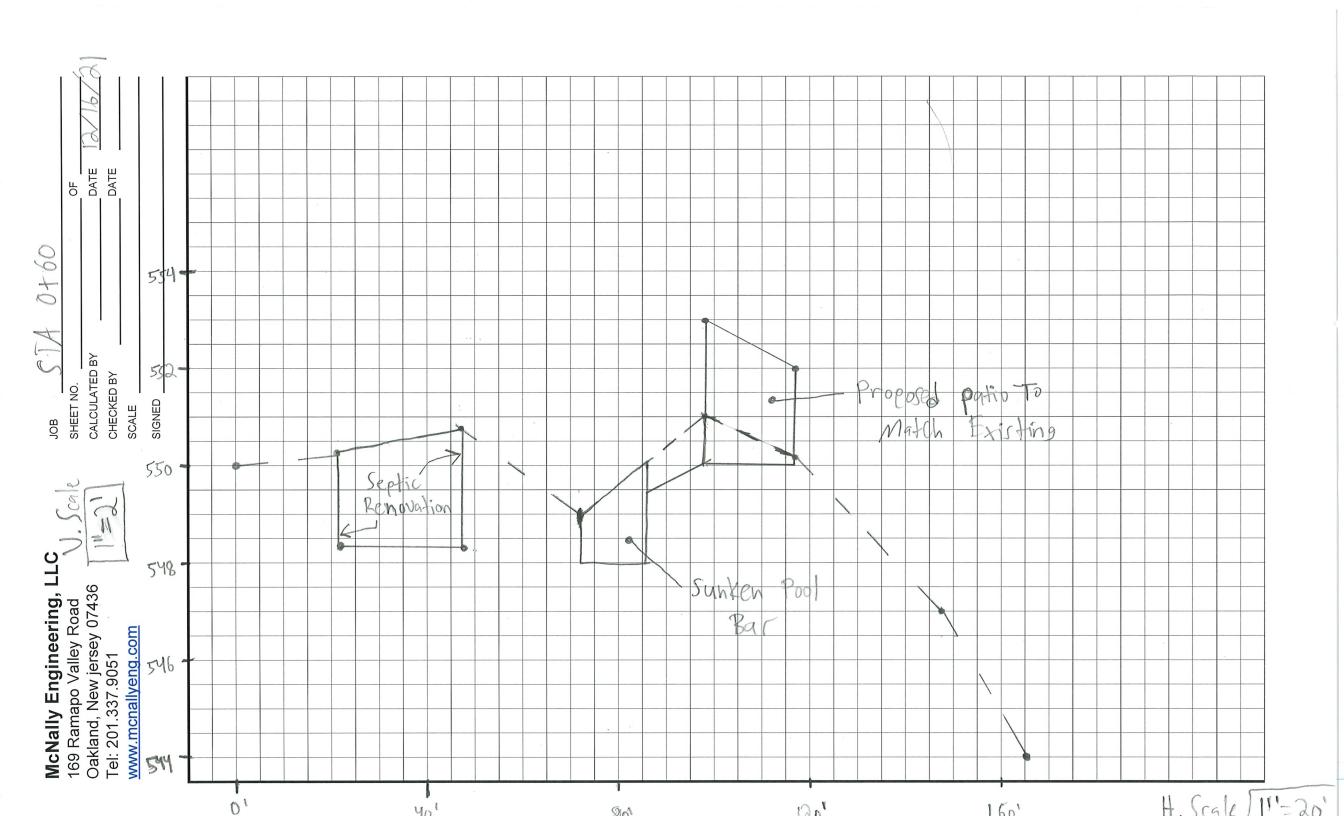
169 Ramapo Valley Road

Oakland, NJ 07436

Certificate of Authorization 24GA27928700







## **CUT & FILL ESTIMATE**

**TOTAL FILL** 

### **TOTAL CUT**

STATION	FILL	FILL	VOL.	CUT	CUT	VOL.
	AREA (sf)		(cy)	AREA (sf)	AVG.(sf)	(cy)
0+00	0.00	0.00	0.00	0.00	0.00	0.00
0+13	0.00	0.00	0.00	149.00	74.50	35.87
0+39	0.00	0.00	0.00	247.00	198.00	190.67
0+60	9.00	4.50	3.50	25.30	136.15	105.89
0+84	0.00	4.50	4.00	0.00	12.65	11.24
		-				

7.50 343.68

SUBTOTAL 7.50 SUBTOTAL 343.68

FILL/CUT(C.Y) NET -336.18

## STORM DRAINAGE REPORT

For

## **MARROW**

Lot 6 - Block 90

**ALPINE** 

**Bergen County, NJ** 

DATE: 12/20/2021

McNally, Doolittle engineering, LLC.

Prepared By:

Matthew A. Greco, P.E. License #46966

McNally, Doolittle Engineering, L.L.C.

169 Ramapo Valley Road

Oakland, NJ 07436
Certificate of Authorization 24GA27928700

This drainage report is prepared pursuant to the requirements of the Borough of Alpine.

#### **EXISTING DRAINAGE**

The existing runoff from the site generally travels as sheet flow in an easterly direction and releases onto U.S. Route 9W. The area of the existing site is approximately 71,289 square feet or 1.637 acres. The increase in improved lot coverage is approximately 0.06 acres, which our drainage analysis was prepared upon.

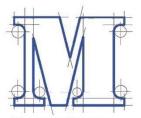
#### PROPOSED DRAINAGE

The storm drainage analysis uses the 3 inch/hour storm event with 60 minutes of storm duration as the design storm to compute the required storage volume. The proposed site will have increased runoff due to impervious coverage from the new pool, patio, and driveway modification.

Based on the calculations, the required storage volume is 648 cubic feet. The total storage provided by the three (3) proposed seepage pits to accommodate stormwater runoff is 804 cubic feet. Therefore, the design meets the stormwater quantity control regulations.

Refer to the appendix for calculations regarding the above data.

## **APPENDIX**



# MCNALLY, DOOLITTLE ENGINEERING, LLC ENGINEERING • SURVEYING • PLANNING

169 RAMAPO VALLEY ROAD , SUITE 1 OAKLAND, NJ 07436 TEL: 201.337.9051 FAX: 201.337.3391 WWW.MCNALLYENG.COM

31 Union Avenue Cresskill, NJ 07626 Tel: 201.266.8260

MANAGING PARTNERS

MATTHEW A GRECO, P.E.

JOHN A. GALDI, R.E.H.S.

DOUGLAS W. DOOLITTLE, P.E., L.S., P.P.

12/20/2021

Job: Marrow - 21060 Calculated By: EVA

#### **STORMWATER RUNOFF CALCULATIONS**

Intensity = 3 inches/hour Duration = 60 minutes Increase in impervious coverage = 2,674 ft $^3$ , 0.06 Ac. A=0.06ac Q= CIA = (0.99) \* (3in/hr) \* (0.06 ac.)= 018 ft $^3$ /sec One hour of storage = 0.18ft $^3$ /sec \* 3,600s = **648ft^3 required** 

3' 6" Lo-profile seepage pit:

 $\pi (3.67')^2(3') = 127ft^3$ 

Stone underneath pit: n= 0.4 (40% void ratio)

0.5 \* 12' \* 12' \* 0.4= 29ft<sup>3</sup>

Stone around pit:

 $[(12'*12'*3') - (\pi)(4')^2(3')]*0.4 = 112ft^3$ 

Total storage provided =  $127 \text{ ft}^3 + 29 \text{ ft}^3 + 112 \text{ft}^3 = 268 \text{ ft}^3$ 

3 pits = 3 \* 268 ft<sup>3</sup> = 804 ft<sup>3</sup>

### 804 ft<sup>3</sup> >648 ft<sup>3</sup>

Storage provided exceeds storage required

