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

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: Church of the Lord– Alpine PB (the "Applicant")
995 Closter Dock Road: Block 47, Lot 2 and
10 Old Dock Road: Block 48, Lot 1.01 (collectively the "Property")

Dear Ms. Wehmann:

Please be advised this office represents the above Applicant regarding its application before the Alpine Zoning Board of Adjustment seeking to construct a gravel and paved parking lot at the existing Community Center as well as an extension of the existing parking lot located at the Stone Church. To that end, enclosed please find the following for review:

1. Board of Adjustment Application and Rider to the Application/Reasons for Relief 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. Soil Moving Report prepared by Hubschman Engineering, P.A., dated December 31, 2021 (3 copies);
5. 6 Foot Boulder Wall Calculations prepared by Hubschman Engineering, P.A., dated January 3, 2022 (3 copies);
6. Drainage Report prepared by Hubschman Engineering, P.A., dated December 28, 2021 (3 copies); and
7. Site Plan prepared by Hubschman Engineering, P.A., dated June 24, 2021 and last revised as of December 28, 2021 consisting of six (6) sheets (3 copies).

Please be advised the Application Fee and Escrow Fee have been transferred from the Applicant's previous submittal to the Planning Board.

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

Thank you.

Very truly yours,

Gloria Duby

Gloria 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
Church of the Lord
B) The Applicant's mailing address is c/o Matthew Capizzi, Esq.
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) House of Worship

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 Section 9.

SECTION 3 INFORMATION REGARDING THE PROPERTY:

A) The address of the Property is 995 Closter Dock Road & 10 Old Dock Road

B) The location of the Property is approximately 146 feet from the intersection of Old Dock Road and Closter Dock Road.

C) The tax map Block number (s) is Block 47, Lot 2 Block 48, Lot 1.01; the lot number (s) is _____. (See tax bill or deed or call tax office for this information).

D) The zone in which the Property is located is As to Lot 2: R-2B As to Lot 1.01: R-2
(The Zoning Official's Office can help determine this information.

E) The dimensions of the Property are See attached Site Plan.

F) The size of the Property is See attached Site Plan. 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 Closter Dock Road

3) Adjacent to other country land _____

4) Adjacent to a State highway _____

H) Have there been any previous Board of Adjustment or Planning Board hearings involving this Property? YES _____ NO xx

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.

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.

C) NATURE OF APPLICATION, check appropriate items.

1) interpretation of development ordinance or map _____
2) appeal of action of administrative officer _____
3) variance: "C" – variance xx
"D" – use variance xx
"D" – non-use variance _____
4) a. subdivision _____
b. subdivision application to follow _____
5) a. site plan _____
b. site plan application to follow _____
6) waiver of lot to abut street requirement _____
7) exception to the official map _____

D) The proposed use, building, or subdivision is contrary to: (List the specific Articles and Sections of the ordinance from which a variance is ought, the requirement itself and the proposed variation. If additional space is needed, please attach a list to this application.)

Art.	_____	Section	_____	Required	_____	Proposed	_____
Art.	_____	Section	_____	Required	_____	Proposed	_____
Art.	_____	Section	_____	Required	_____	Proposed	_____

See attached Reasons for Relief

SECTION 5. INFORMATION ABOUT EXPERTS:

The following information, although not required; is respectfully requested to enable the Board to facilitate the processing of this application:

A) Applicant's Attorney: Telephone Number 201-266-8300
Name: Matthew G. Capizzi, Esq.
Address: 11 Hillside Ave., 2nd FL, Tenafly, New Jersey 07670

B) Applicant's Engineer: Telephone Number 201-384-5666
Name: Hubschman Engineering, P.A.
Address: 263A S. Washington Avenue, Bergenfield NJ

C) Applicant's Architect: Telephone Number N/A
Name: _____
Address: _____

D) Applicant's Planner: Telephone Number (201) 485-3365
Name: Brigette Bogart, P.P.
Address: 47 South Franklin Turnpike, Ramsey NJ 07446

E) Other Experts: Telephone Number
_____
Name: _____
Address: _____

SECTION 6 INFORMATION ABOUT REQUIRED EXHIBITS

A "complete application" requires the following submissions.

Please check if item is submitted with this form:

A) ✔ Copies of this application
B) ✔ Plot plans.
C) ✔ Copies of 200-foot radius map.
D) _____ Copy of "authorized" application form if Applicant is not the property's owner.
E) ✔ List of property owners within 200 feet of the Property.
F) _____ 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).

(Note: The above submissions must be prepared and submitted in a accordance with Zoning Board instructions number(s) _____
_____.

SECTION 7 NOTICE:

Applicant is responsible to publish and serve notice of this application in accordance with Zoning Board instruction number _____: however, notice may not be effected until this application is certified as complete by:
Borough Engineer _____
Board Attorney _____

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.

1/5/2022
Date

Applicant's Signature

B) OWNER'S AUTHORIZATION

I hereby certify that I reside at _____ in the County of _____, and State of _____ and that I am the owner of all that certain lot, piece or parcel of land known as Block(s) _____ Lot(s) _____ on the Tax Map of _____, which property is the subject of the above application, and that said application is hereby authorized by me.

1/5/2022
Date

Owner's Signature

CAPIZZI LAW OFFICES

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Tenafly, NJ 07670
MATTHEW G. CAPIZZI, ESQ. 201 266 8300 (o)
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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**
Church of the Lord – Alpine ZBA (the "Applicant")
Block 47, Lot 2 (the "Stone Church Property") & Block 48, Lot 1.01 (the "Community Center Property")

Dear Members of the Board:

The Property consists of two lots, both of which have been historically used to operate a house of worship with ancillary community center and pastor's manse. Formerly the property was used by the Alpine Community Church. The Property was sold to the Church of the Lord who continues to use the Property as a House of Worship, Community Center and Pastor's Manse.

Lot 1.01, in Block 48 - the "Community Center Parcel"

Lot 1.01, in Block 48 is a corner lot with frontage along the Easterly side of Old Dock Road and the Southerly Side of Closter Dock Road, is located in the Borough R-2 Zone and is improved with the community center and pastor's manse (the "Community Center Parcel"). The Community Center Property does not provide any off street parking.

The Applicant proposes to improve the Community Center Property by creating a parking area along the Southerly side of the community center building that will accommodate twenty-four (24) vehicles. This parking area will be accessed by way of a two-way drive aisle along Old Dock Road. No improvements are proposed to the Community Center or Pastor's Manse.

Lot 2, in Block 47 – the Church Parcel

Lot 2, in Block 47 is a corner lot with frontage along the Westerly side of Old Dock Road and Southerly side of Closter Dock Road, is located in the Borough's R-2B Zone, and is improved with a Church, burial ground and parking area for approximately twenty (20) vehicles.

The Applicant proposes to improve the Church Parcel by way of expanding the existing parking area to provide an additional twenty-two (22) spaces.

"D-3" Variance Relief – to permit deviations from specific standards set forth in Section 220-10 of the Alpine Zoning Ordinance.

A House of Worship is a permitted "conditional" use in both the R-2 and R-2B Zones, subject to certain conditions set forth in Section 220-10 of the Alpine Zoning Ordinance.

The Community Center Parcel.

The Community Center Parcel, with its existing improvements, does not comply with the following requirements of Section 220-10:

- Min Lot Width: 450' Req. v. 263.2 Existing
- Min. Lot Depth: 450' Req. 308.4' Existing
- Min. Front Yard Setback (Closter Dock): 200' Req. v. 55.60' Existing
- Min. Front Yard Setback (Old Dock Rd.): 200' Req. v. 24.50' Existing
- Min. Rear Yard Setback: 200' Req. v. 101.9' Existing
- Traffic Access to be from 9W Req. v. Access from Old Dock Road Existing
- Min. Off Street Parking: 30 Spaces Req. v. 0 Existing

The improvements proposed as the Community Center Parcel will not exacerbate any of the existing legal non-conforming conditions. In fact, the improvements will reduce the non-conforming condition as to off street parking by providing 24 paring spaces where presently none exist. Moreover, the forty-two spaces at the Church Parcel will be available for parking for events that the Community Center for a total of sixty-six (66) parking spaces, more than thirty-six(36) additional parking spaces.

The Church Parcel.

The Church Parcel, with its existing improvements, does not comply with the following requirements of Section 220-10:

- Max. Improved Coverage: 25% v. 27.67% Existing
- Min Lot Width: 450' Req. v. 170.30 Existing
- Min. Lot Depth: 450' Req. 201.3' Existing
- Min. Front Yard Setback (Closter Dock): 200' Req. v. 49.35' Existing
- Min. Front Yard Setback (Old Dock Rd.): 200' Req. v. 51.75' Existing
- Mi. Side Yard Setback: 100' Req. v. 70.10' Existing
- Min. Rear Yard Setback: 200' Req. v. 96.30' Existing

- Min Buffer Abutting Res. Use: 100' Req. v. 3' Existing
- Traffic Access to be from 9W Req. v. Access from Old Dock Road Existing
- Min. Off Street Parking: 42 Spaces Req. v. 20 Existing

The improvements proposed as the Church Parcel will exacerbate the non-conforming minimum buffer to the residential property to the North. Presently there isn't an appreciable buffer along the Northerly Property line as the exiting parking area is within 3' of the property line. The expansion of the parking area will follow roughly the same setback.

However, the improvements will eliminate the non-conforming condition as to off-street parking by providing twenty-two additional stalls for a total of forty-two (42) spaces where forty-two (42) are required. Additionally, those attending church services will have use of the parking area at the Community Center Parcel, providing a total of sixty-six (66) parking spaces combined at both parcels.

Variance Relief Summary

A House of Worship is an inherently beneficial use. Therefore, the positive criterion relative to the variance proofs is presumptively satisfied. The matter is limited to the impact the variance grant will have on the neighborhood. The positives resulting from the expanded and newly created parking areas, by keep vehicles off the roadway and on the Church and/or Community Center Property, far outweigh any negatives. The slight expansion of the buffer disturbance and improved coverage variance at the Church Property will not have any substantial negative impact upon the neighborhood. The parking area at the Community Center Parcel is located in between the Community Center Building and the Pastor's Manse. Therefore, this parking area will have no effect on the neighborhood.

Therefore, we request the application be granted.

Respectfully Submitted,

Matthew G. Capizzi, Esq.

MGC/gd

Photo Exhibit

Church of the Lord

995 Closter Dock Road

Block: 47, Lot: 2

&

10 Old Dock Road

Block: 48, Lot: 1.01

Existing Parking Area at Stone Church Property to be expanded

Location of Proposed Parking Area at Community Center

SOIL MOVING REPORT

PROPOSED PARKING LOT & SITE IMPROVEMENTS
ALPINE COMMUNITY CHURCH
LOT 1.01, BLOCK 48
LOT 2, BLOCK 47
BOROUGH OF ALPINE
BERGEN COUNTY, NEW JERSEY
(FILE # 3882)

PREPARED ON:

December 31, 2021

PREPARED FOR:

APPLICANT
Alpine M E Church
Closter Dock Road
Alpine, New Jersey 07620

MICHAEL J. HUBSCHMAN, P.C.
MICHAEL J. HUBSCHMAN, P.E., P.P.
PROFESSIONAL ENGINEER AND PLANNER
263A SOUTH WASHINGTON AVENUE
BERGENFIELD, NEW JERSEY 07621
PHONE: 201-384-5666

NJPE No. 29497 NJPP No. 3200

CONCLUSION:

The proposed parking lot and site improvements at Alpine Community Church in the Borough of Alpine, Bergen County, New Jersey will result in a net import of soil during construction. Based on the current site plans and the attached cross sections, an estimated 1,613 cubic yards of soil materials will need to be imported to the project site.

	Cut (CY)
LOT 1.02	2
LOT 2	11
TOTAL	13

	Fill (CY)
LOT 1.02	1,490
LOT 2	136
TOTAL	1,626

Quantity of Soil to Be Imported To Site (CY)
1,613

LOT 1.01: SOIL MOVIING CALC'S:

CUT	Cut (SF)	Average (SF)	Distance (FT)	Volume (CF)
0+00 N	0			
		0.00	26	0.00
0+26 S	0			
0+26 N	0			
		0.00	30	0.00
0+56 S	0			
0+56 N	0			
		1.50	29	43.50
0+85 S	3			
0+85 N	0			
		0.00	15	0.00
1+00 S	0			
			Total	43.50 ≈ 2 CY

FILL	Fill (SF)	Average (SF)	Distance (FT)	Volume (CF)
0+00 N	21			
		284.00	26	7,384.00
0+26 S	547			
0+26 N	646			
		590.50	30	17,715.00
0+56 S	535			
0+56 N	535			
		433.50	29	12,571.50
0+85 S	332			
0+85 N	221			
		171.50	15	2,572.50
1+00 S	122			
			Total	40,243.00 ≈ 1,490 CY

LOT 2: SOIL MOVIING CALC'S:

CUT	Cut (SF)	Average (SF)	Distance (FT)	Volume (CF)
0+00 N	0			
		0.00	12	0.00
0+12 S	0			
0+12 N	0			
		5.50	53	291.50
0+65 S	11			
			Total	291.50 ≈ 11 CY

FILL	Fill (SF)	Average (SF)	Distance (FT)	Volume (CF)
0+00 N	118			
		99.50	12	1,194.00
0+12 S	81			
0+12 N	81			
		47.00	53	2,491.00
0+65 S	13			
			Total	3,685.00 ≈ 136 CY

6 FOOT BOULDER WALL CALCULATIONS

PROPOSED PARKING
ALPINE COMMUNITY CHURCH
LOT 1.01, BLOCK 48
LOT 2, BLOCK 47
BOROUGH OF ALPINE
BERGEN COUNTY, NEW JERSEY
(Our Job# 3882)

PREPARED ON :

January 3, 2022

PREPARED FOR:

Alpine M.E. Church
Closter Dock Road
Alpine, NJ 07620

MICHAEL J. HUBSCHMAN, P.C.

MICHAEL J. HUBSCHMAN, P.E., P.P.
PROFESSIONAL ENGINEER AND PLANNER
263 A SOUTH WASHINGTON AVE
BERGENFIELD, NJ 07621

NJPE No. 29497 NJPP No. 3200

6 FT HIGH BOULDER RETAINING WALL

H_1 = 8.0 ' TOTAL HEIGHT OF STRUCTURE FROM BASE TO TOP
H_2 = 6.0 ' HIGH STONE WALL (EXPOSED HEIGHT)
H_3 = 2.0 ' EMBEDMENT DEPTH
l_1 = 3.0 ' THICK AT TOP OF WALL
l_2 = 4.5 ' THICK AT BOTTOM OF WALL

DESIGN PARAMETERS

γ soil = 115 pcf $\phi = 30°$
γ rock = 135 pcf

H = 6.0 ' + 2.0 ' = 8.0

Back Slope = 3 Horiz/1 Vert
β = 18 ° max

Assume case 2, $\phi = 30°$, $\beta = 18°$
K_h = 40 psf/ft From Figure 26.9 pg 425 Foundation Engineering, Peck
K_v = 10 psf/ft From Figure 26.9 pg 425 Foundation Engineering, Peck

HORIZONTAL FORCE P_{AH} ACTING ON SOIL SIDE

$P_{AH} = (0.5)(H^2)(K_h)$ From Figure 26.9 Foundation Engineering, Peck
= 0.5 x 8.0 ft^2 x 40 psf/ft
= 1280 plf

VERTICAL FORCE P_{AV} ACTING ON SOIL SIDE

$P_{AV} = (0.5)(H^2)(K_v)$
= 0.5 x 8.0^2 x 10 psf/ft
= 320 plf

OVERTURNING MOMENT

$M_o = (P_{AH})(H/3)$
= 1280 plf x 8.0 ft / 3
= 3,413 ft-lbs

WEIGHT OF WALL

Rectangular Section:

W_R = THICKNESS X H x γ rock
= 3.0 x 8.0 ft x 135 pcf
= 3,240 plf

Triangular Section:

W_T = ½ x THICKNESS X H x γ rock
= 0.5 x 1.5 ft x 8.0 ft x 135 pcf
= 810 plf

Wall Weight

W_W = Rectangular Section + Triangular Section
= 3240 plf + 810 plf
= 4,050 plf

RIGHTING MOMENT

Note: Passive soil force neglected to be conservative

M_R = Moment due to Rectangular Section of Wall + Moment due to Triangular Section of Wall + Moment due to vertical component of earth pressure from backslope.
= 3,240 plf x 3.0 ft + 810 plf x 1.00 ft + 320 plf x 4.5 ft
= 11,970 ft-lbs/ft

FACTOR OF SAFETY AGAINST OVERTURNING

$F.S. = \frac{M_R}{M_o}$ Note: Passive soil force neglected to be conservative

= 11,970 ft-lbs/ft
3,413 ft-lbs/ft
= 3.51 > 2.0 OK

SLIDING

F_H = P_{AH}
= 1,280 plf

F_f = $N\mu$ μ = 0.48-0.50 use 0.49
= $(W_W + P_{AV})$ x 0.49
= (4,050 plf + 320 plf) x 0.49
= 2,141 plf

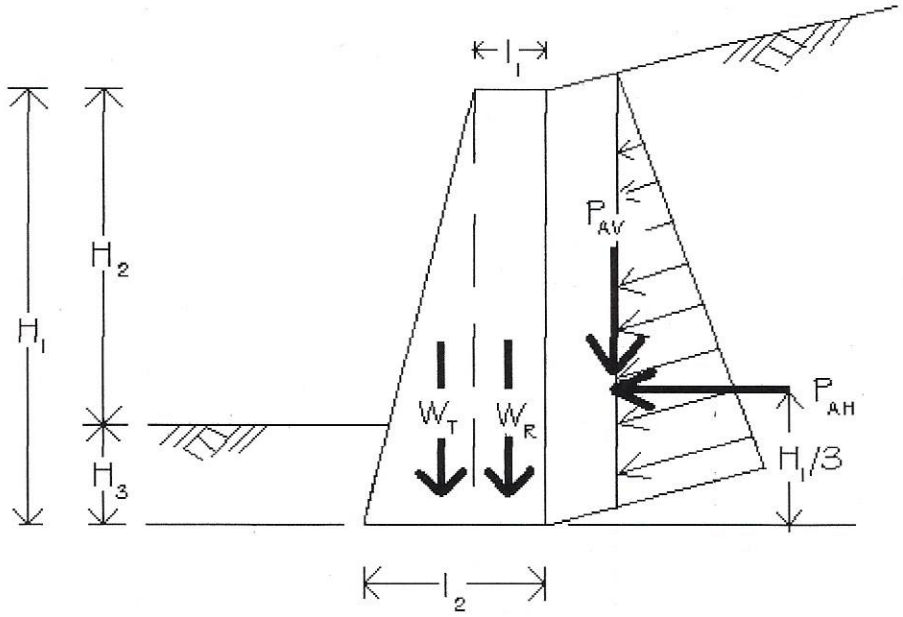
FACTOR OF SAFETY AGAINST SLIDING

$F.S. = \frac{F_f}{F_H}$

= 2,141 plf / 1,280 plf
= 1.67 > 1.5 OK

BEARING

= (Ww + Pav)/ BASE WIDTH
= (4,050 plf + 320 plf) / 4.5 ft^2
= 971 psf < 2000 OK


l_1
P_{AV}
H_2
H_1
W_T
W_R
P_{AH}
H_3
$H_1/3$
l_2

DRAINAGE REPORT

ALPINE COMMUNITY CHURCH
CLOSTER DOCK ROAD
LOT 1.01, BLOCK 48; LOT 2 BLOCK 47
BOROUGH OF ALPINE
BERGEN COUNTY, NEW JERSEY
(FILE # 3882)

PREPARED ON:

December 28, 2021

PREPARED FOR:

APPLICANT
Alpine M E Church
Closter Dock Road
Alpine, New Jersey 07620

MICHAEL J. HUBSCHMAN, P.C.
MICHAEL J. HUBSCHMAN, P.E., P.P.
PROFESSIONAL ENGINEER AND PLANNER
263 A SOUTH WASHINGTON AVENUE
BERGENFIELD, NEW JERSEY 07621

NJPE No. 29497 NJPP No. 3200

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Annual Recharge Analysis Calculations	4.1 to 4.5

APPENDIX 1:

- Location Data
- Site Location and Soil Type Map
- Time of Concentration (Tc) Nomograph
- Typical Runoff Coefficients Table
- IDF Curves and Tabulation

INTRODUCTION:

This report has been developed to demonstrate compliance of the proposed drainage improvements on the project site with the Borough of Alpine Stormwater Control Ordinance and the NJDEP Stormwater Management Regulations. This project does not qualify as a major project under both of the above listed regulations because it proposes less than one acre of overall land disturbance and less than ¼ acre (10,754 sf) of net new increase of impervious surface coverage for both lots combined.

The project site is a Community Church comprised of 2-lots, consisting of a 124,822 square foot (2.86 acre) lot located along the Old Dock Road in the Borough of Alpine, Bergen County, New Jersey. The applicant proposes site improvements that include two parking lot expansions, 18-parking spaces for 5 Old Dock Road and 25-parking spaces for 995 Old Dock Road.

EVALUATION:

The development areas of both lots were analyzed utilizing HydroCAD computer model based the Modified Rational Method for NJDEP Water Quality design storm, quantity for 2, 10, 25 and 100-year design storms and groundwater recharge.

CONCLUSIONS:

In accordance with the RSIS requirements, the Storage provided for the Water Quality is designed to handle runoff and reduce peak flow discharge for the proposed parking areas of both lots. The proposed stone layers of 12 in thick crushed stone under the previous paving systems meets the water quality volume and minimum groundwater recharge criteria. The stormwater treatment system for the new parking area, consists of a pervious paving system that provide a Total Suspended Solids (TSS) removal rate of 80% and is considered to be a green infrastructure. Except the 100-year for the parking area proposed for the site located at 5 Old Dock Road, the peak runoffs for both parking areas will decrease as a result of construction as shown in the summary tables that follow:

STORMWATER MANAGEMENT SUMMARY (No. 995 Old Dock Road)

Design Storm	Pre development Developed Parking Area Runoff (cfs)	Post Development Parking Area Surface Runoff (cfs)
2 yr.	0.26	**0.00**
10 yr.	0.35	**0.00**
25 yr.	0.41	**0.00**
100 yr.	0.49	**0.40**

STORMWATER MANAGEMENT SUMMARY (No. 5 Old Dock Road)

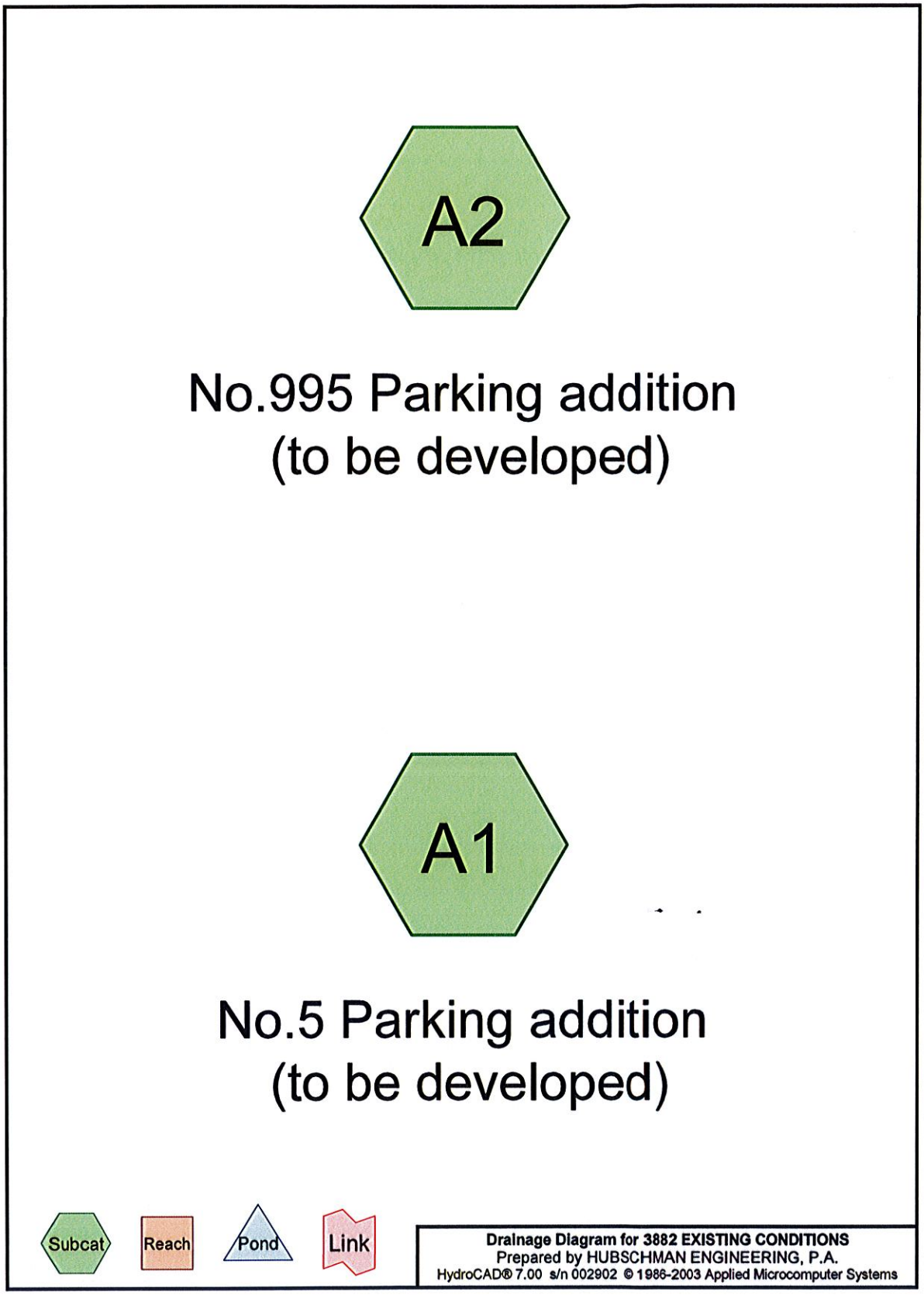
Design Storm	Pre development Developed Parking Area Runoff (cfs)	Post Development Parking Area Surface Runoff (cfs) [1]
2 yr.	0.41	**0.00**
10 yr.	0.57	**0.08**
25 yr.	0.66	**0.52**
100 yr.	0.78	**0.93**

(1) Discharge to Hudson River Watershed.

SECTION 1

EXISTING CONDITIONS

HydroCAD Model Report – Existing Conditions


A2
No.995 Parking addition
(to be developed)
A1
No.5 Parking addition
(to be developed)
Subcat
Reach
Pond
Link
Drainage Diagram for 3882 EXISTING CONDITIONS
Prepared by HUBSCHMAN ENGINEERING, P.A.
HydroCAD® 7.00 s/n 002902 © 1986-2003 Applied Microcomputer Systems

3882 EXISTING CONDITIONS *nj-dep 2-Year Duration=10 min, Inten=4.20 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 2

Subcatchment A1: No.5 Parking addition (to be developed)

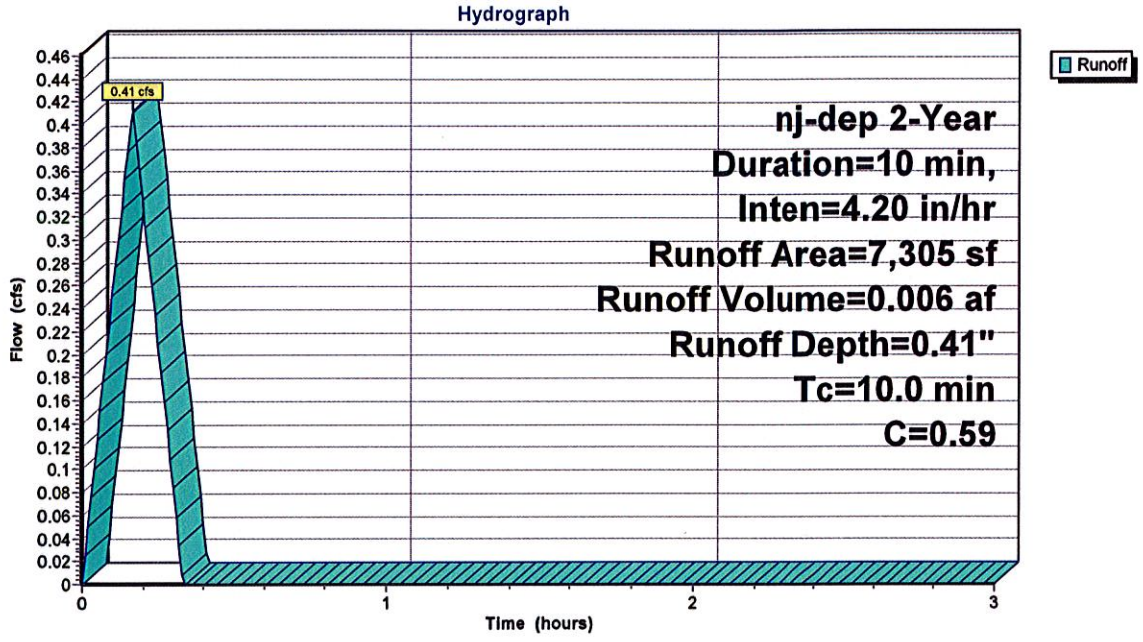
Runoff = 0.41 cfs @ 0.17 hrs, Volume= 0.006 af, Depth= 0.41"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
nj-dep 2-Year Duration=10 min, Inten=4.20 in/hr

Area (sf)	C	Description
7,305	0.59	Wood or Forest Land HSG C

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

Subcatchment A1: No.5 Parking addition (to be developed)



3882 EXISTING CONDITIONS *nj-dep 2-Year Duration=10 min, Inten=4.20 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 3

Subcatchment A2: No.995 Parking addition (to be developed)

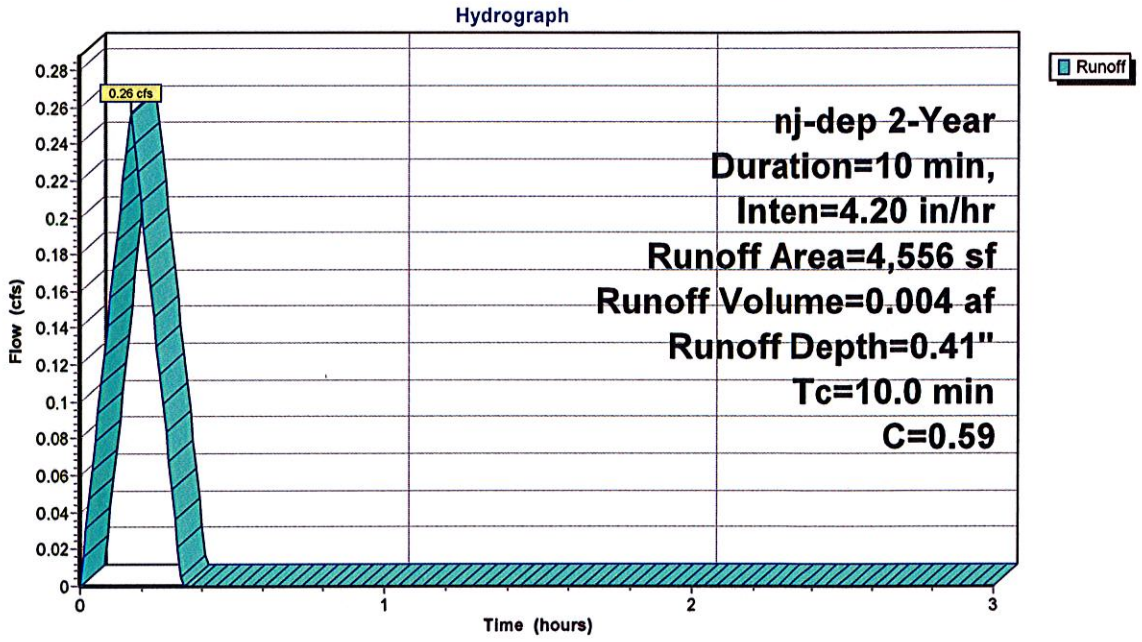
Runoff = 0.26 cfs @ 0.17 hrs, Volume= 0.004 af, Depth= 0.41"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
nj-dep 2-Year Duration=10 min, Inten=4.20 in/hr

Area (sf)	C	Description
4,556	0.59	Wood or Forest Land, HSG C

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

Subcatchment A2: No.995 Parking addition (to be developed)



3882 EXISTING CONDITIONS *nj-dep 10-Year Duration=10 min, Inten=5.80 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 4

Subcatchment A1: No.5 Parking addition (to be developed)

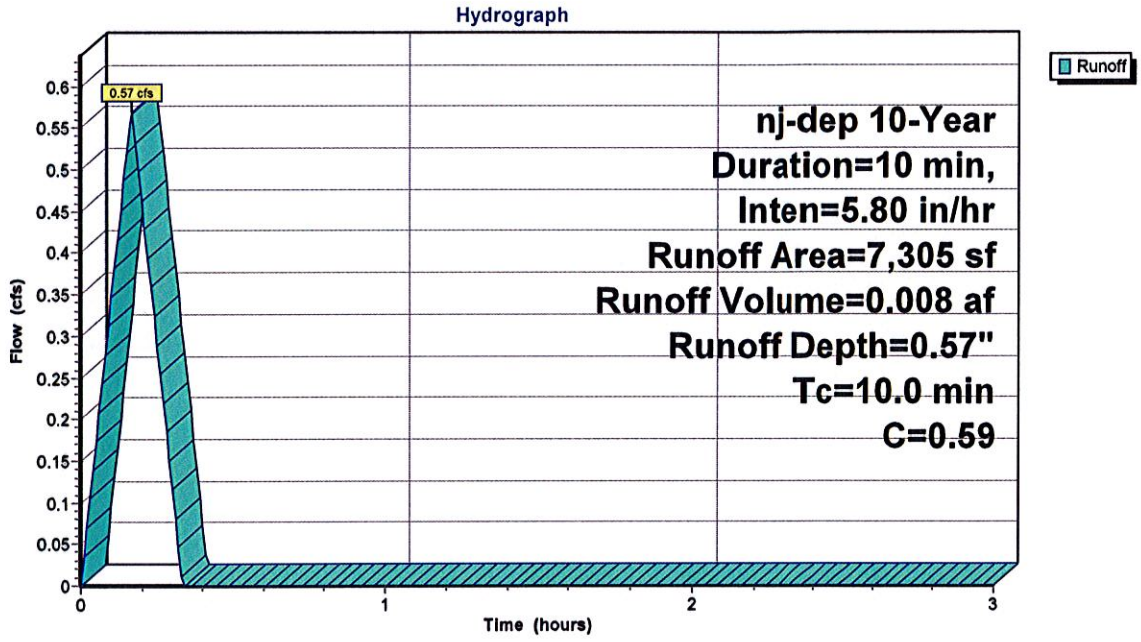
Runoff = 0.57 cfs @ 0.17 hrs, Volume= 0.008 af, Depth= 0.57"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
nj-dep 10-Year Duration=10 min, Inten=5.80 in/hr

Area (sf)	C	Description
7,305	0.59	Wood or Forest Land HSG C

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

Subcatchment A1: No.5 Parking addition (to be developed)



3882 EXISTING CONDITIONS *nj-dep 10-Year Duration=10 min, Inten=5.80 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 5

Subcatchment A2: No.995 Parking addition (to be developed)

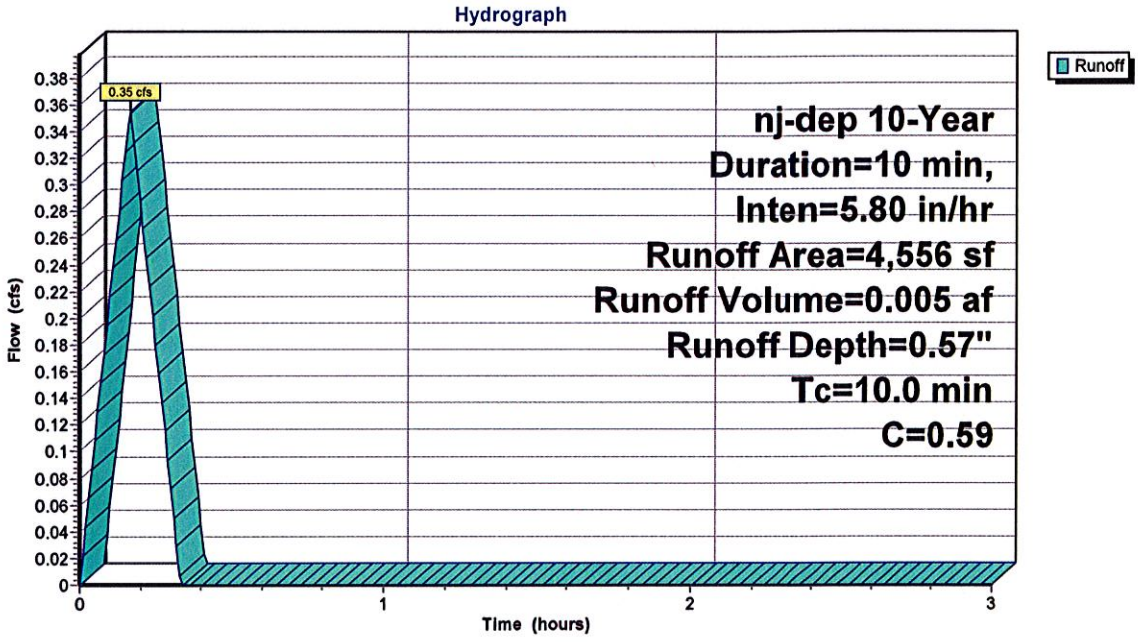
Runoff = 0.35 cfs @ 0.17 hrs, Volume= 0.005 af, Depth= 0.57"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
nj-dep 10-Year Duration=10 min, Inten=5.80 in/hr

Area (sf)	C	Description
4,556	0.59	Wood or Forest Land, HSG C

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

Subcatchment A2: No.995 Parking addition (to be developed)



3882 EXISTING CONDITIONS *nj-dep 25-Year Duration=10 min, Inten=6.70 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 6

Subcatchment A1: No.5 Parking addition (to be developed)

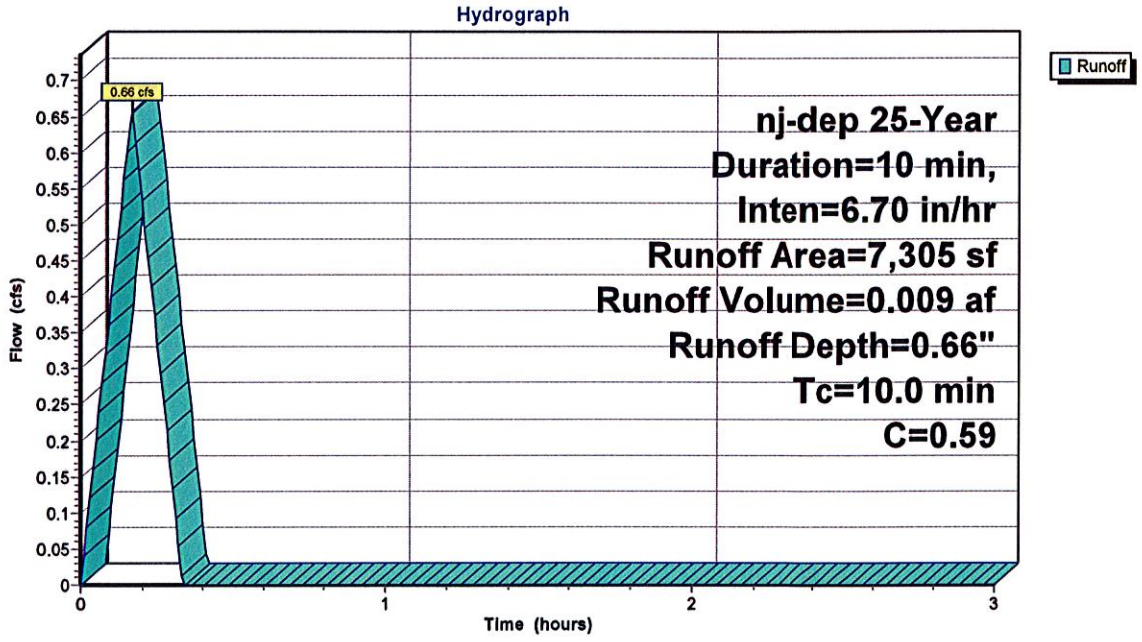
Runoff = 0.66 cfs @ 0.17 hrs, Volume= 0.009 af, Depth= 0.66"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
nj-dep 25-Year Duration=10 min, Inten=6.70 in/hr

Area (sf)	C	Description
7,305	0.59	Wood or Forest Land HSG C

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

Subcatchment A1: No.5 Parking addition (to be developed)



3882 EXISTING CONDITIONS *nj-dep 25-Year Duration=10 min, Inten=6.70 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 7

Subcatchment A2: No.995 Parking addition (to be developed)

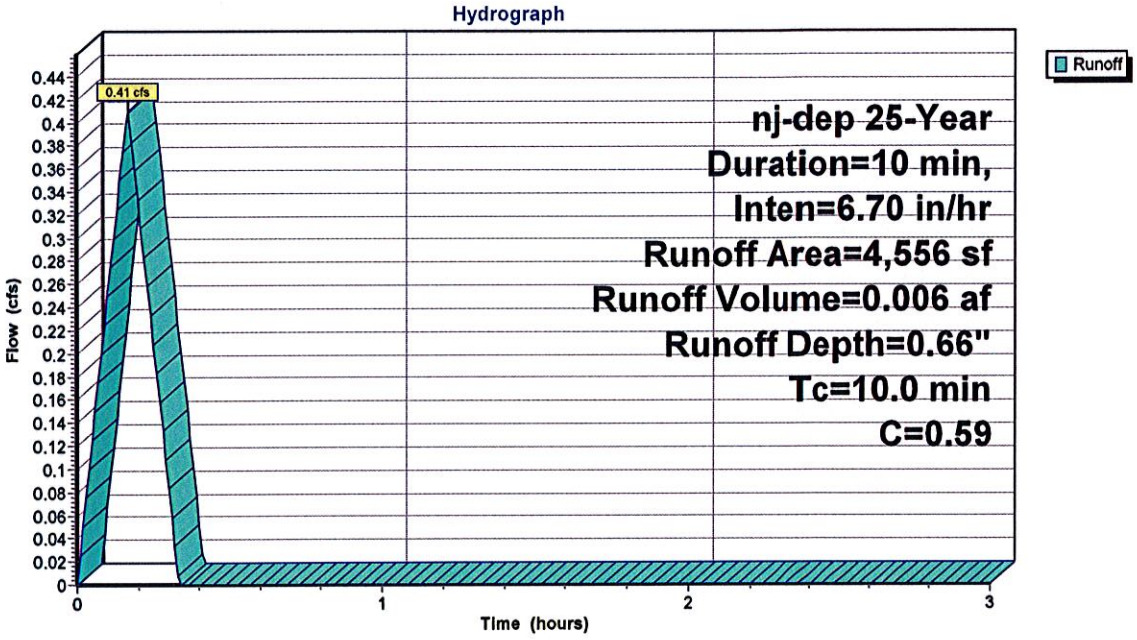
Runoff = 0.41 cfs @ 0.17 hrs, Volume= 0.006 af, Depth= 0.66"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
nj-dep 25-Year Duration=10 min, Inten=6.70 in/hr

Area (sf)	C	Description
4,556	0.59	Wood or Forest Land, HSG C

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

Subcatchment A2: No.995 Parking addition (to be developed)



3882 EXISTING CONDITIONS *nj-dep 100-Year Duration=10 min, Inten=8.00 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 8

Subcatchment A1: No.5 Parking addition (to be developed)

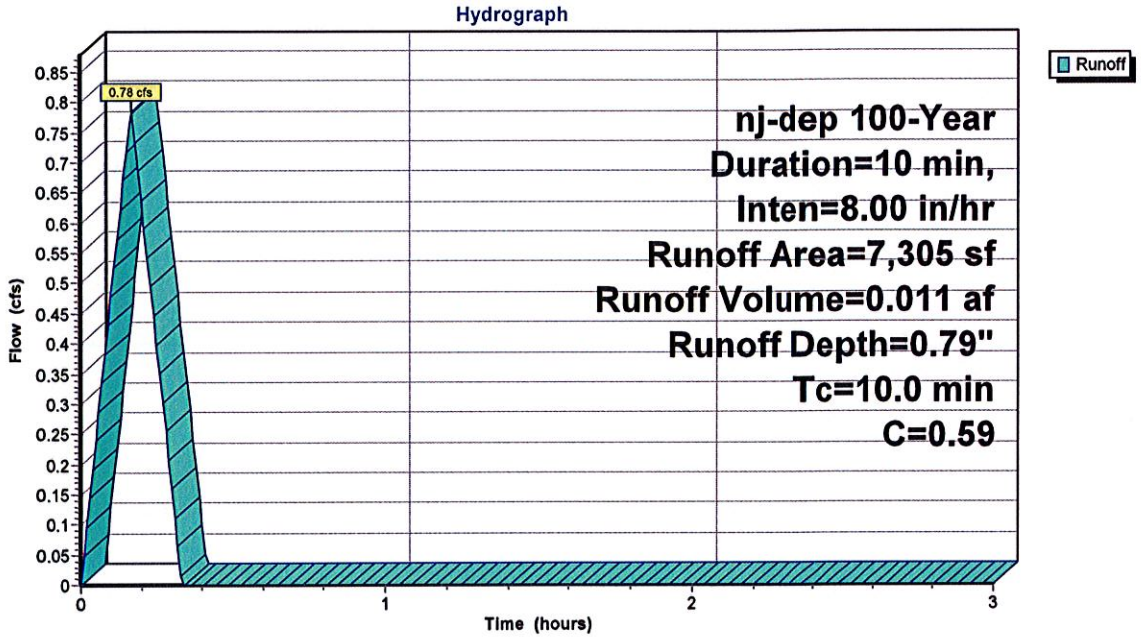
Runoff = 0.78 cfs @ 0.17 hrs, Volume= 0.011 af, Depth= 0.79"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
nj-dep 100-Year Duration=10 min, Inten=8.00 in/hr

Area (sf)	C	Description
7,305	0.59	Wood or Forest Land HSG C

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

Subcatchment A1: No.5 Parking addition (to be developed)



3882 EXISTING CONDITIONS *nj-dep 100-Year Duration=10 min, Inten=8.00 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 9

Subcatchment A2: No.995 Parking addition (to be developed)

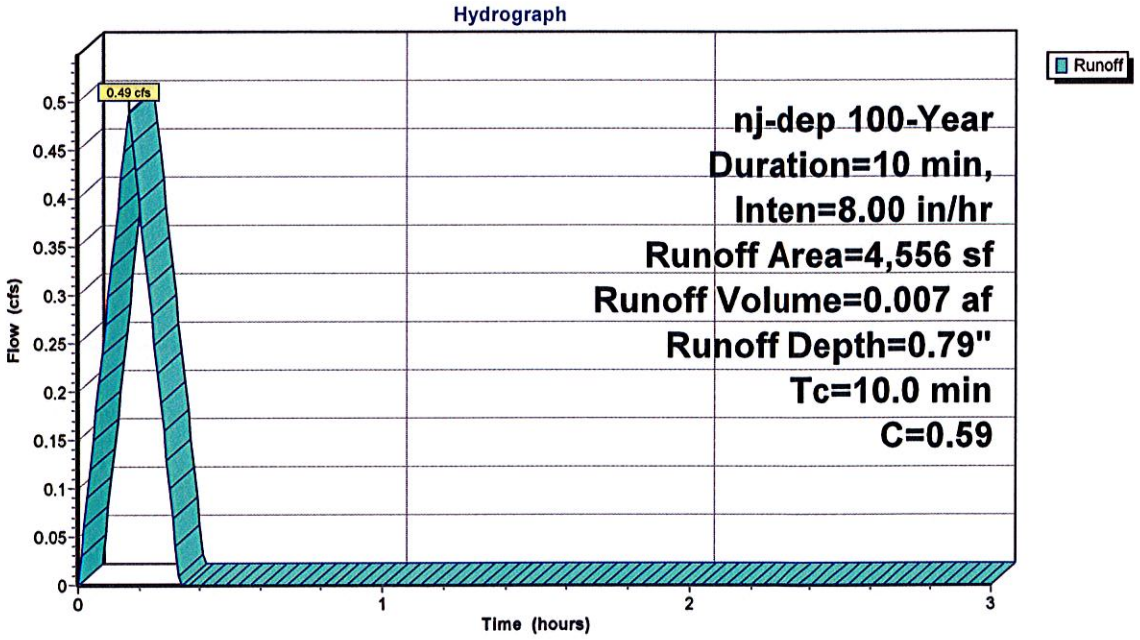
Runoff = 0.49 cfs @ 0.17 hrs, Volume= 0.007 af, Depth= 0.79"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
nj-dep 100-Year Duration=10 min, Inten=8.00 in/hr

Area (sf)	C	Description
4,556	0.59	Wood or Forest Land, HSG C

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

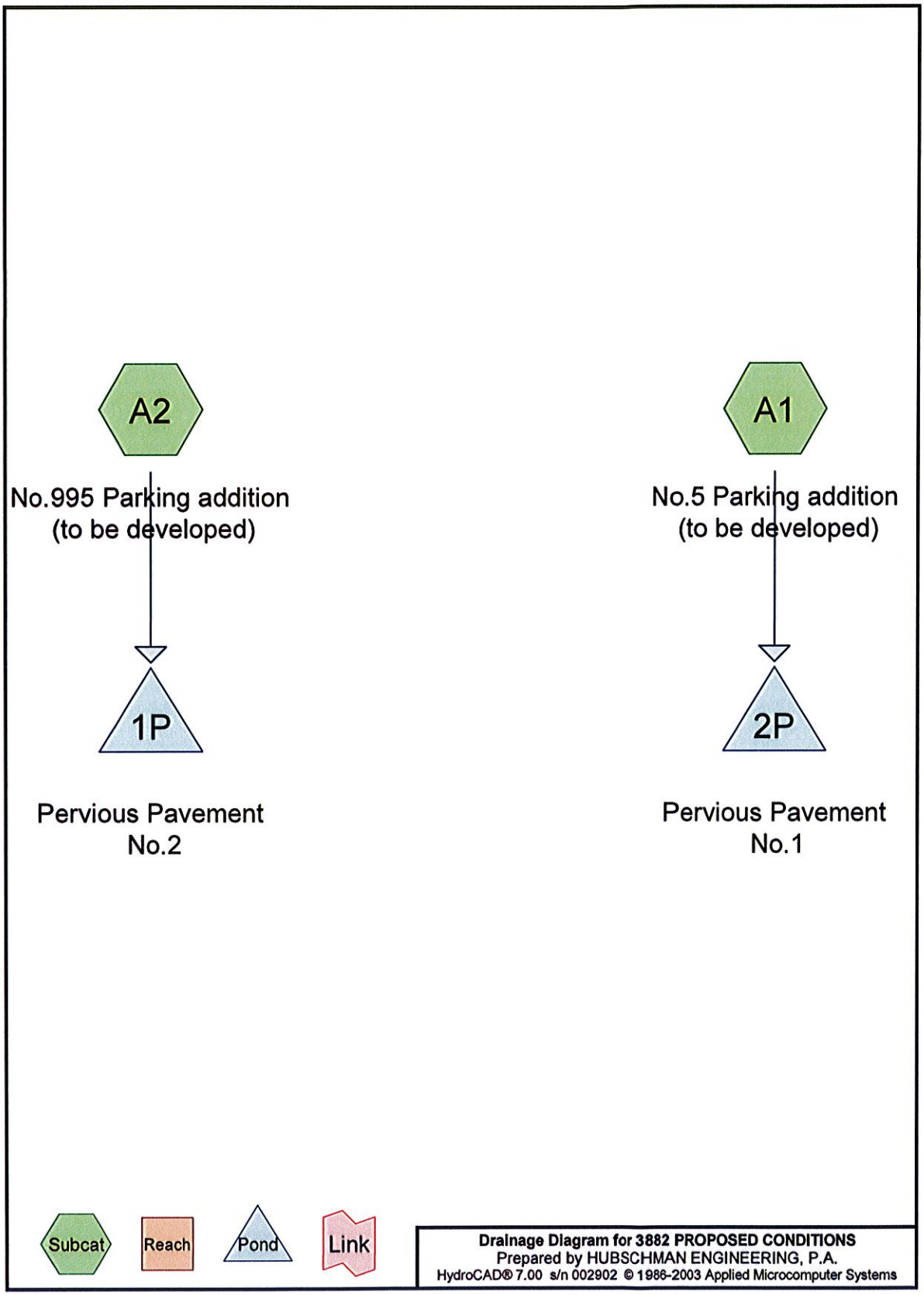
Subcatchment A2: No.995 Parking addition (to be developed)



SECTION 2

PROPOSED CONDITIONS

HydroCAD Model Report – Proposed Conditions


A2
No.995 Parking addition
(to be developed)
1P
Pervious Pavement
No.2
A1
No.5 Parking addition
(to be developed)
2P
Pervious Pavement
No.1
Subcat
Reach
Pond
Link
Drainage Diagram for 3882 PROPOSED CONDITIONS
Prepared by HUBSCHMAN ENGINEERING, P.A.
HydroCAD® 7.00 s/n 002902 © 1986-2003 Applied Microcomputer Systems

3882 PROPOSED CONDITIONS *nj-dep Quality Duration=14 min, Inten=2.69 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 2

Subcatchment A1: No.5 Parking addition (to be developed)

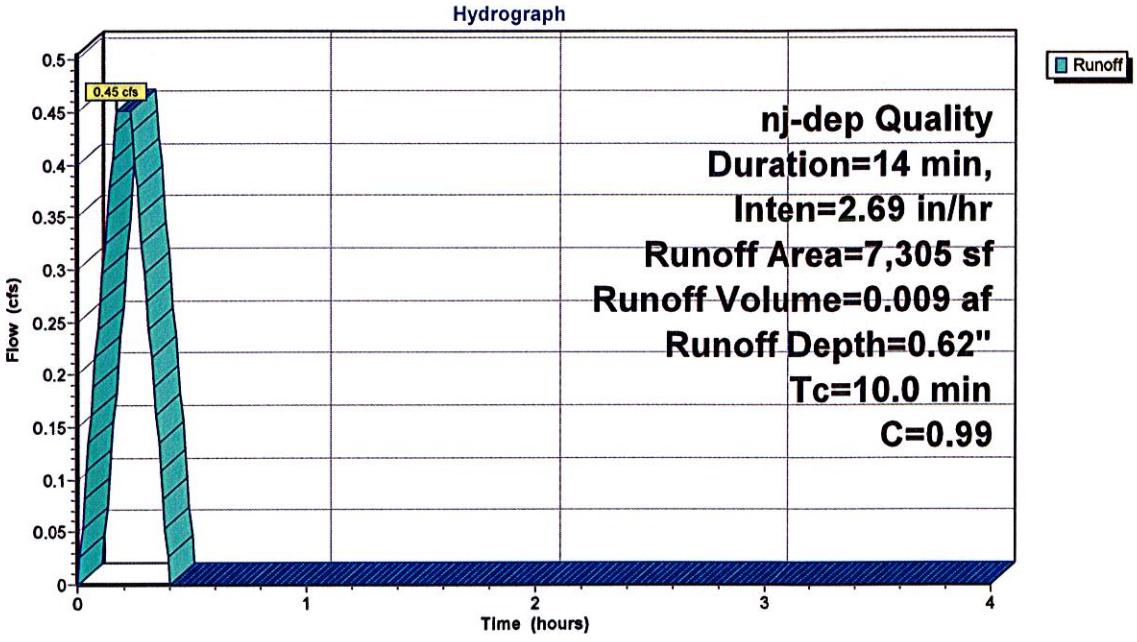
Runoff = 0.45 cfs @ 0.17 hrs, Volume= 0.009 af, Depth= 0.62"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep Quality Duration=14 min, Inten=2.69 in/hr

Area (sf)	C	Description
7,305	0.99	Paved parking & roofs

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

Subcatchment A1: No.5 Parking addition (to be developed)



3882 PROPOSED CONDITIONS *nj-dep Quality Duration=14 min, Inten=2.69 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 3

Subcatchment A2: No.995 Parking addition (to be developed)

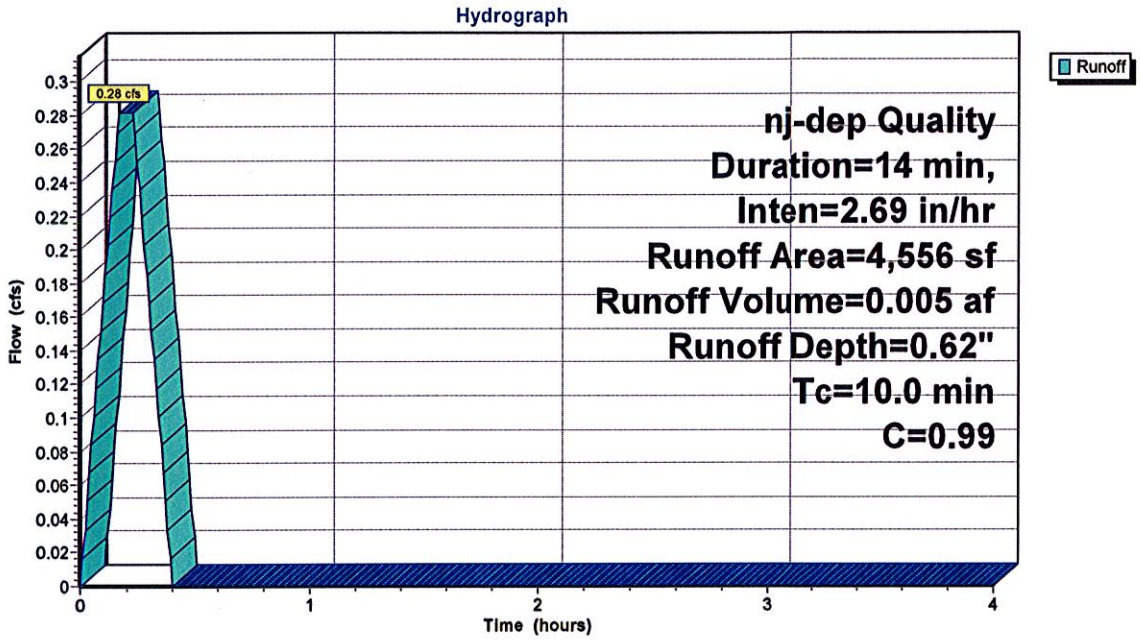
Runoff = 0.28 cfs @ 0.17 hrs, Volume= 0.005 af, Depth= 0.62"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep Quality Duration=14 min, Inten=2.69 in/hr

Area (sf)	C	Description
4,556	0.99	Paved parking & roofs

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

Subcatchment A2: No.995 Parking addition (to be developed)



3882 PROPOSED CONDITIONS *nj-dep Quality Duration=14 min, Inten=2.69 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 4

Pond 1P: Pervious Pavement No.2

Inflow Area =	0.105 ac,	Inflow Depth =	0.62"	for	Quality event
Inflow =	0.28 cfs @	0.17 hrs,	Volume=	0.005 af	
Outflow =	0.07 cfs @	0.09 hrs,	Volume=	0.005 af,	Atten= 76%, Lag= 0.0 min
Discarded =	0.07 cfs @	0.09 hrs,	Volume=	0.005 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 462.25' @ 0.36 hrs Surf.Area= 1,458 sf Storage= 149 cf
Plug-Flow detention time= 18.3 min calculated for 0.005 af (100% of inflow)
Center-of-Mass det. time= 18.5 min (30.5 - 12.0)

#	Invert	Avail.Storage	Storage Description
1	462.00'	583 cf	**18.00'W x 81.00'L x 1.00'H Prismatoid** 1,458 cf Overall x 40.0% Voids

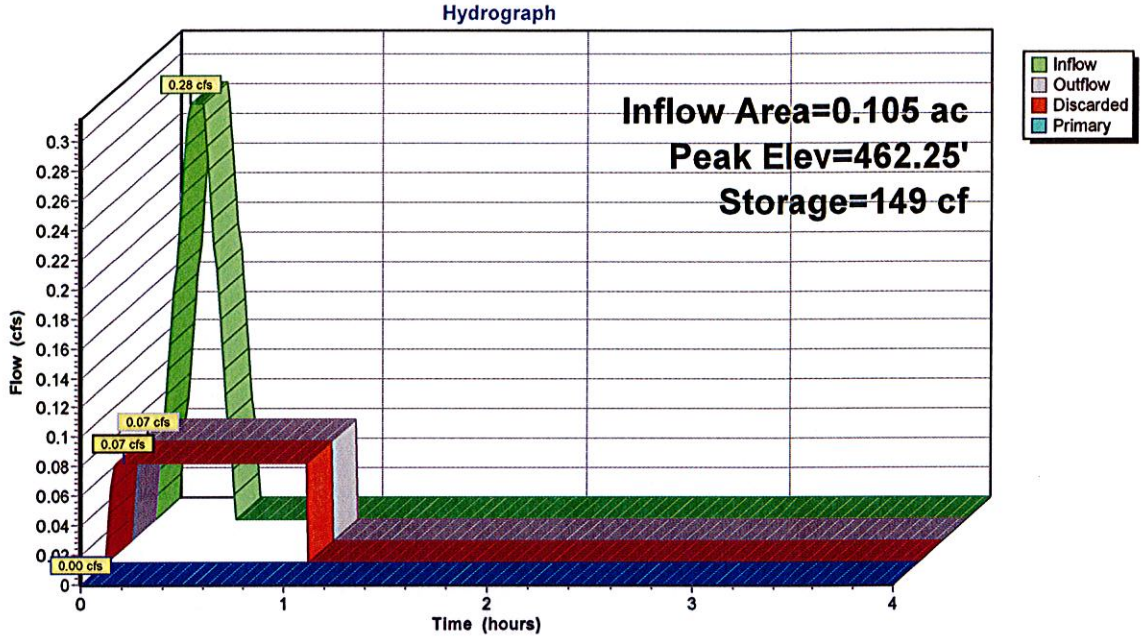
#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	462.75'	**67.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.07 cfs @ 0.09 hrs HW=462.01' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=462.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

3882 PROPOSED CONDITIONS *nj-dep Quality Duration=14 min, Inten=2.69 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 5

Pond 1P: Pervious Pavement No.2



3882 PROPOSED CONDITIONS *nj-dep Quality Duration=14 min, Inten=2.69 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 6

Pond 2P: Pervious Pavement No.1

Inflow Area =	0.168 ac,	Inflow Depth =	0.62"	for	Quality event
Inflow =	0.45 cfs @	0.17 hrs,	Volume=	0.009 af	
Outflow =	0.09 cfs @	0.08 hrs,	Volume=	0.009 af,	Atten= 80%, Lag= 0.0 min
Discarded =	0.09 cfs @	0.08 hrs,	Volume=	0.009 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 456.34' @ 0.37 hrs Surf.Area= 1,920 sf Storage= 261 cf
Plug-Flow detention time= 24.5 min calculated for 0.009 af (100% of inflow)
Center-of-Mass det. time= 24.6 min (36.6 - 12.0)

#	Invert	Avail.Storage	Storage Description
1	456.00'	768 cf	**32.00'W x 60.00'L x 1.00'H Prismatoid** 1,920 cf Overall x 40.0% Voids

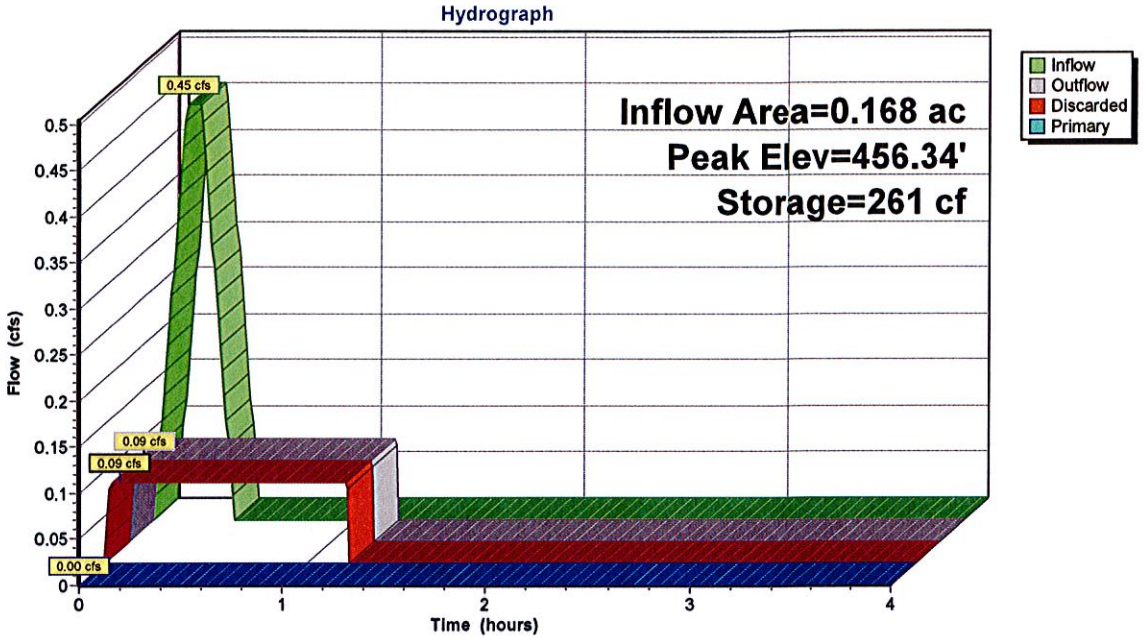
#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	456.75'	**60.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.09 cfs @ 0.08 hrs HW=456.01' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=456.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

3882 PROPOSED CONDITIONS *nj-dep Quality Duration=14 min, Inten=2.69 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 7

Pond 2P: Pervious Pavement No.1



3882 PROPOSED CONDITIONS *nj-dep 2-Year Duration=14 min, Inten=3.70 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 8

Subcatchment A1: No.5 Parking addition (to be developed)

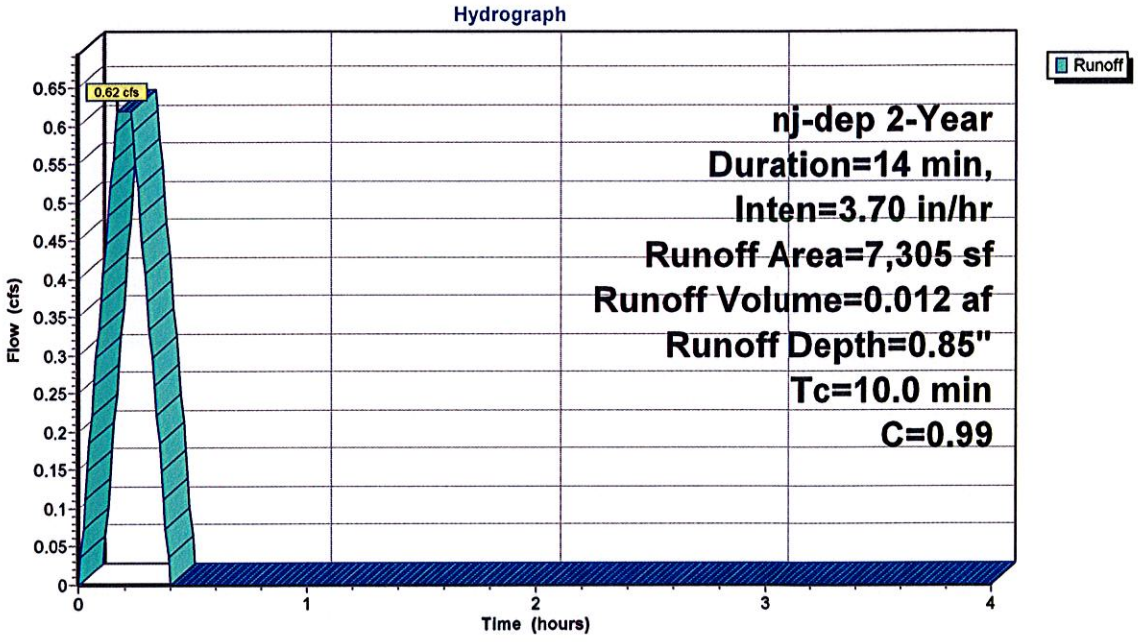
Runoff = 0.62 cfs @ 0.17 hrs, Volume= 0.012 af, Depth= 0.85"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep 2-Year Duration=14 min, Inten=3.70 in/hr

Area (sf)	C	Description
7,305	0.99	Paved parking & roofs

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

Subcatchment A1: No.5 Parking addition (to be developed)



3882 PROPOSED CONDITIONS *nj-dep 2-Year Duration=14 min, Inten=3.70 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 9

Subcatchment A2: No.995 Parking addition (to be developed)

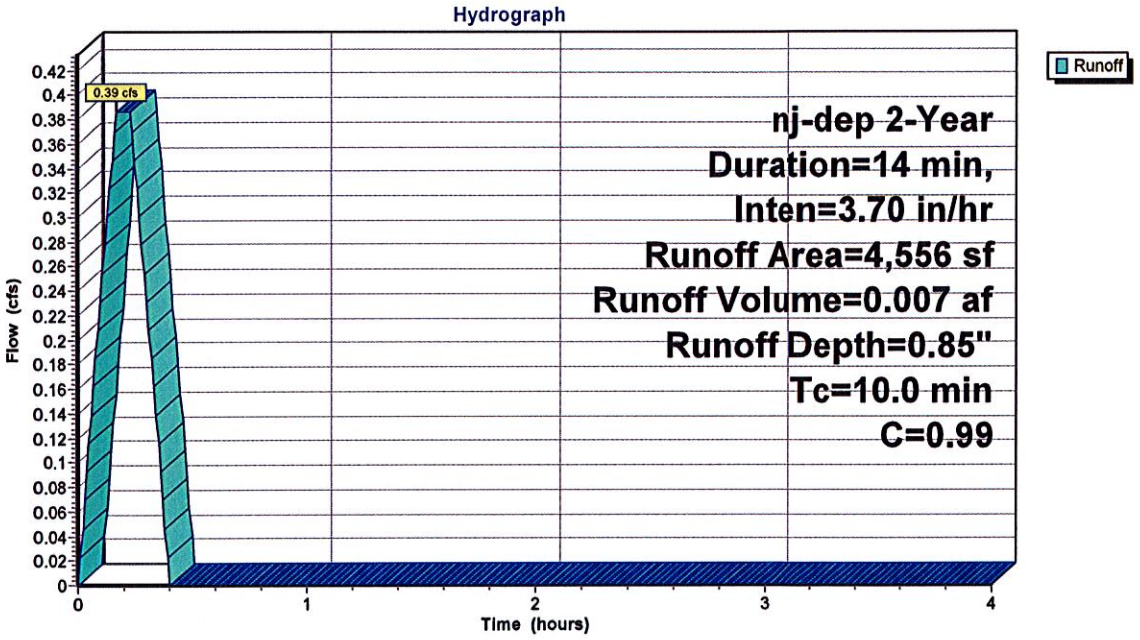
Runoff = 0.39 cfs @ 0.17 hrs, Volume= 0.007 af, Depth= 0.85"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep 2-Year Duration=14 min, Inten=3.70 in/hr

Area (sf)	C	Description
4,556	0.99	Paved parking & roofs

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

Subcatchment A2: No.995 Parking addition (to be developed)



3882 PROPOSED CONDITIONS *nj-dep 2-Year Duration=14 min, Inten=3.70 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 10

Pond 1P: Pervious Pavement No.2

Inflow Area =	0.105 ac,	Inflow Depth =	0.85"	for	2-Year event
Inflow =	0.39 cfs @	0.17 hrs,	Volume=	0.007 af	
Outflow =	0.07 cfs @	0.07 hrs,	Volume=	0.007 af,	Atten= 83%, Lag= 0.0 min
Discarded =	0.07 cfs @	0.07 hrs,	Volume=	0.007 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 462.40' @ 0.37 hrs Surf.Area= 1,458 sf Storage= 234 cf
Plug-Flow detention time= 28.9 min calculated for 0.007 af (100% of inflow)
Center-of-Mass det. time= 29.0 min (41.0 - 12.0)

#	Invert	Avail.Storage	Storage Description
1	462.00'	583 cf	**18.00'W x 81.00'L x 1.00'H Prismatoid** 1,458 cf Overall x 40.0% Voids

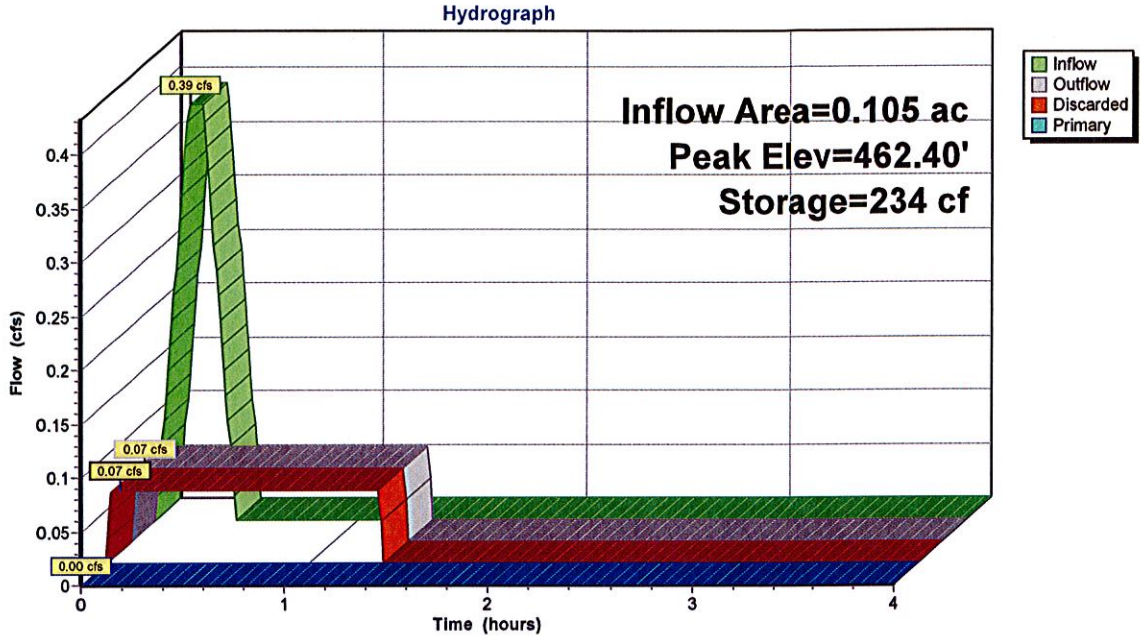
#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	462.75'	**67.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.07 cfs @ 0.07 hrs HW=462.01' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=462.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

3882 PROPOSED CONDITIONS *nj-dep 2-Year Duration=14 min, Inten=3.70 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 11

Pond 1P: Pervious Pavement No.2



3882 PROPOSED CONDITIONS *nj-dep 2-Year Duration=14 min, Inten=3.70 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 12

Pond 2P: Pervious Pavement No.1

Inflow Area =	0.168 ac,	Inflow Depth =	0.85"	for	2-Year event
Inflow =	0.62 cfs @	0.17 hrs,	Volume=	0.012 af	
Outflow =	0.09 cfs @	0.06 hrs,	Volume=	0.012 af,	Atten= 86%, Lag= 0.0 min
Discarded =	0.09 cfs @	0.06 hrs,	Volume=	0.012 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 456.52' @ 0.38 hrs Surf.Area= 1,920 sf Storage= 399 cf
Plug-Flow detention time= 37.4 min calculated for 0.012 af (100% of inflow)
Center-of-Mass det. time= 37.5 min (49.5 - 12.0)

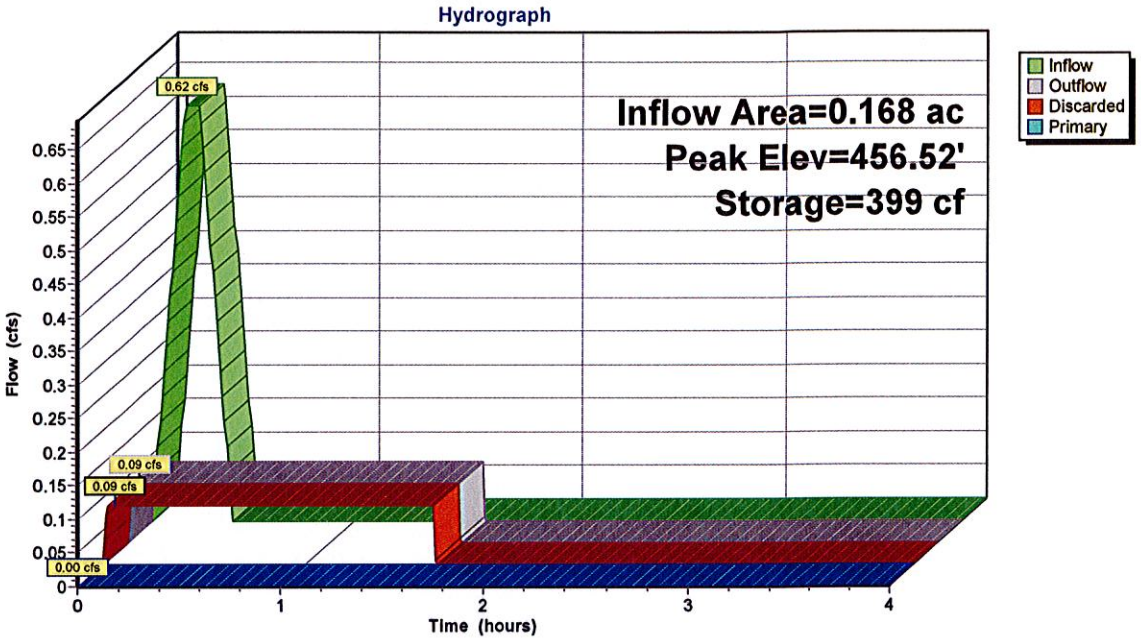
#	Invert	Avail.Storage	Storage Description
1	456.00'	768 cf	**32.00'W x 60.00'L x 1.00'H Prismatoid** 1,920 cf Overall x 40.0% Voids

#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	456.75'	**60.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.09 cfs @ 0.06 hrs HW=456.01' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=456.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Pervious Pavement No.1



3882 PROPOSED CONDITIONS *nj-dep 10-Year Duration=14 min, Inten=5.04 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 14

Subcatchment A1: No.5 Parking addition (to be developed)

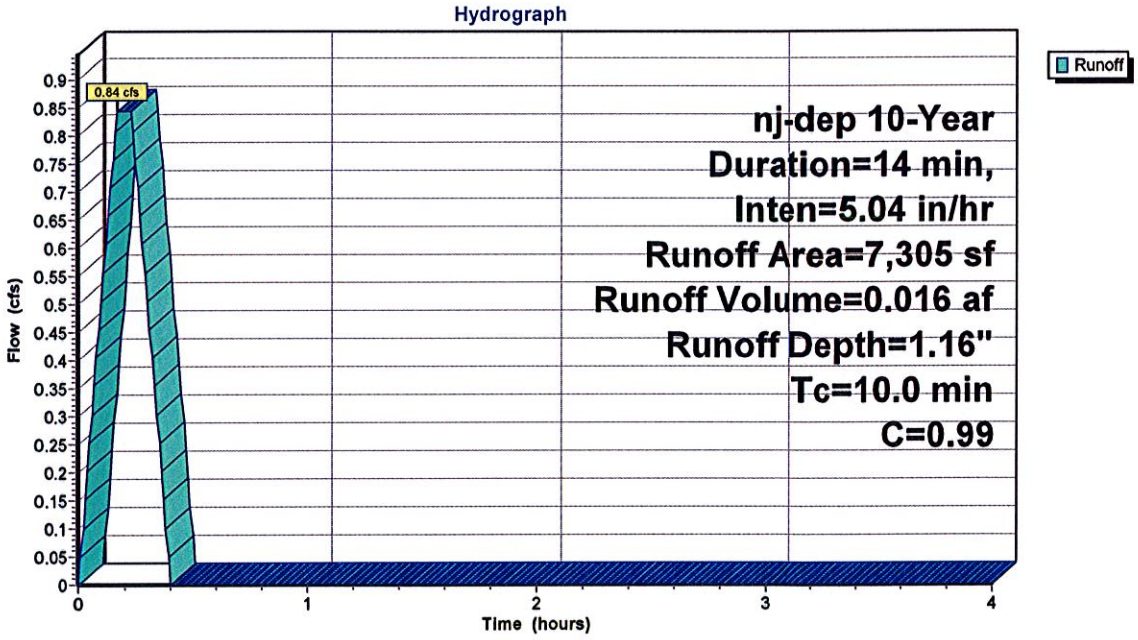
Runoff = 0.84 cfs @ 0.17 hrs, Volume= 0.016 af, Depth= 1.16"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep 10-Year Duration=14 min, Inten=5.04 in/hr

Area (sf)	C	Description
7,305	0.99	Paved parking & roofs

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

Subcatchment A1: No.5 Parking addition (to be developed)



3882 PROPOSED CONDITIONS *nj-dep 10-Year Duration=14 min, Inten=5.04 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 15

Subcatchment A2: No.995 Parking addition (to be developed)

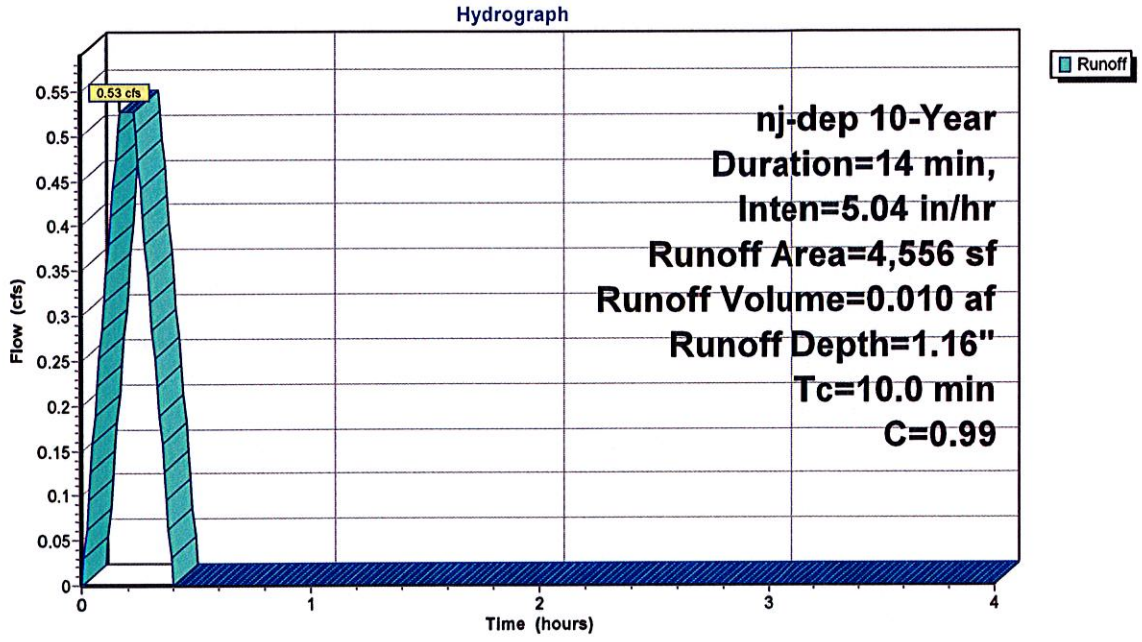
Runoff = 0.53 cfs @ 0.17 hrs, Volume= 0.010 af, Depth= 1.16"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep 10-Year Duration=14 min, Inten=5.04 in/hr

Area (sf)	C	Description
4,556	0.99	Paved parking & roofs

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

Subcatchment A2: No.995 Parking addition (to be developed)



Pond 1P: Pervious Pavement No.2

Inflow Area =	0.105 ac,	Inflow Depth =	1.16"	for	10-Year event
Inflow =	0.53 cfs @	0.17 hrs,	Volume=	0.010 af	
Outflow =	0.07 cfs @	0.06 hrs,	Volume=	0.010 af,	Atten= 87%, Lag= 0.0 min
Discarded =	0.07 cfs @	0.06 hrs,	Volume=	0.010 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 462.60' @ 0.38 hrs Surf.Area= 1,458 sf Storage= 350 cf
Plug-Flow detention time= 43.1 min calculated for 0.010 af (100% of inflow)
Center-of-Mass det. time= 43.4 min (55.4 - 12.0)

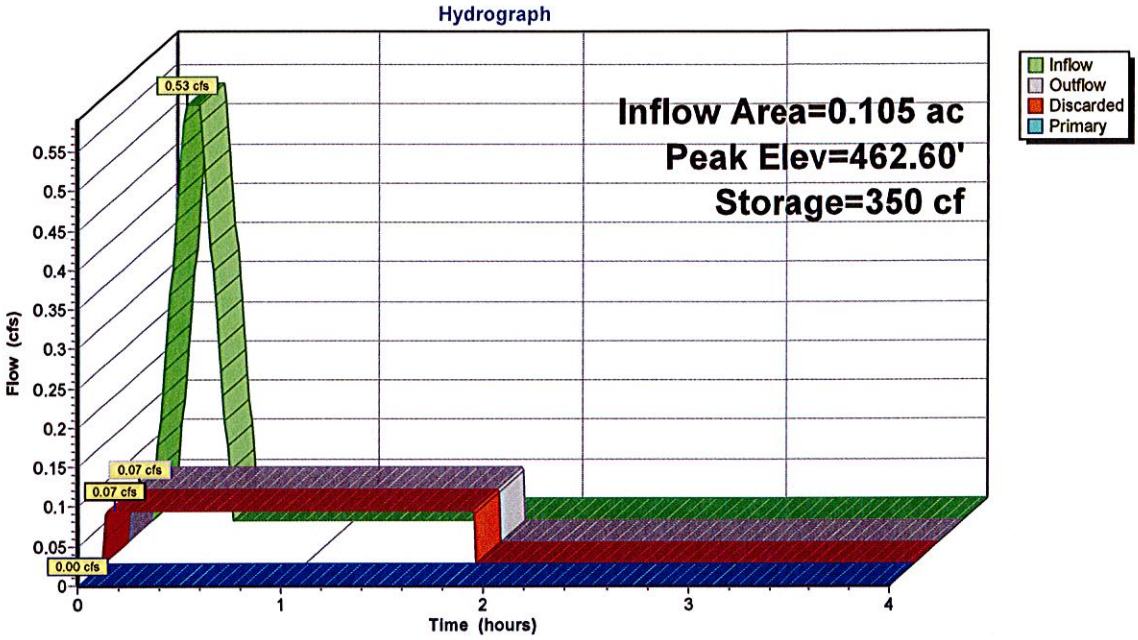
#	Invert	Avail.Storage	Storage Description
1	462.00'	583 cf	**18.00'W x 81.00'L x 1.00'H Prismatoid** 1,458 cf Overall x 40.0% Voids

#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	462.75'	**67.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.07 cfs @ 0.06 hrs HW=462.01' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=462.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Pervious Pavement No.2



Pond 2P: Pervious Pavement No.1

Inflow Area =	0.168 ac,	Inflow Depth =	1.16"	for	10-Year event
Inflow =	0.84 cfs @	0.17 hrs,	Volume=	0.016 af	
Outflow =	0.17 cfs @	0.37 hrs,	Volume=	0.016 af,	Atten= 80%, Lag= 11.9 min
Discarded =	0.09 cfs @	0.05 hrs,	Volume=	0.016 af	
Primary =	0.08 cfs @	0.37 hrs,	Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 456.76' @ 0.37 hrs Surf.Area= 1,920 sf Storage= 581 cf
Plug-Flow detention time= 53.7 min calculated for 0.016 af (100% of inflow)
Center-of-Mass det. time= 53.8 min (65.8 - 12.0)

#	Invert	Avail.Storage	Storage Description
1	456.00'	768 cf	**32.00'W x 60.00'L x 1.00'H Prismatoid** 1,920 cf Overall x 40.0% Voids

#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	456.75'	**60.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.09 cfs @ 0.05 hrs HW=456.01' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.08 cfs @ 0.37 hrs HW=456.76' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 0.08 cfs @ 0.2 fps)

3882 PROPOSED CONDITIONS *nj-dep 10-Year Duration=14 min, Inten=5.04 in/hr*
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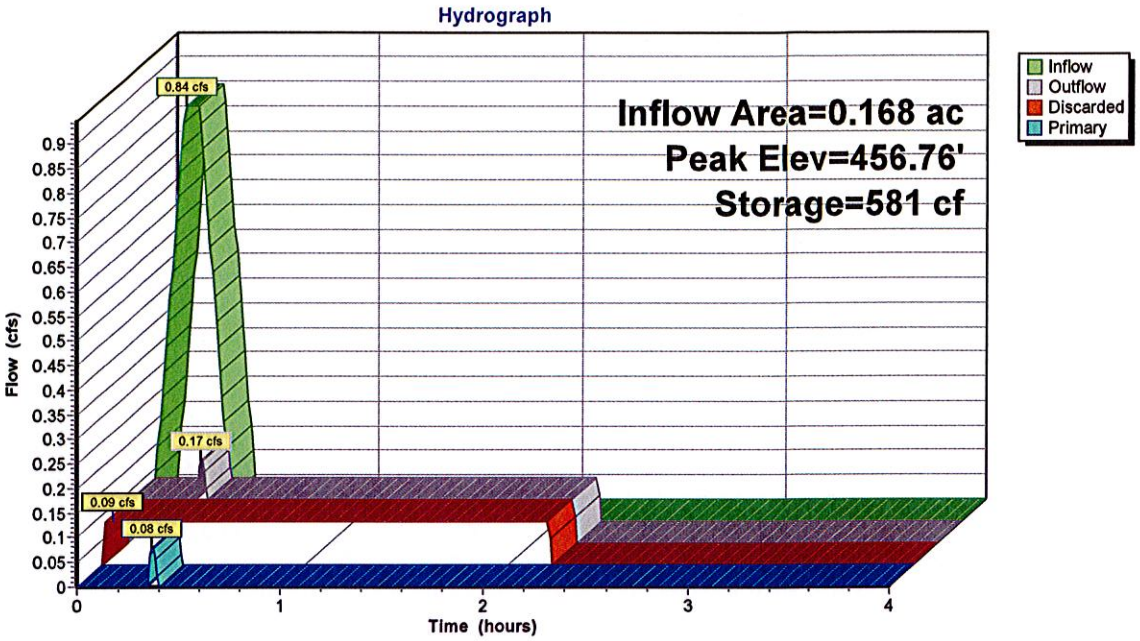
Pond 2P: Pervious Pavement No.1



3882 PROPOSED CONDITIONS *nj-dep 25-Year Duration=14 min, Inten=5.86 in/hr*
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Subcatchment A1: No.5 Parking addition (to be developed)

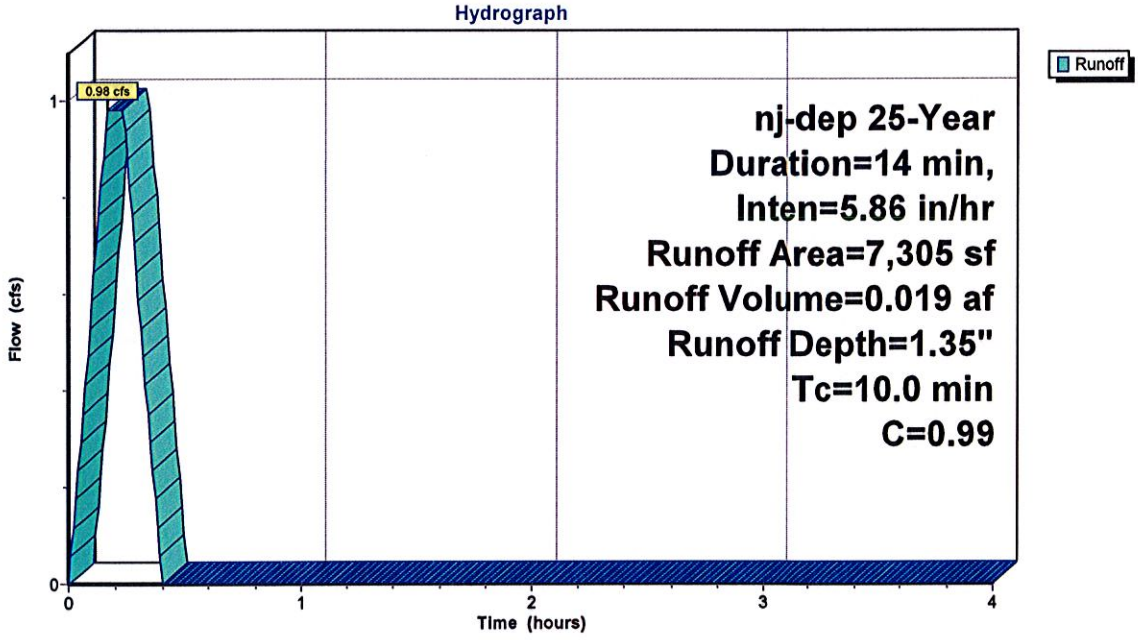
Runoff = 0.98 cfs @ 0.17 hrs, Volume= 0.019 af, Depth= 1.35"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep 25-Year Duration=14 min, Inten=5.86 in/hr

Area (sf)	C	Description
7,305	0.99	Paved parking & roofs

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

Subcatchment A1: No.5 Parking addition (to be developed)



3882 PROPOSED CONDITIONS *nj-dep 25-Year Duration=14 min, Inten=5.86 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 21

Subcatchment A2: No.995 Parking addition (to be developed)

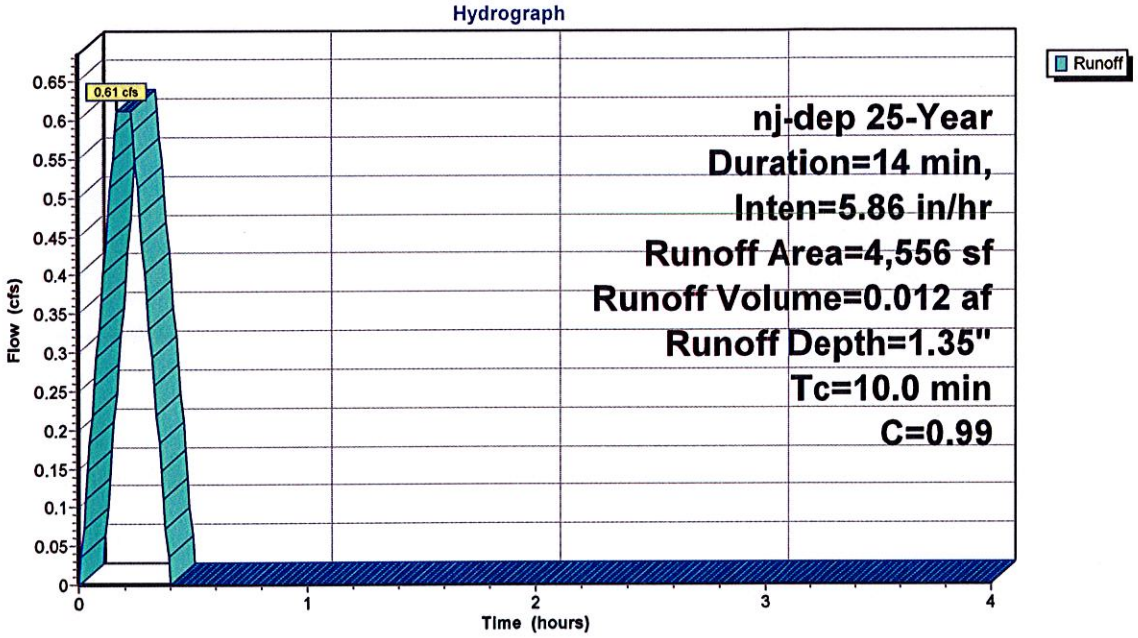
Runoff = 0.61 cfs @ 0.17 hrs, Volume= 0.012 af, Depth= 1.35"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep 25-Year Duration=14 min, Inten=5.86 in/hr

Area (sf)	C	Description
4,556	0.99	Paved parking & roofs

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

Subcatchment A2: No.995 Parking addition (to be developed)



3882 PROPOSED CONDITIONS *nj-dep 25-Year Duration=14 min, Inten=5.86 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 22

Pond 1P: Pervious Pavement No.2

Inflow Area =	0.105 ac,	Inflow Depth =	1.35"	for	25-Year event
Inflow =	0.61 cfs @	0.17 hrs,	Volume=	0.012 af	
Outflow =	0.07 cfs @	0.05 hrs,	Volume=	0.012 af,	Atten= 89%, Lag= 0.0 min
Discarded =	0.07 cfs @	0.05 hrs,	Volume=	0.012 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 462.72' @ 0.38 hrs Surf.Area= 1,458 sf Storage= 421 cf
Plug-Flow detention time= 51.9 min calculated for 0.012 af (100% of inflow)
Center-of-Mass det. time= 52.0 min (64.0 - 12.0)

#	Invert	Avail.Storage	Storage Description
1	462.00'	583 cf	**18.00'W x 81.00'L x 1.00'H Prismatoid** 1,458 cf Overall x 40.0% Voids

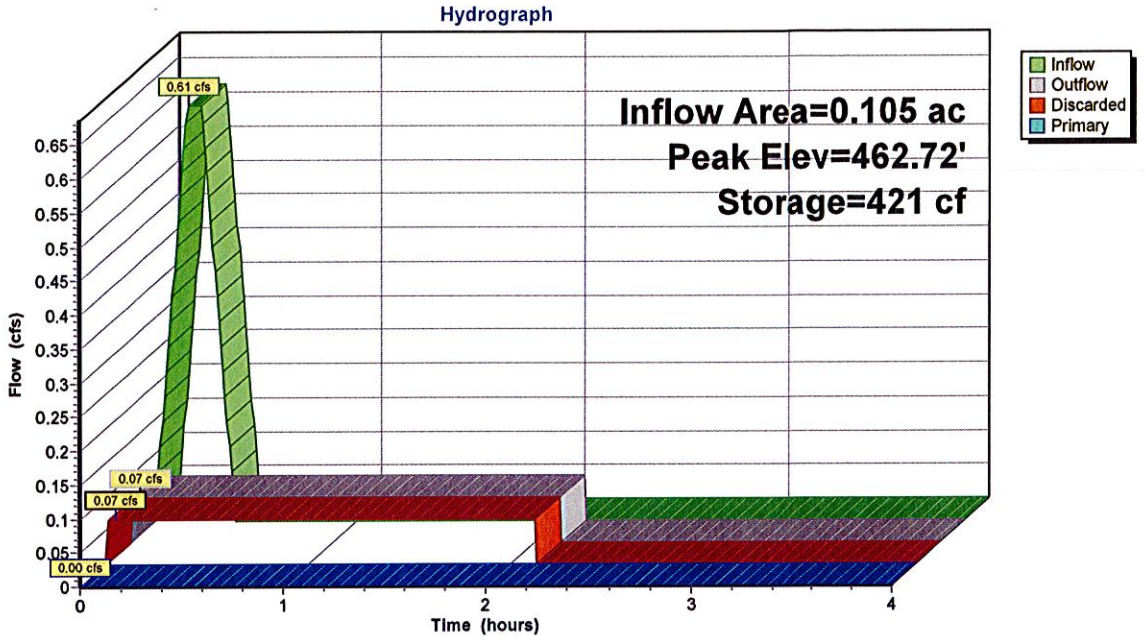
#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	462.75'	**67.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.07 cfs @ 0.05 hrs HW=462.01' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=462.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

3882 PROPOSED CONDITIONS *nj-dep 25-Year Duration=14 min, Inten=5.86 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 23

Pond 1P: Pervious Pavement No.2



3882 PROPOSED CONDITIONS *nj-dep 25-Year Duration=14 min, Inten=5.86 in/hr*
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Pond 2P: Pervious Pavement No.1

Inflow Area =	0.168 ac,	Inflow Depth =	1.35"	for	25-Year event
Inflow =	0.98 cfs @	0.17 hrs,	Volume=	0.019 af	
Outflow =	0.61 cfs @	0.30 hrs,	Volume=	0.019 af,	Atten= 38%, Lag= 7.8 min
Discarded =	0.09 cfs @	0.05 hrs,	Volume=	0.016 af	
Primary =	0.52 cfs @	0.30 hrs,	Volume=	0.003 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 456.77' @ 0.30 hrs Surf.Area= 1,920 sf Storage= 594 cf
Plug-Flow detention time= 47.3 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 47.4 min (59.4 - 12.0)

#	Invert	Avail.Storage	Storage Description
1	456.00'	768 cf	**32.00'W x 60.00'L x 1.00'H Prismatoid** 1,920 cf Overall x 40.0% Voids

#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	456.75'	**60.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.09 cfs @ 0.05 hrs HW=456.02' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.52 cfs @ 0.30 hrs HW=456.77' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.52 cfs @ 0.4 fps)

3882 PROPOSED CONDITIONS *nj-dep 25-Year Duration=14 min, Inten=5.86 in/hr*
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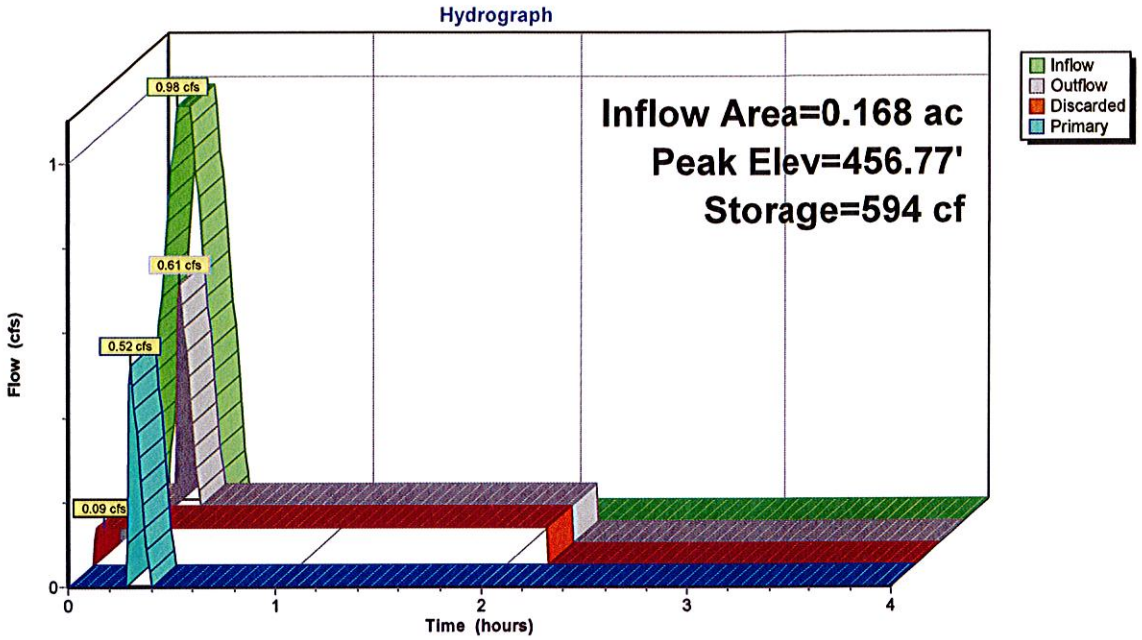
Pond 2P: Pervious Pavement No.1



3882 PROPOSED CONDITIONS *nj-dep 100-Year Duration=14 min, Inten=6.99 in/hr*
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HydroCAD® 7.00 s/n 002902 © 1986-2003 Applied Microcomputer Systems

Subcatchment A1: No.5 Parking addition (to be developed)

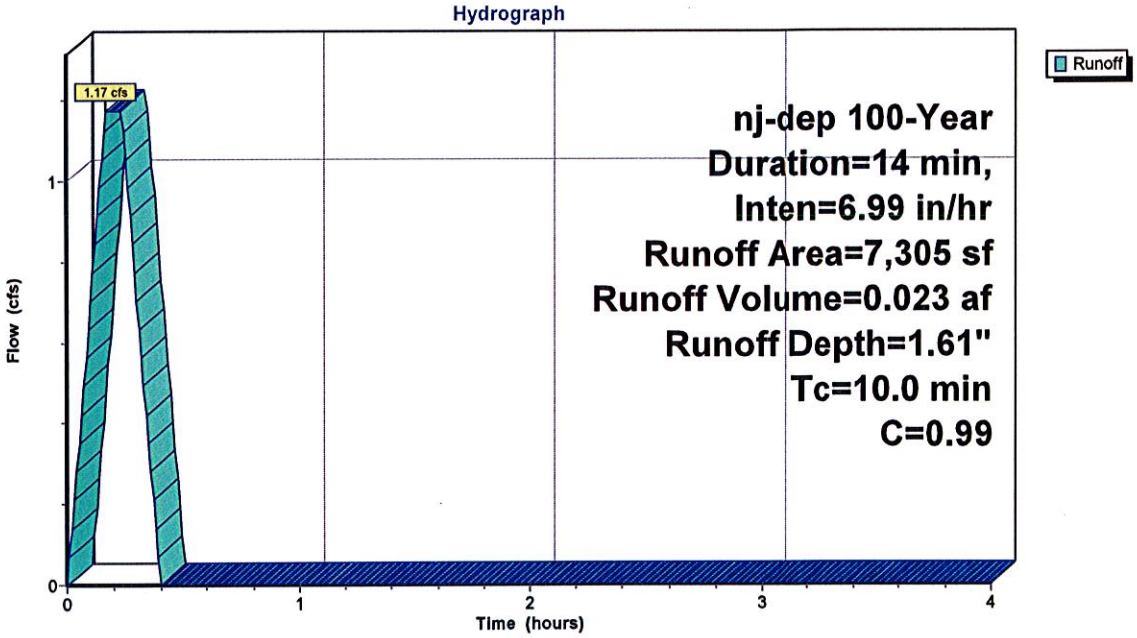
Runoff = 1.17 cfs @ 0.17 hrs, Volume= 0.023 af, Depth= 1.61"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep 100-Year Duration=14 min, Inten=6.99 in/hr

Area (sf)	C	Description
7,305	0.99	Paved parking & roofs

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

Subcatchment A1: No.5 Parking addition (to be developed)



3882 PROPOSED CONDITIONS *nj-dep 100-Year Duration=14 min, Inten=6.99 in/hr*
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Subcatchment A2: No.995 Parking addition (to be developed)

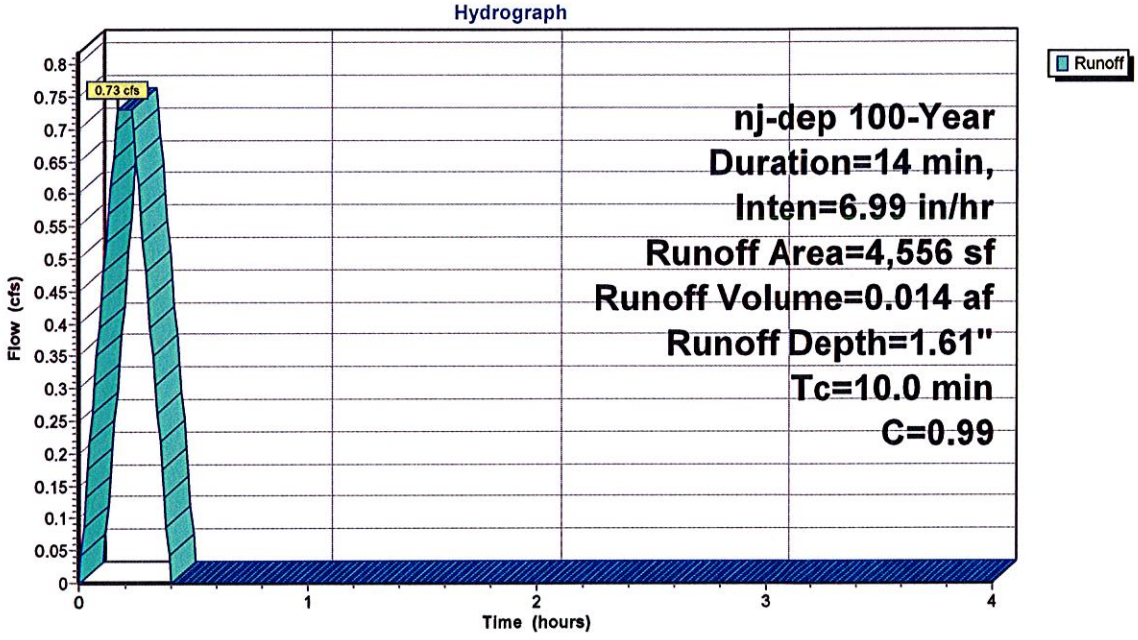
Runoff = 0.73 cfs @ 0.17 hrs, Volume= 0.014 af, Depth= 1.61"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
nj-dep 100-Year Duration=14 min, Inten=6.99 in/hr

Area (sf)	C	Description
4,556	0.99	Paved parking & roofs

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

Subcatchment A2: No.995 Parking addition (to be developed)



3882 PROPOSED CONDITIONS *nj-dep 100-Year Duration=14 min, Inten=6.99 in/hr*
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Pond 1P: Pervious Pavement No.2

Inflow Area =	0.105 ac,	Inflow Depth =	1.61"	for	100-Year event
Inflow =	0.73 cfs @	0.17 hrs,	Volume=		0.014 af
Outflow =	0.46 cfs @	0.30 hrs,	Volume=		0.014 af, Atten= 36%, Lag= 8.0 min
Discarded =	0.07 cfs @	0.05 hrs,	Volume=		0.012 af
Primary =	0.40 cfs @	0.30 hrs,	Volume=		0.002 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 462.77' @ 0.30 hrs Surf.Area= 1,458 sf Storage= 448 cf
Plug-Flow detention time= 47.9 min calculated for 0.014 af (100% of inflow)
Center-of-Mass det. time= 48.1 min (60.1 - 12.0)

#	Invert	Avail.Storage	Storage Description
1	462.00'	583 cf	**18.00'W x 81.00'L x 1.00'H Prismatoid** 1,458 cf Overall x 40.0% Voids

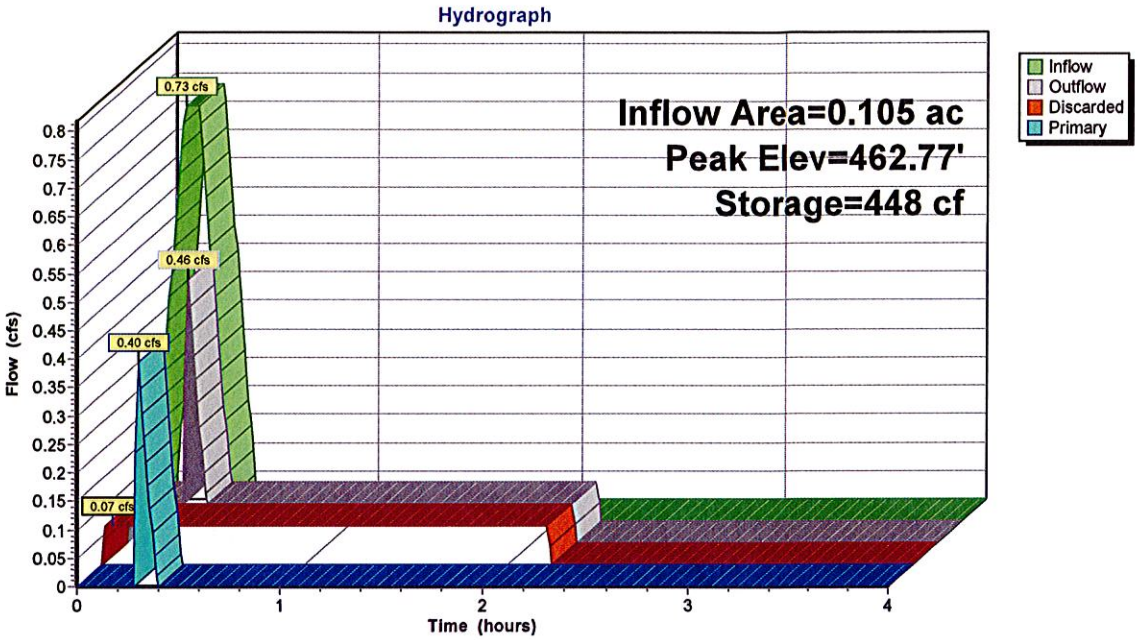
#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	462.75'	**67.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.07 cfs @ 0.05 hrs HW=462.02' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.38 cfs @ 0.30 hrs HW=462.77' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.38 cfs @ 0.3 fps)

3882 PROPOSED CONDITIONS *nj-dep 100-Year Duration=14 min, Inten=6.99 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 29

Pond 1P: Pervious Pavement No.2



3882 PROPOSED CONDITIONS *nj-dep 100-Year Duration=14 min, Inten=6.99 in/hr*
Prepared by HUBSCHMAN ENGINEERING, P.A. Page 30

Pond 2P: Pervious Pavement No.1

Inflow Area =	0.168 ac,	Inflow Depth =	1.61"	for	100-Year event
Inflow =	1.17 cfs @	0.17 hrs,	Volume=	0.023 af	
Outflow =	1.02 cfs @	0.26 hrs,	Volume=	0.023 af,	Atten= 13%, Lag= 5.4 min
Discarded =	0.09 cfs @	0.04 hrs,	Volume=	0.016 af	
Primary =	0.93 cfs @	0.26 hrs,	Volume=	0.006 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 456.78' @ 0.26 hrs Surf.Area= 1,920 sf Storage= 602 cf
Plug-Flow detention time= 40.3 min calculated for 0.023 af (100% of inflow)
Center-of-Mass det. time= 40.5 min (52.5 - 12.0)

#	Invert	Avail.Storage	Storage Description
1	456.00'	768 cf	**32.00'W x 60.00'L x 1.00'H Prismatoid** 1,920 cf Overall x 40.0% Voids

#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.002778 fpm Exfiltration over entire Surface area**
2	Primary	456.75'	**60.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.09 cfs @ 0.04 hrs HW=456.01' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.93 cfs @ 0.26 hrs HW=456.78' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.93 cfs @ 0.5 fps)

3882 PROPOSED CONDITIONS *nj-dep 100-Year Duration=14 min, Inten=6.99 in/hr*
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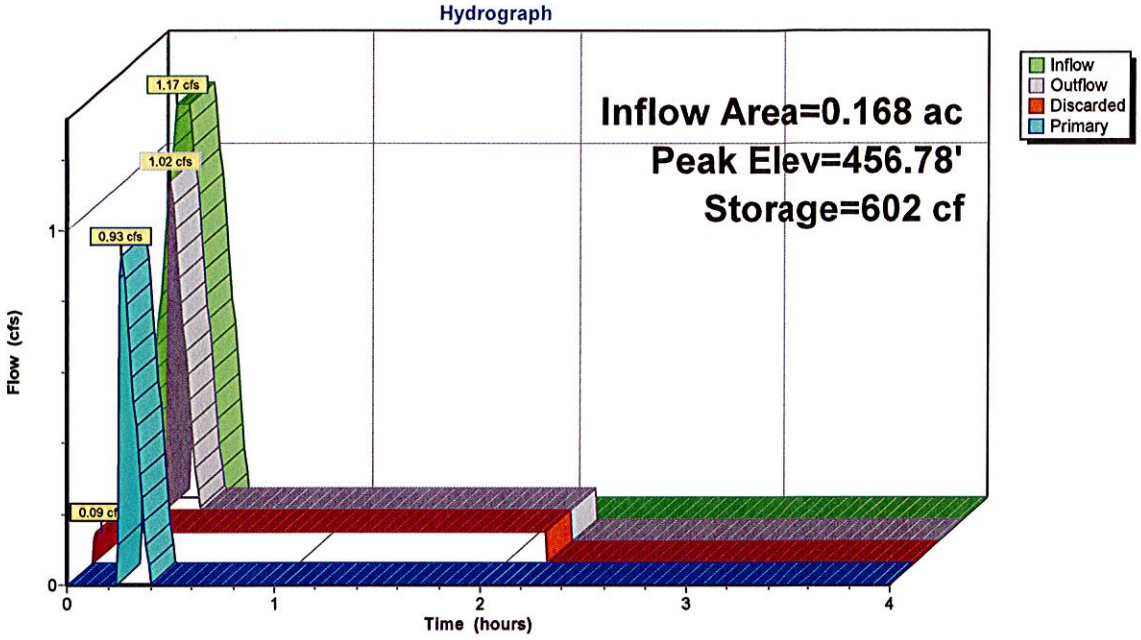
Pond 2P: Pervious Pavement No.1



SECTION 3

WATER QUALITY STORM

Pervious Paving

STORMWATER QUALITY

The NJDEP Stormwater Rules require that stormwater quality be addressed over all impervious surfaces when ¼ acre or more of new impervious surface coverage is proposed. This project is a redevelopment of a previously disturbed site and has no current means of water quality treatment, therefore; a treatment level of 80% Total Suspended Solids (TSS) removal is required in accordance with Section 4.2 of the New Jersey Stormwater Frequently Asked Questions (FAQ).

Bioretention System:

The Pervious Paving System(s) provided are designed in accordance with the New Jersey Stormwater Best Management Practices (BMP) Manual to provide an 80% TSS removal rate.

Water Quality Summary

Proposed Parking Development Area Location	Development Parking Area Surface Area (sf)	Required Water Quality Volume (cf)	Pervious Area Required based on 12" storage Bed , (40% voids)(sf)	Proposed Pervious Pavement Area		
				Width (ft.)	Length (ft.)	Area (sf.)
995 Old Dock Road	4,556	474.58	1186.5	18	81	1458
5 Old Dock Road	7,305	760.94	1902.3	32	60	1920

See Section 2 for the Maximum Water Quality depth.

The treated water infiltrates into ground for recharge. Requisite details are provided on the site plan.

SECTION 4

Groundwater Recharge Analysis

BMP AREA

Groundwater recharge BMP area corresponds to the Pervious Paving footprints of 1,448 sf for 995 Old Dock Road site and 1,920 sf for 5 Old Dock Road Site as a layer of 12 in thick crushed stones is proposed below the Pervious Paving Systems.

Groundwater Recharge Conclusion:
As calculated in the groundwater Annual Recharge Analysis (GSR-32 spreadsheet), the proposed parking expansion creates a groundwater volume deficit of 4,846 cf for 995 Old Dock Road Site and 7,443 cf for 5 Old Dock Road site which must be recharged back to groundwater in order to meet the criteria set forth in the NJ BMP Manual. Groundwater recharging target area of 4,556 sf corresponds to the proposed parking area at 995 Old Dock Road site and 7,305 sf for 5 Old Dock Road site.

Groundwater Recharge Analysis - Supporting Calculations (995 Old Dock Road):
The Groundwater Recharge is solved for the required *BMP Effective Area (ABMP)* of 187.9 in which is calculated based on following inputs:

Aimp	= 4,556 sf (target area, proposed parking)
ABMP	= 1,458 sf (pervious pavement, see engineering drawings)
dBMPu	= 12 in*0.4 =4.8 in
eEXC	= 24 in

Groundwater Recharge Analysis - Supporting Calculations (5 Old Dock Road):
The Groundwater Recharge is solved for the required *BMP Effective Area (ABMP)* of 284.6 in which is calculated based on following inputs:

Aimp	= 7,305 sf (target area, proposed parking)
ABMP	= 1,920 sf (pervious pavement, see engineering drawings)
dBMPu	= 12 in * 0.4 = 4.8 in.
eEXC	= 24 in

New Jersey Groundwater Recharge Spreadsheet Version 2.0 November 2003

Annual Groundwater Recharge Analysis (based on GSR-32)

Select Township ↓	Average Annual P (in)	Climatic Factor
BERGEN CO., ALPINE BORO	46.0	1.49

Project Name:	995 OLD DOCK ROAD
Description:	ALPINE COMMUNITY CHURCH
Analysis Date:	12/30/21

Pre-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.10459	Woods-grass combination	Wethersfield	12.8	4,846
2					
3					
4	0				
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	0.1			Total Annual Recharge (in)	Total Annual Recharge (cu-ft)
				12.8	4,846

Post-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.10459	Impervious areas	Dunellen	0.0	-
2					
3					
4	0				
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	0.1			Total Annual Recharge (in)	Total Annual Recharge (cu.ft)
				0.0	-

Annual Recharge Requirements Calculation ↓

% of Pre-Developed Annual Recharge to Preserve =	100%	Total Impervious Area (sq.ft)	4,556
Post-Development Annual Recharge Deficit=	*4,846*	(cubic feet)	

Recharge Efficiency Parameters Calculations (area averages)

RWC=	2.97	(in)	DRWC=	0.30	(in)
ERWC =	0.76	(in)	EDRWC=	0.08	(in)

Procedure to fill the Pre-Development and Post-Development Conditions Tables.

For each land segment, first enter the area, then select TR-55 Land Cover, then select Soil. Start from the top of the table and proceed downward. Dont leave blank rows (with A=0) in between your segment entries. Rows with A=0 will not be displayed or used in calculations. For impervious areas outside of standard loss select "Impervious Areas" as the Land Cover. Soil type for impervious areas are only required if an infiltration facility will be built within these areas.

Project Name	Description	Analysis Date	BMP or LID Type
995 OLD DOCK ROAD	ALPINE COMMUNITY CHURCH	12/30/21	BMP POROUS PAVEMENT

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	187.9	sq.ft
BMP Effective Depth, this is the design variable	dBMP	4.8	in
Upper level of the BMP surface (negative if above ground)	dBMPu	12.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	24.0	in
Post-development Land Segment Location of BMP - Input Zero if Location is distrauted or unsteermined	SegBMP	1	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.76	in
ERWC Modified to consider dEXC	EDRWC	0.08	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.06	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	0.20	in
Inches of Rainfall to capture	Pdesign	0.28	in
Recharge Provided Avg. over Imp. Area		12.8	in
Runoff Captured Avg. over Imp. Area		13.0	in

BMP Calculated Size Parameters

	Aratio		unitless
ABMP/Aimp		0.04	
BMP Volume	VBMP	75	cu.ft

CALCULATION CHECK MESSAGES

Volume Balance--> OK
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	4,846	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	4,556	sq.ft
Root Zone Water Capacity	RWC	2.97	in
RWC Modified to consider dEXC	DRWC	0.30	in
Climatic Factor	C-factor	1.49	no units
Average Annual P	Pavg	46.0	in
Recharge Requirement over Imp. Area	dr	12.8	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		4,846	cu.ft
Avg BMP Recharge Efficiency		98.5%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.0%	%
%Runoff Infiltrated		36.1%	%
%Runoff Recharged		35.6%	%
%Rainfall Recharged		27.7%	%

OTHER NOTES

Design is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portio
of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are
sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For lam
Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined b
the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losse

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

New Jersey Groundwater Recharge Spreadsheet Version 2.0 November 2003

Annual Groundwater Recharge Analysis (based on GSR-32)

Project Name:	5 OLD DOCK ROAD
Description:	ALPINE COMMUNITY CHURCH
Analysis Date:	12/30/21

Select Township ↓	Average Annual P (in)	Climatic Factor
BERGEN CO., ALPINE BORO	46.0	1.49

Pre-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.1677	Woods	Wethersfield	12.2	7,443
2					
3					
4	0				
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	0.2			Total Annual Recharge (in)	Total Annual Recharge (cu.ft)
				12.2	7,443

Post-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.1677	Impervious areas	Dunellen	0.0	-
2					
3					
4	0				
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	0.2			Total Annual Recharge (in)	Total Annual Recharge (cu.ft)
				0.0	-

Annual Recharge Requirements Calculation ↓

		Total Impervious Area (sq.ft)
% of Pre-Developed Annual Recharge to Preserve =	100%	7,305
Post-Development Annual Recharge Deficit=	*7,443*	(cubic feet)

Recharge Efficiency Parameters Calculations (area averages)

RWC=	2.57	(in)	DRWC= 0.30	(in)
ERWC =	0.76	(in)	EDRWC= 0.08	(in)

Procedure to fill the Pre-Development and Post-Development Conditions Tables

For each land segment, first enter the area, then select TR-55 Land Cover, then select Soil. Start from the top of the table and proceed downward. Don't leave blank rows (with A=0) in between your segment entries. Rows with A=0 will not be displayed or used in calculations. For impervious areas outside of standard lots select "Impervious Areas" as the Land Cover. Soil type for impervious areas are only required if an infiltration facility will be built within these areas.

Project Name	Description	Analysis Date	BMP or LID Type
5 OLD DOCK ROAD	ALPINE COMMUNITY CHURCH	12/30/21	BMP POROUS PAVEMENT_A-5 PAVEMENT AREA

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	343.2	sq.ft
BMP Effective Depth. this is the design variable	dBMP	4.8	in
Upper level of the BMP surface (negative if above ground)	dBMPu	12.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	24.0	in
Post-development Land Segment Location of BMP. Input Zero if Location is distrouted or undetermined	SegBMP	1	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.61	in
ERWC Modified to consider dEXC	EDRWC	0.06	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.05	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	0.23	in
Inches of Rainfall to capture	Pdesign	0.31	in
Recharge Provided Avg. over Imp. Area		14.4	in
Runoff Captured Avg. over imp. Area		14.6	in

BMP Calculated Size Parameters

ABMP/Aimp	Acatio	0.05	unitless
BMP Volume	VBMP	137	cu.ft

CALCULATION CHECK MESSAGES

Volume Balance--> OK
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

Parameters from Annual Recharge Worksheet

Parameter	Symbol	Value	Unit
Post-D Deficit Recharge (or desired recharge volume)	Vdef	8,782	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	7,305	sq.ft
Root Zone Water Capacity	RWC	2.97	in
RWC Modified to consider dEXC	DRWC	0.30	in
Climatic Factor	C-factor	1.59	no units
Average Annual P	Pavg	49.2	in
Recharge Requirement over Imp. Area	dr	14.4	in

System Performance Calculated Parameters

Parameter	Symbol	Value	Unit
Annual BMP Recharge Volume		8,782	cu.ft
Avg BMP Recharge Efficiency		98.8%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.5%	%
%Runoff Infiltrated		37.8%	%
%Runoff Recharged		37.3%	%
%Rainfall Recharged		29.3%	%

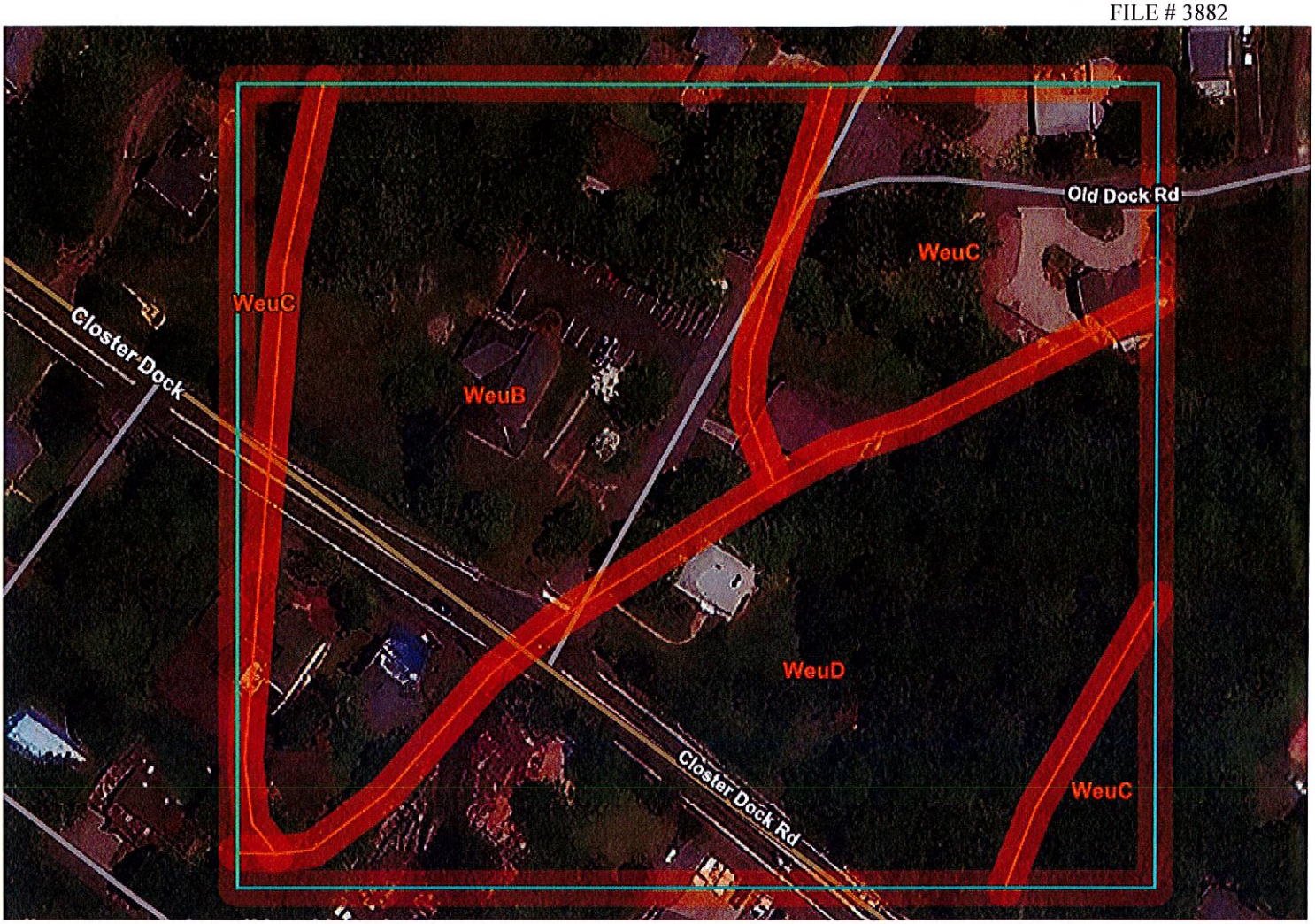
OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensative to dBMP. make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "Impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

APPENDIX 1

- Location Data
- Site Location and Soil Type Map
- Typical Runoff Coefficients Table
- Time of Concentration (Tc) Nomograph
- IDF Curves and Tabulation



Soils (SSURGO)

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
WeuB	Wethersfield-Urban land complex, 3 to 8 percent slopes	2.3	39.5%
WeuC	Wethersfield-Urban land complex, 8 to 15 percent slopes	1.4	22.8%
WeuD	Wethersfield-Urban land complex, 15 to 25 percent slopes	2.2	37.7%
Totals for Area of Interest		5.9	100.0%

Recommended Coefficient of Runoff Values for Various Selected Land Uses

Land Use	Description	Hydrologic Soils Group			
		A	B	C	D
Cultivated Land	without conservation treatment	0.49	0.67	0.81	0.88
	with conservation treatment	0.27	0.43	0.67	0.67
Pasture or Range Land Meadow	poor condition	0.38	0.63	0.78	0.84
	good condition	---	0.25	0.51	0.65
	good condition	---	---	0.41	0.61
Wood or Forest Land	thin stand, poor cover, no mulch	---	0.34	0.59	0.70
	good cover	---	---	0.45	0.59
Open Spaces, Lawns, Parks, Golf Courses, Cemeteries					
Good Condition	grass cover on 75% or more	---	0.25	0.51	0.65
Fair Condition	grass cover on 50% to 75%	---	0.45	0.63	0.74
Commercial and Business Area	85% impervious	0.84	0.90	0.93	0.96
Industrial Districts	72% impervious	0.67	0.81	0.88	0.92
Residential	average % impervious				
Average Lot Size (acres)					
1/8	65	0.59	0.76	0.86	0.90
1/4	38	0.29	0.55	0.70	0.80
1/3	30	---	0.49	0.67	0.78
1/2	25	---	0.45	0.65	0.76
1	20	---	0.41	0.63	0.74
Paved Areas	parking lots, roofs, driveways, etc.	0.99	0.99	0.99	0.99
Streets and Roads	paved with curbs & storm sewers	0.99	0.99	0.99	0.99
	gravel	0.57	0.76	0.84	0.88
	dirt	0.49	0.69	0.80	0.84

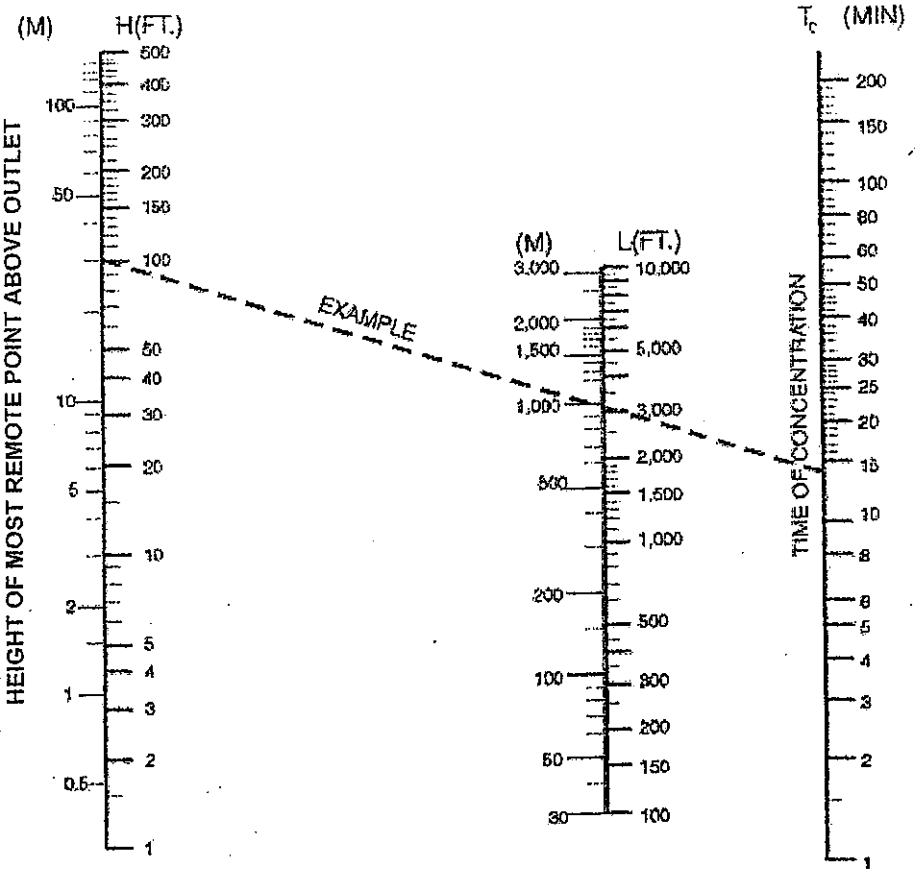
NOTE: Values are based on NRCS (formerly the SCS) definitions and are average values.

Source: Technical Manual for Land Use Regulation Program, Bureau of Inland and Coastal Regulations, Stream Encroachment Permits, New Jersey Department of Environmental Protection

Figure 7.1

TIME OF CONCENTRATION

Example
Height = 100 ft.
Length = 3000 ft.
Time of Concentration = 14 Min.



Notes:

Use Nomograph T_c for natural basins with well-defined channels, for overland or bare earth, and for mowed grass roadside channels.

For overland flow, grassed surfaces, multiply T_c by 2.

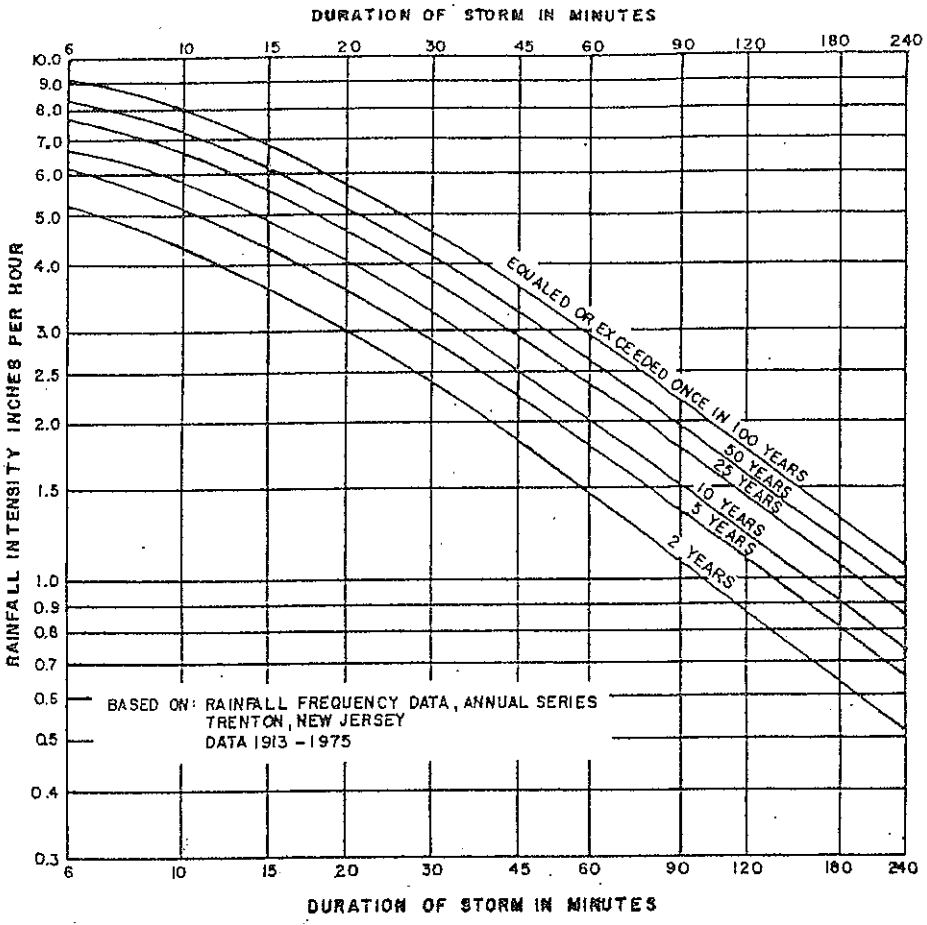
For overland flow, concrete or asphalt surfaces, multiply T_c by 0.4.

For concrete channels, multiply T_c by 0.2 overland flow.

Based on a study by P.Z. Kirpich, *Civil Engineering*, Vol.10, No.6, June 1940, p. 362.

N.J.A.C. 5:21-7.2

FIGURE 7.2 RAINFALL INTENSITY CURVES



Note: Adapted from Figure 2.1-2 in the NJDEP *Technical Manual for Stream Encroachment Permits.*

Northern New Jersey
One Year Storm

Recurrence Frequency = 1

DURATION (Minutes)	INTENSITY (inches/hour)
6	3.7
10	3.59
15	2.95
20	2.13
30	1.98
45	1.42
60	1.22
90	0.79
120	0.76

NJDEP Curve
2 Year Storm

Recurrence Frequency = 2

DURATION (Minutes)	INTENSITY (inches/hour)
6	5.2
10	4.3
15	3.55
20	3
30	2.4
45	1.8
60	1.49
90	1.1
120	0.92

NJDEP Curve
10 Year Storm

Recurrence Frequency = 10

DURATION (Minutes)	INTENSITY (inches/hour)
6	6.8
10	5.71
15	4.74
20	4
30	3.35
45	2.5
60	2
90	1.5
120	1.34

NJDEP Curve
25 Year Storm

Recurrence Frequency = 25

DURATION (Minutes)	INTENSITY (inches/hour)
6	7.7
10	6.47
15	5.38
20	4.6
30	3.88
45	3
60	2.54
90	1.8
120	1.6

NJDEP Curve
100 Year Storm

Recurrence Frequency = 100

DURATION (Minutes)	INTENSITY (inches/hour)
6	9
10	7.6
15	6.33
20	5.8
30	4.68
45	3.8
60	3.17
90	2.3
120	2.02

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

September 30, 2021

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

Re: 200 Foot Property Owners List
Street 995 Closter Dock Road
Block: 47 Lot: 2
Block: 48 Lot: 1.01

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 SEPTEMBER 30, 2021
BLOCK 47 LOT 2 & BLOCK 48 LOT 1.01

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATIÓN	Add'l Lots
42	1		2	NOBACK, RALPH P. PO BOX 139 ALPINE, NJ 07620	57 SCHOOL HOUSE LANE	
42	1.01		1	NOBACK, RALPH T & NOBACK, PETER C PO BOX 139 ALPINE, NJ 07620	CLOSTER DOCK ROAD	
42	2		2	KUPI, ZINETA P.O. BOX 533 ALPINE, NJ 07620	1002 CLOSTER DOCK ROAD	
42	3		4A	KIM, CHARLES & ROSEMARY PO BOX 86 ALPINE, NJ 07620	1006 CLOSTER DOCK ROAD	
42	4		4A	MC CAFFREY, ROBERT & JOHN 203 HICKORY LN CLOSTER, NJ 07624	1010 CLOSTER DOCK ROAD	
42	5		1	MARAL ASSOCIATES, LLC 150 COUNTY RD TENAFLY, NJ 07670	1014 CLOSTER DOCK ROAD	
42	6		4A	MARAL ASSOCIATES, LLC 150 COUNTY RD TENAFLY, NJ 07670	1018 CLOSTER DOCK ROAD	
42	7		2	MARAL ASSOCIATES, LLC. 150 COUNTY RD TENAFLY, NJ 07670	SCHOOL HOUSE LANE	
43	6.03		1	ALPINE THREE, L.L.C. PO BOX 835 ALPINE, NJ 07620	986 CLOSTER DOCK ROAD	
43	7		1	GIANNUZZI, LEWIS D. & G.L. PO BOX 631 ALPINE, NJ 07620	990 CLOSTER DOCK ROAD	
43	8		2	GIANNUZZI, LEWIS D. & G.L. PO BOX 631 ALPINE, NJ 07620	994 CLOSTER DOCK ROAD	
47	1		2	GARABET, LEON 938 CLOSTER DOCK RD ALPINE, NJ 07620	987 CLOSTER DOCK ROAD	
47	3.01		2	KELLY, JOHN E. PO BOX 958 ALPINE, NJ 07620	9 OLD DOCK ROAD	
47	3.02		2	REEVES, DAVID M JR & SARA C PO BOX 913 ALPINE, NJ 07620	19 RIDGE STREET	
47	4		2	GOLDSTEIN, LANE 1267 ANDERSON AVENUE #1 FORT LEE, NJ 07024	23 RIDGE STREET	
47	5		2	YUEN, KEI YENG & KEI HONG 742 SUMMIT AVENUE FRANKLIN LAKES, NJ 07417	27 RIDGE STREET	
47	6		2	CHO, IL HWAN & SOON JA PO BOX 559 ALPINE, NJ 07620	58 FOREST STREET	
47	7		1	CHO, IL HWAN & SOON JA PO BOX 559 ALPINE, NJ 07620	54 FOREST STREET	
47	10		2	POLICANO, ROBERT F & DINEEN M P.O. BOX 658 ALPINE, NJ 07620	979 CLOSTER DOCK ROAD	

200 FOOT LIST AS OF SEPTEMBER 30, 2021
BLOCK 47 LOT 2 & BLOCK 48 LOT 1.01

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
48	3		1	1017 CLOSTER DOCK ASSOC, LLC 115 MOWBRAY DR NEW CITY, NY 11415	CLOSTER DOCK ROAD	
48	6.01		2	CHARLES K HOFFMANN REV LIVING TRUST 14 OLD DOCK ROAD ALPINE, NJ 07620	14 OLD DOCK ROAD	
48	6.02		2	CHARLES K HOFFMANN REV LIVING TRST 22 OLD DOCK ROAD ALPINE, NJ 07620	22 OLD DOCK ROAD	
49	7		4A	KO REALTY ALPINE LLC 1022 CLOSTER DOCK RD ALPINE, NJ 07620	1022 CLOSTER DOCK ROAD	
60	15		2	COHEN, STEVEN E. PO BOX 932 ALPINE, NJ 07620	24 RIDGE STREET	
60	15.01		2	PEREZ, ROBERT 15 OLD DOCK ROAD ALPINE, NJ 07620	15 OLD DOCK ROAD	
60	16		2	MANGOT, JONATHAN & ALLISON 19 OLD DOCK ROAD ALPINE, NJ 07620	19 OLD DOCK ROAD	

Borough of Alpine

100 Church Street • Alpine, New Jersey 07620-1095
Tel (201) 784-2900 Fax (201) 784-1407

September 30, 2021
Block 47 Lot 2
Block 48 Lot 1.01

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

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

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

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

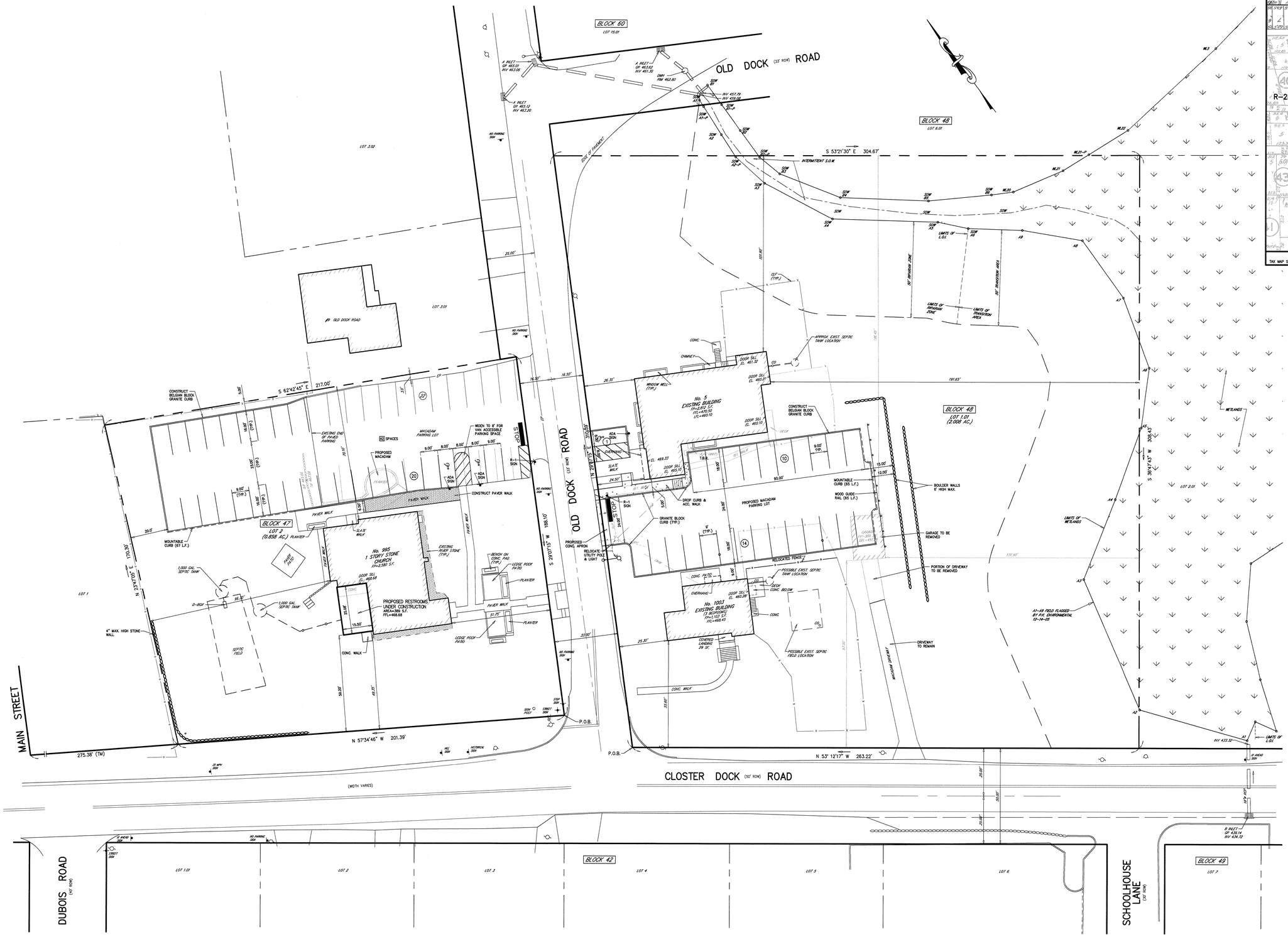
Church of the Lord
995 Closter Dock Road
Block 47, Lot 2

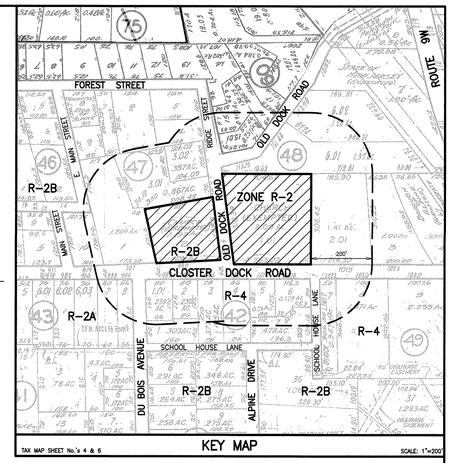
✓ No taxes are due and owing on this property as of (Date) tax exempt

___ Taxes are due on this property as follows _____

_____

Borough of Alpine- Tax Collector





ZONING NOTES:

USE: HOUSE OF WORSHIP – CONDITIONAL USE 220-10
BLOCK 48, LOT 1.01: (ZONE R-2)
BLOCK 47, LOT 2: (ZONE R-2B)

	REQUIREMENT	BLOCK 47, LOT 2	BLOCK 48, LOT 1.01	COMBINED LOTS
MIN. LOT AREA	5 Ac.	0.858 Ac.	2.008 Ac.	2.866 Ac. (1)
MAX. BUILDING COV.	10%	7.95%	4.62%	5.62%
MAX. IMPROVED LOT COV.	25%	42.14% (1)*	15.87%	23.73%
MIN. LOT WIDTH	450 FT.	170.30 FT. (1)	263.2 FT. (1)	
MIN. LOT DEPTH	450 FT.	201.3 FT. (1)	308.4 FT. (1)	
MIN. FRONT YARD:				
CLOSTER DOCK ROAD	200 FT.	49.35 FT. (1)	55.60 FT. (1)	
OLD DOCK ROAD	200 FT.	51.75 FT. (1)	24.50 FT. (1)	
MIN. SIDE YARD (ONE)	100 FT.	70.10 FT. (1)	191.65 FT.	
MIN. SIDE YARD (BOTH)	200 FT.	N/A	N/A	
MIN. REAR YARD	200 FT.	96.30 FT. (1)	101.90 FT. (1)	
MAX. BUILDING HEIGHT	35 FT.	< 35 FT.	< 35 FT.	
MAX. BUILDING HEIGHT	2 1/2 STY.	1 STY.	2 STY.	
MIN. BUFFER ABUTTING RES. USE	100 FT.	3.00 FT. (1)	101.0 FT.	
TRAFFIC ACCESS FROM RT. 9W	YES	NO (1)	NO (1)	

(1) EXISTING NON-CONFORMING CONDITION.
* VARIANCE REQUIRED

PARKING:
HOUSE OF WORSHIP: 1 PER 3 SEATS IN LARGEST ASSEMBLY AREA + 1 PER EMPLOYEE.
125 SEATS/3 = 42 SPACES
COMMUNITY CENTER: 1 PER 5 SEATS IN LARGEST ASSEMBLY AREA.
COMMUNITY CENTER: 150/5 = 30 SPACES REQUIRED; 65 SPACES PROPOSED.

GENERAL NOTES

1) BLOCK 47, LOT 2 LOT AREA = 37,353 S.F. (0.858 Ac.)
BLOCK 48, LOT 1.01 LOT AREA = 87,469 S.F. (2.008 Ac.)
TOTAL LOT AREA = 124,822 S.F. (2.866 Ac.)
2) ELEVATIONS BASED ON NGVD 1929.
3) EXISTING SEPTIC LOCATIONS BASED ON A CERTAIN MAP ENTITLED "LOT 5, BLOCK 79-A, SANITARY DISPOSAL SYSTEM, IN THE BOROUGH OF ALPINE, BERGEN COUNTY, N.J., FOR RONALD ISLEY", BY CONKLIN ASSOCIATES, DATED APRIL 2, 1973 AND SEPTIC INSPECTION REPORT BY DAVID ZUIDEMA, DATED JANUARY 23, 2020.

DRAWING LIST:

3882-4 SITE PLAN
3882-5 GRADING, DRAINAGE & UTILITY PLAN
3882-6 LIGHTING/LANDSCAPING PLAN & DETAILS
3882-7 SOIL EROSION CONTROL SEDIMENT CONTROL PLAN & DETAILS
3882-8 EXISTING CONDITIONS PLAN

LEGEND

S.O.W. STATE OPEN WATER
A-1 WETLAND FLAGS
WETLANDS
PROPOSED BOULDER WALL

BLOCK 47, LOT 2
EXISTING BUILDING COVERAGE

FOOTPRINT = 2,580 S.F./37,353 S.F. = 6.91%

BLOCK 47, LOT 2
EXISTING IMPROVED COVERAGE

BUILDING	= 2,580 S.F.
MACADAM PARKING LOT	= 6,180 S.F.
WALKS, STEPS & PATIOS	= 1,575 S.F.
TOTAL	= 10,335 S.F./37,353 S.F. = 27.67%

APPROVED BY THE BOARD OF ADJUSTMENT OF THE BOROUGH OF ALPINE _____ 2022

CHAIRMAN

SECRETARY

BLOCK 47, LOT 2
PROPOSED BUILDING COVERAGE

EXIST. FOOTPRINT	= 2,580 S.F.
ADDITION (UNDER CONSTRUCTION)	= 389 S.F.
TOTAL	= 2,969 S.F./37,353 S.F. = 7.95%

BLOCK 47, LOT 2
PROPOSED IMPROVED COVERAGE

BUILDING	= 2,969 S.F.
EXIST. MACADAM PARKING LOT	= 6,180 S.F.
PROP. MACADAM	= 264 S.F.
EXIST. WALKS, STEPS & PATIOS TO REMAIN	= 1,440 S.F.
PROP. CONC. WALK	= 25 S.F.
PROP. PAVER WALK	= 349 S.F.
PROP. PERVIOUS PAVER PARKING LOT	= 4,514 S.F.
TOTAL	= 15,741 S.F./37,353 S.F. = 42.14%

BLOCK 48, LOT 1.01
EXISTING BUILDING COVERAGE

BLDG. No. 5 FOOTPRINT	= 2,812 S.F.
BLDG. No. 5 OVERHANG	= 53 S.F.
BLDG. No. 5 CHIMNEY	= 15 S.F.
BLDG. No. 1003 FOOTPRINT	= 1,103 S.F.
BLDG. No. 1003 COV. LANDING	= 29 S.F.
BLDG. No. 1003 OVERHANG	= 28 S.F.
GARAGE	= 380 S.F.
TOTAL	= 4,420 S.F./87,469 S.F. = 5.05%

BLOCK 48, LOT 1.01
EXISTING IMPROVED COVERAGE

BUILDING COVERAGE	= 4,420 S.F.
MACADAM DRIVEWAY	= 868 S.F.
WALKS & STEPS	= 980 S.F.
DECKS & PATIOS	= 270 S.F.
A/C UNITS	= 6 S.F.
TOTAL	= 6,544 S.F./87,469 S.F. = 7.48%

BLOCK 48, LOT 1.01
PROPOSED BUILDING COVERAGE

BLDG. No. 5 FOOTPRINT	= 2,812 S.F.
BLDG. No. 5 OVERHANG	= 53 S.F.
BLDG. No. 5 CHIMNEY	= 15 S.F.
BLDG. No. 1003 FOOTPRINT	= 1,103 S.F.
BLDG. No. 1003 COV. LANDING	= 29 S.F.
BLDG. No. 1003 OVERHANG	= 28 S.F.
TOTAL	= 4,040 S.F./87,469 S.F. = 4.62%

BLOCK 48, LOT 1.01
PROPOSED IMPROVED COVERAGE

EXIST. BUILDING COVERAGE	= 4,040 S.F.
PROP. PARKING LOT	= 7,598 S.F.
REMAINING DRIVEWAY	= 868 S.F.
REMAINING WALKS & STEPS	= 649 S.F.
PROP. STAIRS & WALKS	= 307 S.F.
REMAINING DECKS & PATIOS	= 202 S.F.
EXIST. A/C UNITS	= 6 S.F.
PROP. WALLS	= 212 S.F.
TOTAL	= 13,882 S.F./87,469 S.F. = 15.87%

COMBINED
EXISTING BUILDING COVERAGE

BLOCK 47, LOT 2	= 2,580 S.F.
BLOCK 48, LOT 1.01	= 4,420 S.F.
TOTAL	= 7,000 S.F./124,822 S.F. = 5.61%

COMBINED
EXISTING IMPROVED COVERAGE

BLOCK 47, LOT 2	= 10,335 S.F.
BLOCK 48, LOT 1.01	= 6,544 S.F.
TOTAL	= 16,879 S.F./124,822 S.F. = 13.52%

SOIL MOVING CALCULATIONS

	CUT	FILL
LOT 1.01	2 C.Y.	1,490 C.Y.
LOT 2	11 C.Y.	136 C.Y.
TOTALS	13 C.Y.	1,626 C.Y.

IMPORT = 1,613 C.Y.

COMBINED
PROPOSED BUILDING COVERAGE

BLOCK 47, LOT 2	= 2,969 S.F.
BLOCK 48, LOT 1.01	= 4,040 S.F.
TOTAL	= 7,009 S.F./124,822 S.F. = 5.62%

COMBINED
PROPOSED IMPROVED COVERAGE

BLOCK 47, LOT 2	= 15,741 S.F.
BLOCK 48, LOT 1.01	= 13,882 S.F.
TOTAL	= 29,623 S.F./124,822 S.F. = 23.73%

0 20 40
SCALE: 1"=20'

ROBERT J. MUELLER
PROFESSIONAL LAND SURVEYOR
N.J. LIC No. 37206
6-24-21
DATE

MICHAEL J. HUBSCHMAN P.E., P.P.
PROFESSIONAL ENGINEER AND PLANNER
N.J.P.E. NO. 29497 N.J.P.P. NO. 3200
6-24-21
DATE

HUBSCHMAN ENGINEERING, P.A.
ENGINEERS – PLANNERS – SURVEYORS
263A S. WASHINGTON AVE., BERGENFIELD, NJ 07621
201-384-5666

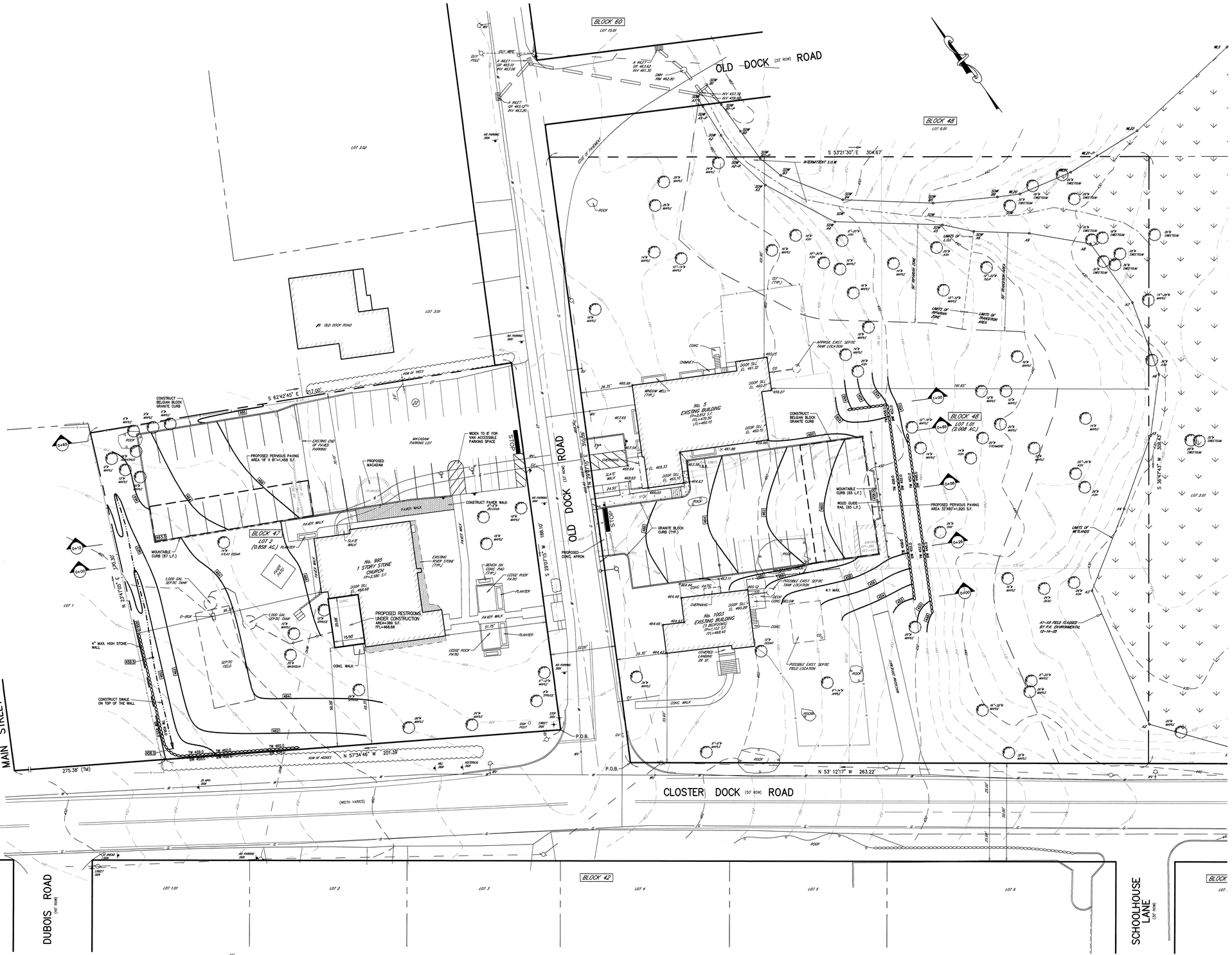
NO.	REVISIONS	DATE	BY	CHKD
1.	RELOCATED PARKING AREAS	12-28-21	N.M.	M.J.H

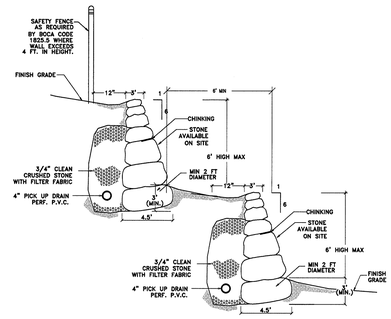
SITE PLAN

LOT 1.01, LOT 2 PROPOSED PARKING LOT & SITE IMPROVEMENTS — BLOCK 48, BLOCK 47
ALPINE COMMUNITY CHURCH
BOROUGH OF ALPINE BERGEN COUNTY NEW JERSEY

APPLICANT: ALPINE M E CHURCH
CLOSTER DOCK ROAD
ALPINE, NJ 07620

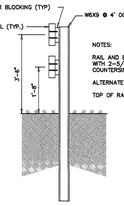
DRAWN BY: B.W.
CHKD BY MJH
SCALE: 1"=20'
DRAWING NO. 3882-4 REV. 1
1 OF 5





NOTE:
1. LONG ACCESS TO STONE TO BE PLACED HORIZONTAL AND ALL STONES SHALL BE INTERLOCKED.
2. MIN SIZE AND WEIGHT OF STONE TO BE VERIFIED DURING CONSTRUCTION

DRY LAID STONE RETAINING WALL
NTS



NOTES:
RAIL AND BLOCKING TO BE ATTACHED TO W8 WITH 2-5/8"Ø GALV BOLTS AT EACH POST. COUNTERSINK HEAD FLUSH WITH RAIL.
ALTERNATE RAIL DETAIL – USE GALV THRIE BEAM.
TOP OF RAIL TO BE MIN. 3'-6" ABOVE GRADE.

WOOD GUARD RAIL DETAIL
N.T.S.

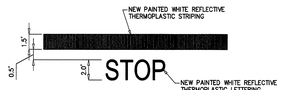
ADDITIONAL VAN PLATE WHERE SHOWN

HANDICAP SIGN

R1-1 30"x30"

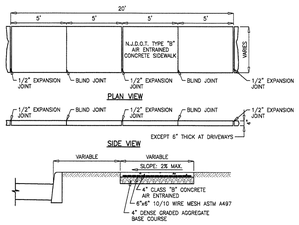
SIGN & PAVEMENT MARKING DETAILS
NTS

SIGN NOTES
1) HANDICAP SIGN TO BE MOUNTED 5' HIGH FROM THE GROUND TO THE BOTTOM OF THE SIGN.
2) ALL TRAFFIC CONTROL SIGNS MUST CONFORM IN FACE DESIGN (TYPE VI REFLECTIVE SHEETING AND CONSTRUCTION TO SPECIFICATIONS FOUND IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, U.S. D.O.T., FEDERAL HIGHWAY ADMIN. 2000, AS REVISED. SPECIFICALLY, REGULATORY AND WARNING SIGNS SHALL BE FABRICATED OF FLAT ALUMINUM SHEETS AND SHALL BE COVERED WITH TYPE X (DIAMOND GRADE CUBED) WIDE-ANGLE HIGH PERFORMANCE PRISMATIC RETRO-REFLECTIVE SHEETING SERIES 4090 PER 3M OR EQUIVALENT VISUAL PERFORMANCE.

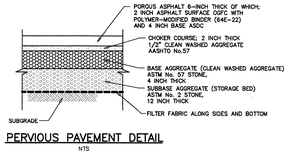


STOP BAR & LETTERING DETAIL
N.T.S.

SIDEWALK GENERAL NOTES
1) SUBGRADE IS TO BE IN A MANNER SUITABLE TO THE MUNICIPAL ENGINEER.
2) EXPANSION JOINTS ARE TO BE 1/3" WIDE AND FILLED WITH PRE-FORMED HOT MIX ASPHALT TYPE JOINT FILLER, THE TOP OF ALL JOINT FILLER SHALL BE 1/4" BELOW THE TOP OF THE SURFACE. EXPANSION JOINT SHALL BE LOCATED 15' ON CENTER.
3) BLIND JOINTS ARE TO BE SURFACE GROOVES CUT INTO SIDEWALK 1/2" DEEP AND SHALL BE LOCATED 15' ON CENTER.
4) CONTRACTOR SHALL COMPLY WITH SECTION 607.06 OF THE NJDOT SPECIFICATION.
5) FOR SIDEWALK SECTIONS WIDER THAN 5', THE APPLICANT SHALL PROVIDE THE MUNICIPAL ENGINEER WITH A DETAIL SHOWING JOINT PATTERN (BOTH BLIND AND EXPANSION JOINTS) FOR APPROVAL.
6) ALL EDGES SHALL BE FINISHED AND ROUNDED WITH AN EDGING TOOL HAVE A RADIUS OF 3/4 INCH.
7) THE SURFACE OF THE CONCRETE SHALL BE SO FINISHED AS TO DRAIN COMPLETELY AT ALL TIMES.
8) CONCRETE SHALL BE STRUCK OFF WITH A TRANSVERSE TEMPLATE AND FINISHED WITH FLOATS AND STRAIGHT EDGES UNTIL A SMOOTH SURFACE HAS BEEN OBTAINED.
9) ALL CONCRETE SURFACES SHALL BE TREATED WITH A CONCRETE CURING AND SEALING COMPOUND CONFORMING WITH SECTION 909.03 CURING MATERIALS, NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2001.



SIDEWALK DETAIL
NTS



PERVIOUS PAVEMENT DETAIL
NTS

NOTE:
POROUS ASPHALT PAVEMENT FOR STORMWATER MANAGEMENT TO BE PER NJ ASPHALT PAVEMENT ASSOCIATION SPECIFICATION.

GENERAL NOTES ON BIORETENTION BASIN MAINTENANCE
1. ALL BASIN COMPONENTS EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT MUST BE INSPECTED FOR CLOGGING AND EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST FOUR TIMES ANNUALLY AS WELL AS AFTER EVERY STORM EXCEEDING 1 INCH OF RAINFALL. SUCH COMPONENTS MAY INCLUDE BOTTOMS, TRASH RACKS, OUTLET STRUCTURES, RIPRAP OR GABION APRONS AND CLEANOUTS.
2. SEDIMENT REMOVAL SHOULD TAKE PLACE WHEN THE BASIN IS THOROUGHLY DRY. DISPOSAL OF DEBRIS, TRASH, SEDIMENT AND OTHER WASTE MATERIAL SHOULD BE DONE AT SUITABLE DISPOSAL/RECYCLING SITES AND IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WASTE REGULATIONS.
3. THE MAINTENANCE OF THE SYSTEM ON SITE SHALL BE RESPONSIBILITY OF THE PROPERTY OWNER.
4. THE CHURCH SHALL KEEP A WRITTEN COPY OF MAINTENANCE PLAN INCLUDING THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PARTIES RESPONSIBLE FOR THE MAINTENANCE. WRITTEN MAINTENANCE AND REPAIR RECORDS FOR THE STORMWATER MANAGEMENT SYSTEM SHALL BE MAINTAINED FOR AT LEAST FIVE YEARS, AND SHALL BE PROVIDED TO THE STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION UPON REQUEST.
5. ALL STRUCTURAL COMPONENTS MUST BE INSPECTED FOR CRACKING, SUBSIDENCE, SPALLING, EROSION AND DETERIORATION AT LEAST ANNUALLY.
6. SEE DETAILED OPERATIONS & MAINTENANCE MANUAL FOR STORMWATER MANAGEMENT.

GENERAL NOTES ON BIORETENTION BASIN CONSTRUCTION
1. THE GRAVEL LAYER SHALL CONSIST OF 0.5 TO 1.5 INCH CLEAN BROKEN STONE OR PEA GRAVEL (AASHTO M-43). WITH A MINIMUM PERMEABILITY OF K-4.
2. THE SAND LAYER SHALL CONSIST OF CLEAN MEDIUM AGGREGATE CONCRETE SAND, (AASHTO M-6/ASTM C-33),
3. THE UNDERDRAIN PIPING SHALL BE 8IGID SCHEDULE 40 PVC PIPE (AASHTO M-278) LAID AT A MINIMUM SLOPE OF 0.2 PERCENT. THE DRAIN BENEATH THE GRAVEL AND SAND LAYERS MUST BE PERFORATED, UNLESS NOTED. ALL RISER PIPES AND CLEANOUTS MUST BE NON-PERFORATED. ALL JOINTS MUST BE SECURE AND WATERTIGHT. CLEANOUTS MUST BE LOCATED AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE PERFORATED SECTION OF THE UNDERDRAIN AND EXTEND TO OR ABOVE THE FINISHED GRADE.

SOIL BED SPECIFICATIONS:
1. THE SOIL BED MUST BE A MINIMUM OF 18 INCHES IN DEPTH.
2. THE SOIL BED MATERIAL MUST CONSIST OF THE FOLLOWING MIX, BY WEIGHT: 85 TO 95% SAND, WITH NO MORE THAN 25% OF THE SAND AS FINE OR VERY FINE SANDS, NO MORE THAN 15% SILT AND CLAY WITH 2% TO 5% CLAY CONTENT. THE ENTIRE MIX MUST THEN BE AMENDED WITH 3 TO 5% (ORGANIC) BY WEIGHT.
3. THE AMENDED SOIL MUST BE TESTED FOR CONSISTENCY WITH THE REQUIREMENT ABOVE BY EITHER THE VENDOR OR BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF NEW JERSEY. THE CONTENT OF ANY OIL MIXED ON-SITE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF NEW JERSEY. IN ADDITION, THE ENGINEER MUST BE PRESENT WHILE THE SOIL IS MIXED.
4. THE pH OF THE SOIL BED MATERIAL MUST RANGE FROM 5.5 TO 6.5.
5. THE SOIL BED MATERIAL MUST BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES. ADDITIONAL MATERIALS MAY BE NECESSARY TO ACCOUNT FOR SETTLING OVER TIME.

0 20 40
SCALE: 1"=20'

NO.	REVISIONS	DATE	BY	CHKD
1.	RELOCATED PARKING AREAS	12-28-21	N.M.	M.J.H

GRADING, DRAINAGE & UTILITY PLAN/DETAILS

LOT 1.01 LOT 2 PROPOSED PARKING LOT & SITE IMPROVEMENTS BLOCK 48 BLOCK 47
ALPINE COMMUNITY CHURCH
BOROUGH OF ALPINE BERGEN COUNTY NEW JERSEY

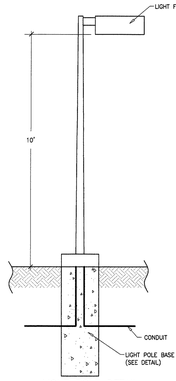
APPLICANT: ALPINE M E CHURCH
CLOSTER DOCK ROAD
ALPINE, NJ 07620

ROBERT J. MUELLER
PROFESSIONAL LAND SURVEYOR
N.J. LIC No. 37206
6-24-21
DATE

MICHAEL J. HUBSCHMAN P.E., P.P.
PROFESSIONAL ENGINEER AND PLANNER
N.J.P.E. NO. 29497 N.J.P.P. NO. 3200
6-24-21
DATE

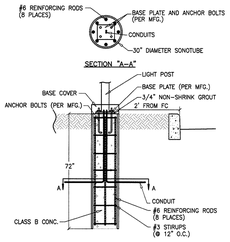
HUBSCHMAN ENGINEERING,P.A.
ENGINEERS – PLANNERS – SURVEYORS
263A S. WASHINGTON AVE., BERGENFIELD, NJ 07621
201-384-5666

DRAWN BY:	B.W.
CHK'D BY	M/H
SCALE:	1"=20'
DRAWING NO.	REV.
3882-5	1
2 OF 5	



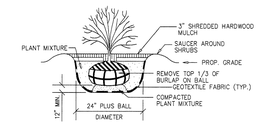
LIGHT POLE DETAIL

NOTES
1. CONCRETE SHALL BE COMPOSED OF ONE PART PORTLAND CEMENT 2-1/2 PARTS SAND AND 3-1/2 PARTS AGGREGATE BY VOLUME ADDED WATER SHALL NO EXCEED 7-1/2 GAL PER SACK OF CEMENT. CONCRETE SHALL BE 3,000 PSI MIN.
2. ALL ANCHOR BOLTS SHALL BE DOUBLE-DIP HOT GALVANIZED & BE TEMPLATED TO SUIT LAMP STANDARD AS REQUIRED.

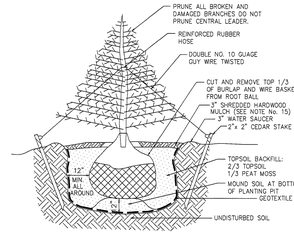


LIGHT POLE BASE

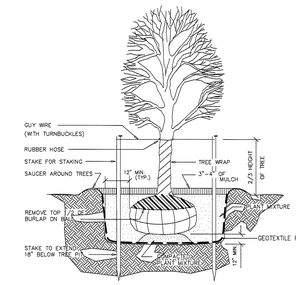
LANDSCAPE SPECIFICATIONS AND PLANTING NOTES:
1. THE LANDSCAPE CONTRACTOR WILL VERIFY WITH THE ARCHITECT THAT HE IS WORKING FROM THE MOST CURRENT PLAN AND OR LATEST REVISIONS THEREOF, PRIOR TO ORDERING PLANTS AND BEGINNING WORK.
2. PROTECT ALL EXISTING VEGETATION TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
3. USE EXTREME CAUTION TO PROTECT UTILITIES.
4. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE LOCATION OF MECHANICAL EQUIPMENT AND UTILITIES EXISTING OR PROPOSED IN THE AREA TO BE PLANTED, AND WHERE NECESSARY RELOCATE PLANTS AT THE DIRECTION OF THE ARCHITECT.
5. QUANTITIES GIVEN IN THE PLANT LIST ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIALS REQUIRED TO COMPLETE THE PLANS.
6. THE CONTRACTOR SHALL VERIFY ALL GRADES, DIMENSIONS, AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
7. LOCATIONS OF NEW PLANTS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
8. ALL BEDS AND TREE SAUCERS SHALL RECIEVE 3 INCHES MINIMUM OF SHREDDED HARDWOOD MULCH, DARK IN COLOR.
9. CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR ONE YEAR FROM TIME OF LANDSCAPE ARCHITECTS FINAL WRITTEN APPROVAL.
10. EARTH BACKFILL SHALL BE FREE FROM RUBBISH, DEBRIS, SOD, ROOTS, OR ARTIFICIAL MATERIAL. IMPORTED FILL SHALL COMPLY WITH THE REQUIREMENTS FOR CLEAN FILL IN THE NJDEP FILL MATERIAL GUIDANCE FOR SRP SITES (APRIL 2015).
11. BACKFILL FOR PLANTING SHALL BE THREE PARTS TOPSOIL, ONE PART SAND AND ONE PART PEAT MOSS. IMPORTED FILL SHALL COMPLY WITH THE REQUIREMENTS FOR CLEAN FILL IN THE NJDEP FILL MATERIAL GUIDANCE FOR SRP SITES (APRIL 2015).
12. CONTRACTOR IS RESPONSIBLE FOR WATERING UNTIL INSTALLATION IS COMPLETE.
13. CONTRACTOR TO REPAIR ALL LAWN AREAS DAMAGED FROM CONSTRUCTION AND PLANTING OPERATIONS.
14. THE BOROUGH ENGINEER MUST APPROVE ALL PLANT SUBSTITUTIONS.
15. SHREDDED HARDWOOD MULCH TO BE PLACED SO AS TO NOT COME IN CONTACT WITH TREE ROOT FLARE.



SHRUB PLANTING DETAIL
N.T.S.
NOTE:
MINIMUM OF 12" CLEAN SOIL TO BE PLACED BELOW AND ON ALL SIDES OF TREE PLANTING.



EVERGREEN TREE PLANTING DETAIL
N.T.S.
NOTE:
MINIMUM OF 12" CLEAN SOIL TO BE PLACED BELOW AND ON ALL SIDES OF TREE PLANTING.



PLANTING DETAIL
TYPICAL TREE GUYING AND STAKING
N.T.S.

NOTE:
MINIMUM OF 12" CLEAN SOIL TO BE PLACED BELOW AND ON ALL SIDES OF TREE PLANTING.

PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE/REMARKS
TREES				
AR	3	Acer Rubrum 'October Glory'	Red Maple	2 1/2" - 3" cal / B&B
TP	42	Thuja Plicata 'Green Giant'	Arborvitae	7' - 8' HT. / B&B

BLED18

RAB LIGHTING

Project: Type:

Prepared By: Date:

Driver Info		LED Info	
Type:	Constant Current	Watts:	18W
120V:	0.24A	Color Temp:	5100K
208V:	0.18A	Color Accuracy:	70 CRI
240V:	0.15A	L70 Lifespan:	100000
277V:	0.12A	Lumens:	1032
Input Watts:	22W	Efficacy:	46 LPW
Efficiency:	80%		

LED bollard with architectural quality and strength at an affordable price point. Square post and head. Available in 12, 18 and 24 Watt versions that provide 90, 180, 270 and 360 degree lighting patterns.

Color: Bronze Weight: 21.8 lbs

LIGHT FIXTURE DETAIL
TYPE 'A'
MOUNTING HEIGHT 3.5'

Luminaire Schedule							
Symbol	Qty	Tag	Label	Arrangement	Lum. Lumens	LLF	Description
○	15	A	BLED18N	SINGLE	270	1.000	BOLLARD
○—□	2	B	ALED3T105Y	SINGLE	11,829	1.000	POLE MOUNT @10' HEIGHT

ALED3T105Y

RAB LIGHTING

Project: Type:

Prepared By: Date:

Driver Info		LED Info	
Type	Constant Current	Watts	105W
120V	0.89A	Color Temp	3000K (Warm)
208V	0.58A	Color Accuracy	71 CRI
240V	0.50A	L70 Lifespan	100,000 Hours
277V	0.44A	Lumens	11,829
Input Watts	107.8W	Efficacy	109.7 lm/W

Color: Bronze Weight: 32.0 lbs

LIGHT FIXTURE DETAIL
TYPE 'B'
MOUNTING HEIGHT 10'

0 20 40
SCALE: 1"=20'

NO.	REVISIONS	DATE	BY	CHKD
1.	RELOCATED PARKING AREAS	12-28-21	N.M.	M.J.H

LIGHTING/LANDSCAPING PLAN & DETAILS

LOT 1.01, LOT 2 PROPOSED PARKING LOT & SITE IMPROVEMENTS BLOCK 48, BLOCK 47
ALPINE COMMUNITY CHURCH
BOROUGH OF ALPINE BERGEN COUNTY NEW JERSEY

APPLICANT: ALPINE M E CHURCH
CLOSTER DOCK ROAD
ALPINE, NJ 07620

MICHAEL J. HUBSCHMAN P.E., P.P.
PROFESSIONAL ENGINEER AND PLANNER
N.J.P.E. NO. 29497 N.J.P.P. NO. 3200
6-24-21
DATE

HUBSCHMAN ENGINEERING, P.A.
ENGINEERS — PLANNERS — SURVEYORS
263A S. WASHINGTON AVE., BERGENFIELD, NJ 07621
201-384-5866

DRAWN BY: B.W.
CHKD BY MJH
SCALE: 1"=20'
DRAWING NO. 3882-6
REV. 1
3 OF 5

BERGEN COUNTY SOIL CONSERVATION DISTRICT
SOIL EROSION AND SEDIMENT CONTROL NOTES

1. All soil erosion and sediment control practices will be installed in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey (NJ Standards), and will be installed in proper sequence and maintained until permanent stabilization is established.

2. Any disturbed area that will be left exposed for more than thirty (30) days and not subject to construction traffic shall immediately receive a temporary seeding and mulching. If the season prohibits temporary seeding, the disturbed area will be mulched with unrotted straw at a rate of 2 tons per acre anchored by approved methods (i.e. peg and twine, mulch netting, or liquid mulch binder).

3. Immediately following initial disturbance or rough grading, all critical areas subject to erosion will receive a temporary seeding in combination with straw mulch or a suitable equivalent, at a rate of 2 tons per acre, according to the NJ Standards.

4. Stabilization Specifications:
A. Temporary Seeding and Mulching
Ground Limestone – Applied uniformly according to soil test recommendations.
Fertilizer – Apply 11lbs./1,000 sf of 10-20-10 or equivalent with
50% water insoluble nitrogen (unless a soil test indicates otherwise)
worked into the soil a minimum of 4".
Seed – perennial ryegrass 100 lbs./acre (2.3 lbs./1,000 sf) or other approved
seeds; plant between March 1 and May 15 or between August 15 and October 1.
Mulch – Unrotted straw or hay at a rate of 70 to 90 lbs./1,000 sf applied to achieve 90%
soil surface coverage. Mulch shall be anchored by approved methods (i.e. peg and
twine, mulch netting, or liquid mulch binder).

B. Permanent Seeding and Mulching
Topsoil – A uniform application to an average depth of 5", minimum of 4" firmed in place is required.
Ground Limestone – Applied uniformly according to soil test recommendations.
Fertilizer – Apply 11 lbs./1,000 sf of 10-10-10 or equivalent with
50% water insoluble nitrogen (unless a soil test indicates otherwise)
worked into the soil a minimum of 4".
Seed – Turf type tall fescue (blend of 3 cultivars) 200 lbs./acre (5 lbs./1,000 sf)
or other approved seeds; plant between March 1 and October 1
(summer seeding require irrigation)
Mulch – Unrotted straw or hay at a rate of 70 to 90 lbs./1,000 sf applied to achieve 90%
soil surface coverage. Mulch shall be anchored by approved methods (i.e. peg and
twine, mulch netting, or liquid mulch binder).

5. The site shall at all times be graded and maintained such that all Stormwater runoff is diverted to soil erosion and sediment control facilities.

6. Soil erosion and sediment control measures will be inspected and maintained on a regular basis, including after every storm event.

7. Stockpiles are not to be located within 50' of a floodplain, slope, roadway or drainage facility. The base of all stockpiles shall be contained by a haybale sediment barrier or silt fence.

8. A crushed stone, vehicle wheel-cleaning blanket will be installed wherever a construction access road intersects any paved roadway. Said blanket will be composed of 1" – 2½" crushed stone, 6" thick, will be at least 30' x 100' and should be underlain with a suitable synthetic sediment filter fabric and maintained.

9. Maximum side slopes of all exposed surfaces shall not exceed 3:1 unless otherwise approved by the District.

10. Driveways must be stabilized with 1" – 2½" crushed stone or subbase prior to individual lot construction.

11. All soil washed, dropped, spilled or tracked outside the limit of disturbance or onto public right-of-ways, will be removed immediately. Paved roadways must be kept clean at all times.

12. Catch basin inlets will be protected with an inlet filter designed in accordance with Section 28 –1 of the NJ Standards.

13. Storm drainage outlets will be stabilized, as required, before the discharge points become operational.

14. Dewatering operations must discharge directly into a sediment control bag or other approved filter in accordance with Section 14–1 of the NJ Standards.

15. Dust shall be controlled via the application of water, calcium chloride or other approved method in accordance with Section 16–1 of the NJ Standards.

16. Trees to remain after construction are to be protected with a suitable fence installed at the drip line or beyond in accordance with Section 9–1 of the NJ Standards.

17. The project owner shall be responsible for any erosion or sedimentation that may occur below stormwater outfalls or off–site as a result of construction of the project.

18. Any revision to the certified Soil Erosion and Sediment Control Plan must be submitted to the District for review and approval prior to implementation in the field.

19. A copy of the certified Soil Erosion and Sediment Control Plan must be available at the project site throughout construction.

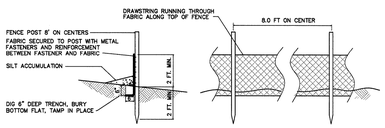
20. The Bergen County Soil Conservation District must be notified, in writing, at least 48 hours prior to any land disturbance. Bergen County SCD, 700 Kinderkamack Road, Suite 108, Oradell, NJ 07649. Tel. 201–261–4470, Fax 201–261–7373.

21. The Bergen County Soil Conservation District may request additional measures to minimize on or off–site erosion problems during construction.

22. The owner must obtain a District issued report of compliance prior to the issuance of any certificate of occupancy. The District requires at least one week's notice to facilitate the scheduling of all report of compliance inspections. All site work must be completed, including temporary/permanent stabilization of all exposed areas, prior to the issuance of a report of compliance by the District.

SEQUENCE OF CONSTRUCTION

1A. INSTALL 25'X50' TRACKING BED AT CONSTRUCTION ENTRANCE.
1B. INSTALL SILT FENCE ALONG PROPERTY SUBJECT TO SOIL EROSION ACCORDING TO PLAN.
2. REMOVE TOPSOIL AND STOCKPILE.
3. PROVIDE ROUGH GRADING FOR PROPOSED PARKING AREAS.
4. INSTALL NEW CURBS, RETAINING WALLS WHERE SHOWN
5. CONSTRUCT PARKING AREAS PER PLAN
6. PROVIDE FINAL GRADING, TOPSOIL REPLACEMENT, AND LANDSCAPING. TOPSOIL TO BE REPLACED TO AN AVERAGE DEPTH OF 5", MINIMUM OF 4" FIRMED IN PLACE.
7. PROVIDE FINAL PAVING.
8. REMOVE SOIL EROSION CONTROL DEVICES AS DIRECTED BY LOCAL SERVICE.



SILT FENCE CONSTRUCTION AND INSTALLATION DETAIL
NTS

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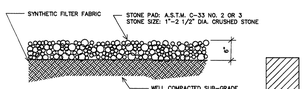
SHOWN



STABILIZED CONSTRUCTION ACCESS
NTS

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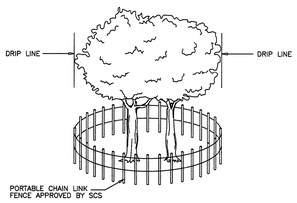
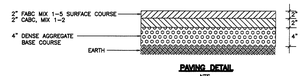


TREE PROTECTION DETAIL

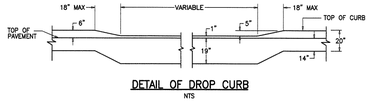


PAVING DETAIL
NTS

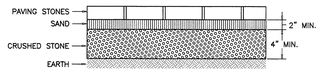
1) THE GRANULAR BASE SHALL BE DENSE GRADE AGGREGATE, CONFORMING TO SUBSECTION 901.08 OR SOIL AGGREGATE DESIGNATED I–5 CONFORMING TO SUBSECTION 901.09 AND SHOWN IN TABLE 901–2 OF THE N.J. DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (1988)

2) ALL SUBGRADES SHALL BE CONSIDERED "POOR" UNLESS THE APPLICANT PROVES OTHERWISE THROUGH CBR TESTING OR FIELD EVALUATION OF SOIL CLASSIFICATION. TEST RESULT SHALL BE REVIEWED BY THE MUNICIPAL ENGINEER.

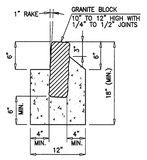
3) SUBGRADE COMPACTION SHALL BE APPROVED BY THE MUNICIPAL ENGINEER.



DETAIL OF DROP CURB
NTS

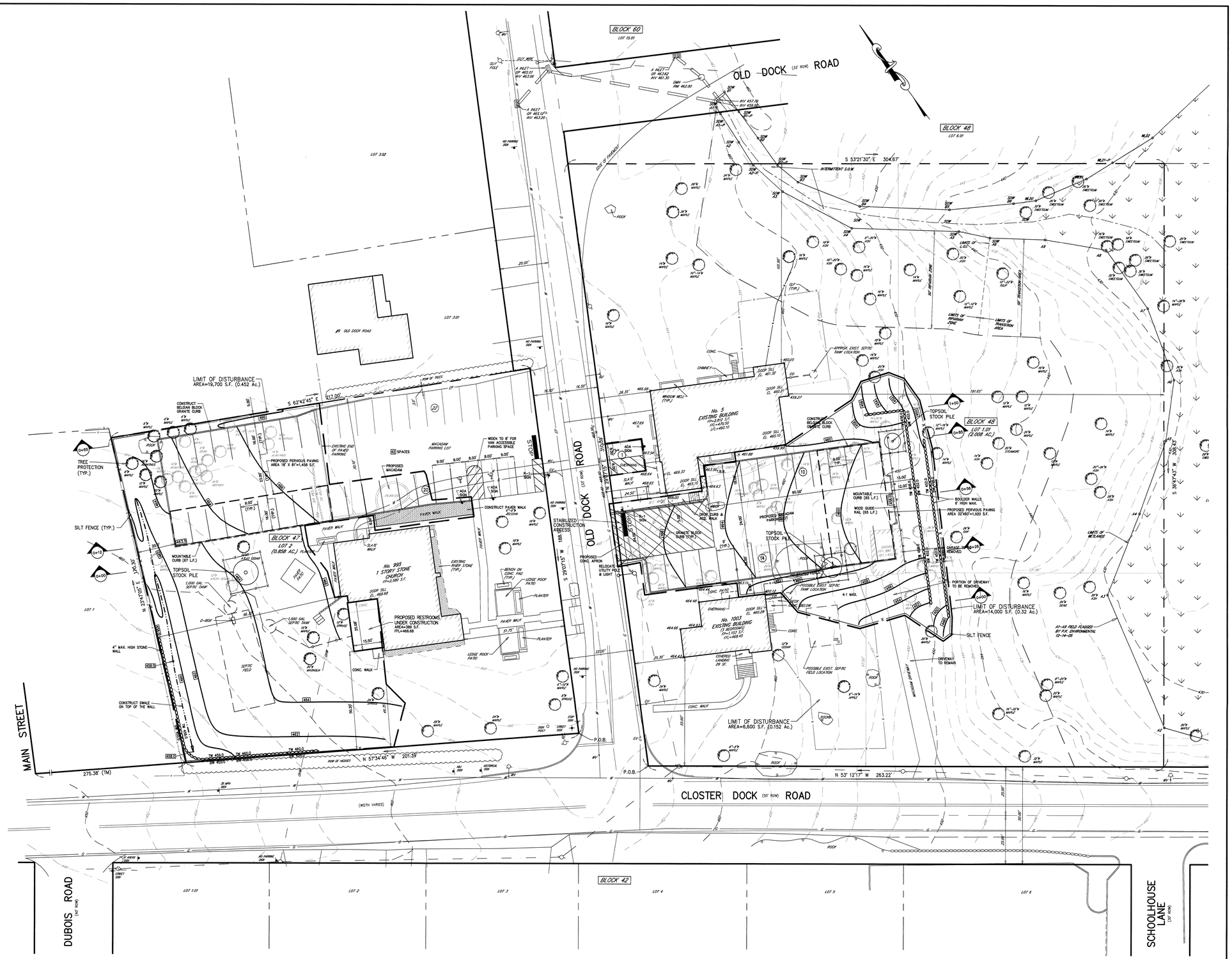


PAVER DETAIL
NTS



N.J.D.O.T. CLASS "C" CONCRETE

VERTICAL GRANITE BLOCK CURB
N.T.S.



0 20 40
SCALE: 1"=20'

NO.	REVISIONS	DATE	BY	CHKD
1.	RELOCATED PARKING AREAS	12–28–21	N.M.	M.J.H

SOIL EROSION SEDIMENT CONTROL PLAN & DETAILS

LOT 1.01, LOT 2 — PROPOSED PARKING LOT & SITE IMPROVEMENTS — BLOCK 48, BLOCK 47

ALPINE COMMUNITY CHURCH

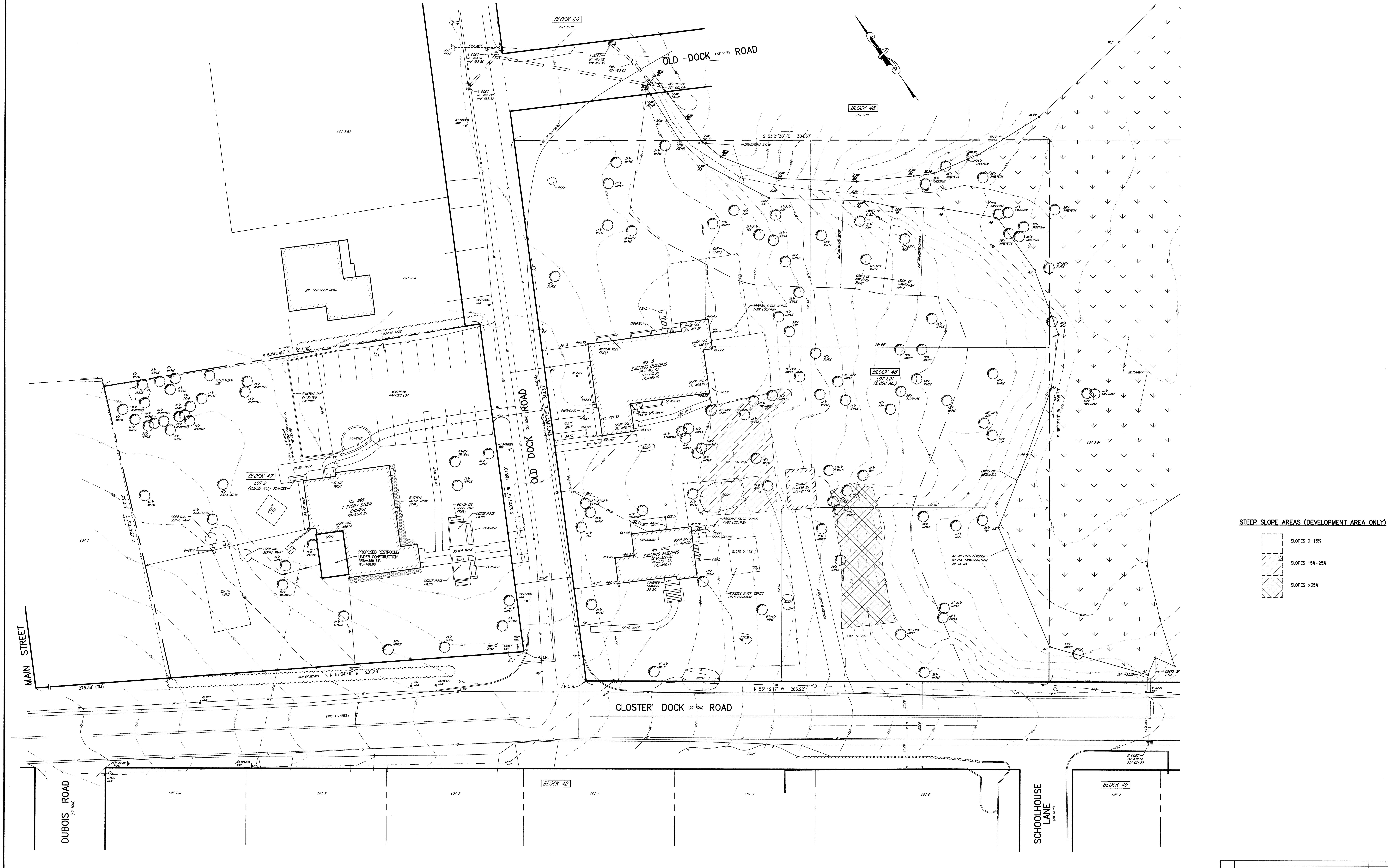
BOROUGH OF ALPINE — BERGEN COUNTY — NEW JERSEY

APPLICANT: ALPINE M E CHURCH
CLOSTER DOCK ROAD
ALPINE, NJ 07620

MICHAEL J. HUBSCHMAN P.E., P.P.
PROFESSIONAL ENGINEER AND PLANNER
N.J.P.E. NO. 29497 — N.J.P.P. NO. 3200
6–24–21
DATE

HUBSCHMAN ENGINEERING, P.A.
ENGINEERS – PLANNERS – SURVEYORS
263A S. WASHINGTON AVE., BERGENFIELD, NJ 07621
201–384–5666

DRAWN BY:	B.W.
CHKD BY:	M.H.
SCALE:	1"=20'
DRAWING NO.	3882–7
REV.	1
4 OF 5	



NO.	REVISIONS	DATE	BY	CHKD
1.	ADDED STEEP SLOPES	12-28-21	N.M.	M.J.H

EXISTING CONDITIONS PLAN

LOT 1.01 / LOT 2 — PROPOSED PARKING LOT & SITE IMPROVEMENTS — BLOCK 48 / BLOCK 47

ALPINE COMMUNITY CHURCH

BOROUGH OF ALPINE — BERGEN COUNTY — NEW JERSEY

APPLICANT: ALPINE M E CHURCH
CLOSTER DOCK ROAD
ALPINE, NJ 07620

ROBERT J. MUELLER
PROFESSIONAL LAND SURVEYOR
N.J. LIC No. 37206
6-24-21
DATE

MICHAEL J. HUBSCHMAN P.E., P.P.
PROFESSIONAL ENGINEER AND PLANNER
N.J.P.E. NO. 29497 N.J.P.P. NO. 3200
6-24-21
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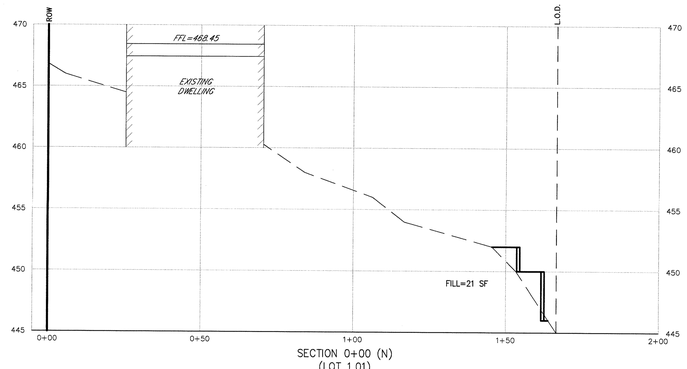
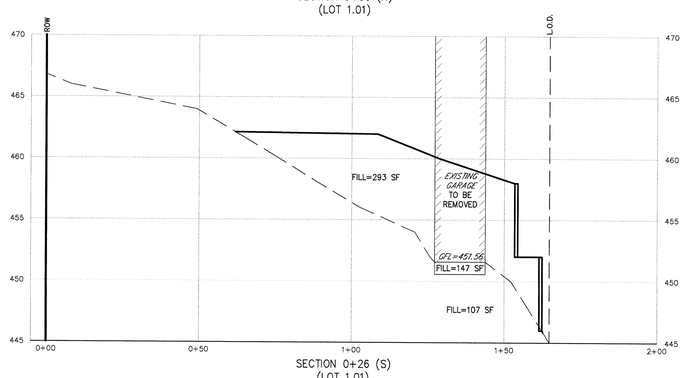
HUBSCHMAN ENGINEERING, P.A.
ENGINEERS – PLANNERS – SURVEYORS
263A S. WASHINGTON AVE., BERGENFIELD, NJ 07621
201-384-5666

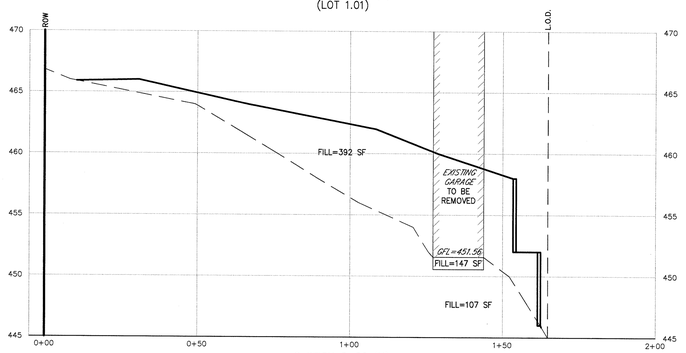
DRAWN BY: B.W.
CHKD BY ***MJH***
SCALE: 1"=20'
DRAWING NO. 3882-8 — ***REV.*** 1
5 *OF* 5



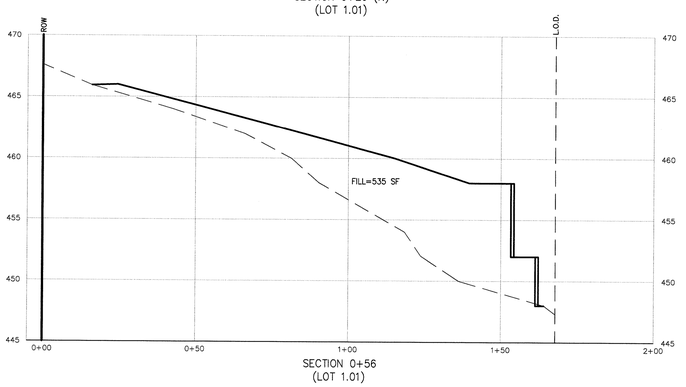
SECTION 0+00 (N)
(LOT 1.01)



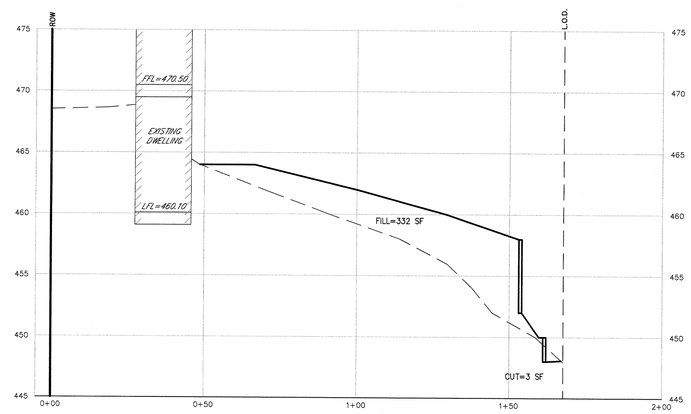
SECTION 0+26 (S)
(LOT 1.01)



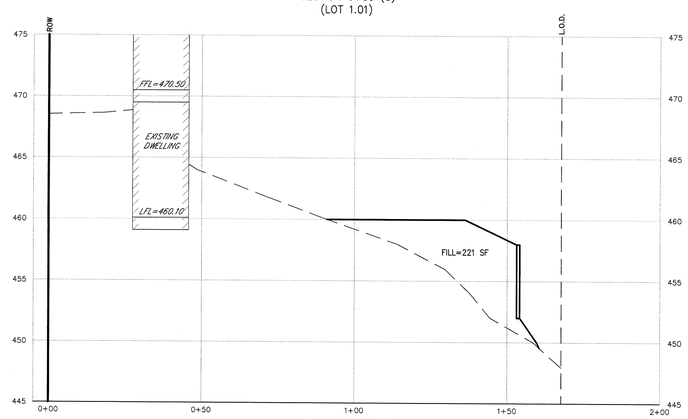
SECTION 0+26 (N)
(LOT 1.01)



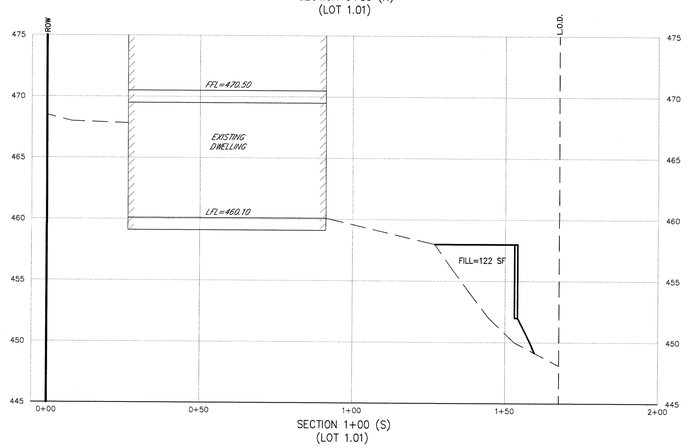
SECTION 0+56
(LOT 1.01)



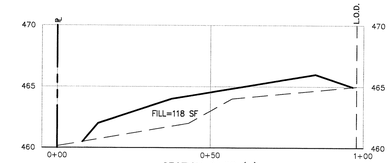
SECTION 0+85 (S)
(LOT 1.01)



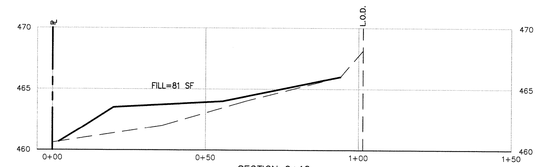
SECTION 0+85 (N)
(LOT 1.01)



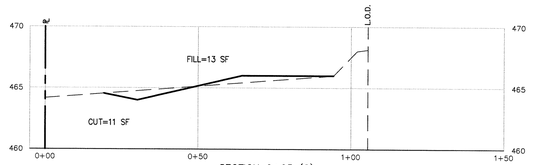
SECTION 1+00 (S)
(LOT 1.01)



SECTION 0+00 (N)
(LOT 2)



SECTION 0+12
(LOT 2)



SECTION 0+65 (S)
(LOT 2)

LOT 1.01: SOIL MOVING CALC'S

CUT	Cut (SF)	Average (SF)	Distance (FT)	Volume (CF)
0+00 N	0			
		0.00	26	0.00
0+26 S	0			
0+26 N	0			
		0.00	30	0.00
0+56 S	0			
0+56 N				
		1.50	29	43.50
0+85 S	3			
0+85 N	0			
		0.00	15	0.00
1+00 S	0			
Total			43.50 ≈	2 CY

FILL	Fill (SF)	Average (SF)	Distance (FT)	Volume (CF)
0+00 N	21			
		284.00	26	7,384.00
0+26 S	547			
0+26 N	646			
		590.50	30	17,715.00
0+56 S	535			
0+56 N	535			
		433.50	29	12,571.50
0+85 S	332			
0+85 N	221			
		171.50	15	2,572.50
1+00 S	122			
Total			40,243.00 ≈	1,490 CY

LOT 2: SOIL MOVING CALC'S

CUT	Cut (SF)	Average (SF)	Distance (FT)	Volume (CF)
0+00 N	0			
		0.00	12	0.00
0+12 S	0			
0+12 N	0			
		5.50	53	291.50
0+65 S	11			
Total			291.50 ≈	11 CY

FILL	Fill (SF)	Average (SF)	Distance (FT)	Volume (CF)
0+00 N	118			
		99.50	12	1,194.00
0+12 S	81			
0+12 N	81			
		47.00	53	2,491.00
0+65 S	13			
Total			3,685.00 ≈	136 CY

SOIL MOVING CALCULATIONS

	CUT	FILL
LOT 1.01	2 C.Y.	1,490 C.Y.
LOT 2	11 C.Y.	136 C.Y.
TOTALS	13 C.Y.	1,626 C.Y.
IMPORT =	1,613 C.Y.	

LEGEND

EXISTING GRADE

PROPOSED GRADE

PROPERTY LINE

0 5 10

VERT. SCALE: 1"=5'

0 20 40

HOR. SCALE: 1"=20'

NO.	REVISIONS	DATE	BY	CHKD

CROSS SECTIONS & SOIL MOVING PLAN

LOT 1.01 LOT 2 PROPOSED PARKING LOT & SITE IMPROVEMENTS BLOCK 48 BLOCK 47

ALPINE COMMUNITY CHURCH

BOROUGH OF ALPINE BERGEN COUNTY NEW JERSEY

APPLICANT: ALPINE M E CHURCH
CLOSTER DOCK ROAD
ALPINE, NJ 07620

MICHAEL J. HUBSCHMAN P.E., P.P.
PROFESSIONAL ENGINEER AND PLANNER
N.J.P.E. NO. 29497 N.J.P.P. NO. 3200
12-29-21
DATE

HUBSCHMAN ENGINEERING, P.A.
ENGINEERS — PLANNERS — SURVEYORS
263A S. WASHINGTON AVE. BERGENFIELD, NJ 07621
201-384-5666

DRAWN BY: Y.R.
CHKD BY MJH
SCALE: AS SHOWN
DRAWING NO. 3882-9
REV. #
1 OF 1