



Building Permit Application

Howard County Maryland
 Department of Inspections, Licenses and Permits
 3430 Court House Drive
 Permits: 410-313-2455
www.howardcountymd.gov

Date Received: _____

Permit No.: **B17002572**

Building Address: 12240 Pleasant Springs Ct.
 City: Fulton State: MD Zip Code: 20759
 Suite/Apt. # _____ SDP/WP/BA #: _____
 Census Tract: _____ Subdivision: Highland Reserve aka Regan Property
 Section: _____ Area: _____ Lot: 20
 Tax Map: 34 Parcel: 200 Grid: 24
 Zoning: RR-DEO Map Coordinates: _____ Lot Size: 1.015 acres

Existing Use: Vacant
 Proposed Use: Single Family Dwelling
 Estimated Construction Cost: \$ 359,417
 Description of Work: Hawthorne - Elev. B - 3 car side entry garage; Courtyard garage -2' front ext. - 4' Family Room Ext.- Walkout Basement; 10R; 5BR; 4PB; 1HB; fireplace (No in-Law Suite in this home)
 Seeking Silver Level Certification of the NGBS-3rd party verification by Pando Alliance
 Occupant or Tenant: _____
 Was tenant space previously occupied? Yes No
 Contact Name: _____
 Address: _____
 City: _____ State: _____ Zip Code: _____
 Phone: _____ Fax: _____
 Email: _____

Property Owner's Name: MB Highland Reserve
 Address: 1686 E. Gude Drive
 City: Rockville State: MD Zip Code: 20850
 Phone: _____ Fax: _____
 Email: _____

Applicant's Name & Mailing Address, (If other than stated herein)
 Applicant's Name: Marc Quint - MB Highland Reserve LLC
 Address: 1686 E. Gude Drive
 City: Rockville State: MD Zip Code: 20850
 Phone: 301-762-9511 Fax: 301-610-9564
 Email: MQuint@mitchellbest.com

Contractor Company: MB Highland Reserve LLC
 Contact Person: Marc Quint
 Address: 1686 E. Gude Drive
 City: Rockville State: MD Zip Code: 20850
 License No.: 7316
 Phone: 301-762-9511 ext. 318 Fax: _____
 Email: MQuint@mitchellbest.com

Engineer/Architect Company: _____
 Responsible Design Prof.: _____
 Address: _____
 City: _____ State: _____ Zip Code: _____
 Phone: _____ Fax: _____
 Email: _____

Commercial Building Characteristics	Residential Building Characteristics	
Height:	<input checked="" type="checkbox"/> SF Dwelling <input type="checkbox"/> SF Townhouse	
No. of stories:	Depth	Width
Gross area, sq. ft./floor:	1 st floor: 58'	76'
Area of construction (sq. ft.):	2 nd floor: 58'	76'
Use group:	Basement: 58'	76'
Construction type:	<input type="checkbox"/> Finished Basement	
<input type="checkbox"/> Reinforced Concrete	<input checked="" type="checkbox"/> Unfinished Basement	
<input type="checkbox"/> Structural Steel	<input type="checkbox"/> Crawl Space	
<input type="checkbox"/> Masonry	<input type="checkbox"/> Slab on Grade	
<input type="checkbox"/> Wood Frame	No. of Bedrooms: <u>5</u>	
<input type="checkbox"/> State Certified Modular	<u>Multi-family Dwelling</u>	
	No. of efficiency units:	
	No. of 1 BR units:	
	No. of 2 BR units:	
	No. of 3 BR units:	
	Other Structure:	
	Dimensions:	
	Footings:	
	Roof:	
<input checked="" type="checkbox"/> Roadside Tree Project Permit	<input type="checkbox"/> State Certified Modular	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Manufactured Home	
Roadside Tree Project Permit #		

Utilities	
<u>Water Supply</u>	
<input type="checkbox"/> Public	
<input checked="" type="checkbox"/> Private	
<u>Sewage Disposal</u>	
<input type="checkbox"/> Public	
<input checked="" type="checkbox"/> Private	
Electric: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Gas: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<u>Heating System</u>	
<input type="checkbox"/> Electric <input type="checkbox"/> Oil	
<input type="checkbox"/> Natural Gas <input checked="" type="checkbox"/> Propane Gas	
<input type="checkbox"/> Other:	
<u>Sprinkler System:</u>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Grading Permit Number:	G14000305
Building Shell Permit Number:	

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Applicant's Signature: [Signature]
 MQuint@mitchellbest.com
 Email Address
 Operations Mgr., Mitchell & Best Homes LLC
 Title/Company

Print Name: Marc Quint
 Date: 6/30/2017
RECEIVED
JUN 30 2017
 LICENSES & PERMITS DIVISION

Checks Payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY
 PLEASE WRITE NEATLY & LEGIBLY
 -FOR OFFICE USE ONLY-

AGENCY	DATE	SIGNATURE OF APPROVAL
<input checked="" type="checkbox"/> State Highways		
<input checked="" type="checkbox"/> Building Officials		
<input checked="" type="checkbox"/> PSZA (Zoning)		
<input checked="" type="checkbox"/> PSZA (Engineering)		
<input checked="" type="checkbox"/> Health		<u>[Signature]</u>

Is Sediment Control approval required for issuance? Yes No
 CONTINGENCY CONSTRUCTION START

DPZ SETBACK INFORMATION	
Front:	
Rear:	
Side:	
Side St.:	
All minimum setbacks met?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is Entrance Permit Required?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Historic District?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Lot Coverage for New Town Zone:	
SDP/Red-line approval date:	

Filing Fee	\$ <u>100.00</u>
Permit Fee	\$
Tech Fee	\$
Excise Tax	\$
PSFS	\$
Guaranty Fund	\$ <u>50.00</u>
Add'l per Fee	\$
Total Fees	\$
Sub- Total Paid	\$
Balance Due	\$
Check	# <u>002080</u>

**COMPLETE THIS FORM WHEN DROPPING OFF ANY
CORRESPONDENCE AND/OR PLANS TO THE HOWARD COUNTY
DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS COUNTER:**

Date: 11/1/17
To: Jeff Williams - Well & Septic
(Person's Name and Division)
From: Marc Quint - Mitchell & Best (301) 762-9511 ext. 318
(Your Name, Company Name and Telephone Number)
Subject: Project name Highland Reserve - "Regan Property"
Project site address 12240 Pleasant Springs Ct.
Permit # B17003380 SDP # _____
Other information pertinent to this project _____

Please check the attachments below that you are submitting with this transmittal:

- Letter of response to address plan review comment letter
- Revised plans and/or revised details: When submitting for a complete re-review, duplicate sets shall be submitted.
- Letter Summarizing Changes * CHANGE TANK LOCATION
- Energy conservation calculations
- Copies of 5 REVISED PLOT PLAN (be specific).
- Health Department Request DPZ/DED Request Applicant's Request
- Two sets of single family dwelling model plans to be placed on permanent file; Model name and/or # _____
- Other Revised propane tank location

Contact Person Information: (Required)

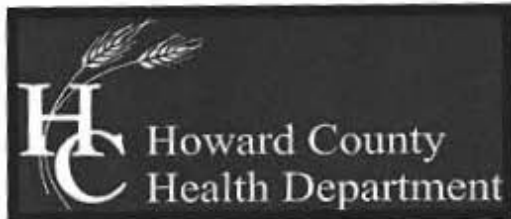
Marc Quint
Please Print Name

Telephone No: 301-762-9511 ext. 318
E-Mail Address: mquint@MitchellBest.com

PLEASE ASSURE ALL DOCUMENTS AND/OR REVISIONS ARE APPROPRIATELY SIGNED AND SEALED, IF NECESSARY, BY A LICENSED ARCHITECT OR ENGINEER. PLEASE BE ADVISED THAT INSUFFICIENT INFORMATION MAY RESULT IN THE DELAY OF REVIEW BY THE PLANS EXAMINER. THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS WILL CONTACT YOU IF THERE IS A PROBLEM. IN ADDITION, ONCE THE BUILDING PERMIT IS APPROVED BY THE PLAN REVIEW DIVISION AND ALL OTHER REQUIRED SIGNATORY AGENCIES, AND THE BUILDING PERMIT IS READY FOR ISSUANCE, THE PERMIT DIVISION WILL NOTIFY THE APPROPRIATE CONTACT PERSON FOR PERMIT PICK UP. ALL PERMIT STATUS INQUIRIES SHALL BE DIRECTED TO THE PERMIT DIVISION AT 410-313-2455. CODE RELATED QUESTIONS AND PLAN REVIEW INQUIRIES SHALL BE DIRECTED TO THE PLAN REVIEW DIVISION AT 410-313-2436. PLEASE ALLOW A MINIMUM OF FIVE (5) WORKING DAYS FOR ANY PLAN SUBMITTALS TO BE REVIEWED. THANK YOU.

Received by AKH

PER HEALTH DEPT
(TANK LOCATION CHANGE)



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Twitter: [HowardCoHealthDep](https://twitter.com/HowardCoHealthDep)

Maura J. Rossman, M.D., Health Officer

MEMORANDUM

TO: Dave Jaray
National Propane Buyers Co-op

CC: Marc Quint
MB Highland Reserve

FROM: Jeff Williams
Program Supervisor, Well & Septic Program

RE: B17003380, 12240 Pleasant Springs Ct, propane tank

DATE: October 12, 2017

I have reviewed the building permit for a propane tank installation at 12240 Pleasant Springs Ct and have the following comment:

1. The tank location is approximately 2 feet from the well area. The setback from a propane tank to a well and replacement well area is 100 feet. There is a general waiver to allow that distance to be as close as 50 feet.

If an alternate location for the propane tank is proposed, a revised plot plan must be submitted to DILP for review.

Marc and Dana, Is this for 12240 (Lot 20)? I've added the lot note for the perc cert, the purpose statement was in the general notes already. I can design as a 6 bedroom if you want me too. I think the confusion was over the in-law suite/office option. I do not think this house is getting one.

Marc, that being said I can design as a 6 bedroom, just verify that what you want done. John

From: Marc Quint [<mailto:mquint@mitchellbest.com>]
Sent: Thursday, July 20, 2017 8:48 AM
To: Bernard, Dana <dbernard@howardcountymd.gov>
Cc: John Carney <jcarney@bei-civilengineering.com>
Subject: RE: 12241 Pleasant Springs Court

Good morning Dana:

I have on my copy of my permit application that our Buyer is getting a 5 bedroom home (4 upstairs & the basement bedroom). I thought on the floor plans I submitted for the Health Dept. review I also circled those rooms. Let me know if on your copy somehow it says 4 and if I need to come by and change anything. Anyway, if it can be approved for 6 for the Buyer to maybe add another bedroom later (we offer an in-law suite or attic room too) that would be good.

Thanks, Marc

Marc Quint

Mitchell & Best Homes

1686 East Gude Drive

Rockville, MD 20850

O: 301.762.9511 ext. 318

C: 443.691.4201

[Mitchell & Best](#) | [Twitter](#) | [Facebook](#) | [YouTube](#)



Mitchell & Best

The Name of Quality for Over 40 Years

From: Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]
Sent: Wednesday, July 19, 2017 4:56 PM
To: Marc Quint <mquint@mitchellbest.com>
Subject: 12241 Pleasant Springs Court

Hello Mr. Quint,

I am working on your building permit and the floor plans reflect 6 bedrooms in the house and your application only states 4. This number must be changed in order to move forward with your plan. I have reached out to your engineer John Carney to have him revise the percolation certification plan and the OSDS plan to reflect the 6 bedrooms. The property has great soils so this will not be a problem. I am sure he can work everything out on paper. Your building plan will be on hold until all of the requirements are met.

Thank you & Have a*")

(,,' (,,' * Wonderful Day !

Dana Bernard, R.E.H.S./L.E.H.S.
Environmental Specialist II
Bureau of Environmental Health
Well and Septic Program
Phone (410) 313-2775

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(Person's Name and Division)
From: Marc Quint - Mitchell Best (301) 762-9511 ext. 318
(Your Name, Company Name and Telephone Number)
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Project site address 12240 Pleasant Springs Ct **RECEIVED**
Permit # B17003380 SDP # _____
Other information pertinent to this project _____

NOV 01 2017

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- Revised plans and/or revised details: When submitting for a complete re-review, duplicate sets shall be submitted.
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- Copies of 5 REVISED PLOT PLAN (be specific).
- Health Department Request DPZ/ DED Request Applicant's Request
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- Other Revised propane tank location

Contact Person Information: (Required)

Marc Quint
Please Print Name

Telephone No: 301-762-9511 ext. 318
E-Mail Address: MQuint@MitchellBest.com

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Received by ARH cc: Oldg PtZ

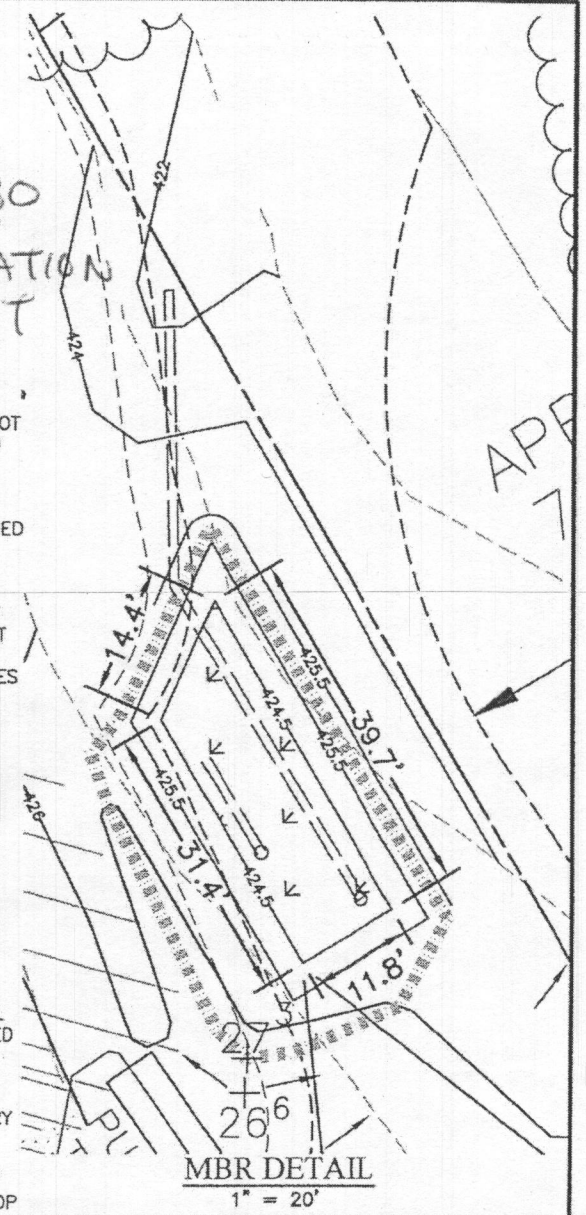
PER HEALTH DEPT
(TANK LOCATON CHANGE)



REVISED
 Date: 11/01/17
 Comments: B17003380
 CHANGE TANK LOCATION
 PER HEALTH DEPT

BUILDING PERMIT PLAN NOTES:

1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR REGAN PROPERTY, PLAT Nos. 23063-23074. REFER TO THE PLATS FOR LOT DIMENSIONS, LOT AREAS, ALL EASEMENTS AND CONDITIONS.
2. SEDIMENT AND EROSION CONTROLS WERE APPROVED BY HOWARD SOIL CONSERVATION DISTRICT UNDER A GRADING PLAN AND MODIFIED FOR THIS SPECIFIC HOUSE.
3. TOPOGRAPHY SHOWN HEREON IS TAKEN FROM THE APPROVED ROAD CONSTRUCTION PLANS AND TOPOGRAPHIC INFORMATION PROVIDED BY BENCHMARK ENGINEERING, INC., ON OR ABOUT JANUARY, 2012.
4. ALL SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS SITE SHALL COMPLY WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
5. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED ROAD CONSTRUCTION PLANS EXCEPT AS WAIVED.
6. THE EXISTING WELL SHOWN ON THIS PLAN, HO-14-0012, HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING, INC., AND IS ACCURATELY SHOWN.
7. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
8. ANY CHANGES TO A PRIVATE SEWAGE DISPOSAL AREA OR WELL BOX SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
9. STORMWATER MANAGEMENT FOR THIS LOT WAS DESIGNED AND PROVIDED BY ONE MICRO-BIORETENTION FACILITY (MDE M-6), DRY WELL FACILITY (MDE M-5) AND ONE NON-ROOFTOP DISCONNECTION (MDE N-2).
10. MICRO-BIORETENTION SHALL HAVE EITHER A 4" OR 6" ROOF LEADER DEPENDING ON ROOF-TOP AREA.



Propane Tank

PLAN VIEW
 1" = 50'

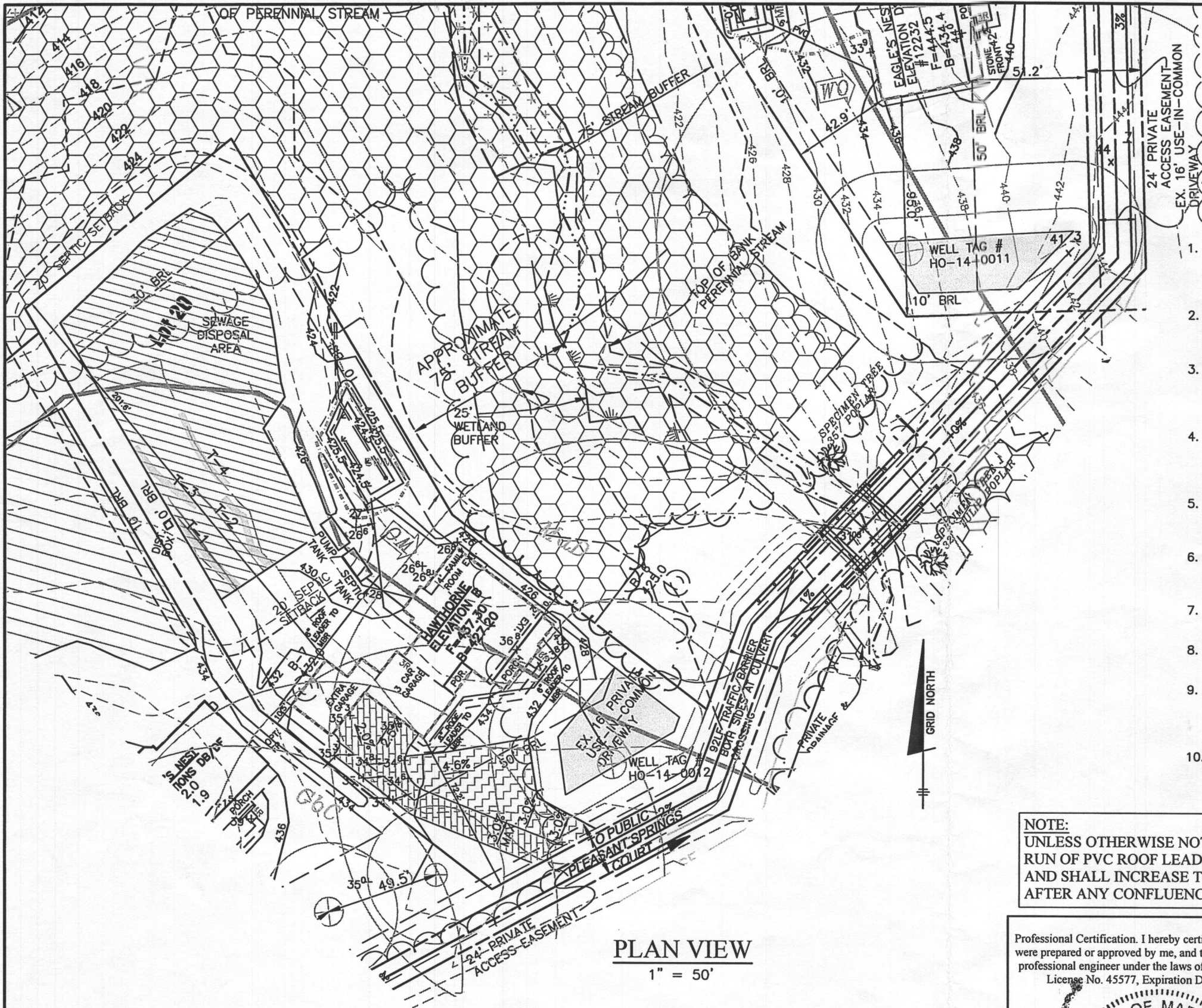
NOTE:
 UNLESS OTHERWISE NOTED, THE FIRST RUN OF PVC ROOF LEADER SHALL BE 4" AND SHALL INCREASE TO AT LEAST 6" AFTER ANY CONFLUENCE OF 4" PIPES.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2018.



OWNER/BUILDER: MB HIGHLAND RESERVE, LLC 1686 EAST GUDE DRIVE ROCKVILLE, MD 20850 301-762-9511		BENCHMARK ENGINEERS LAND SURVEYORS PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLCOTT CITY, MARYLAND 21043 (P) 410-465-8105 (F) 410-465-8644 WWW.BEI-CMLENGINEERING.COM	
PROJECT: REGAN PROPERTY LOT 20		LOCATION: 12240 PLEASANT SPRINGS COURT HIGHLAND, MD 20777 TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200 5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453	
TITLE: BUILDING PERMIT PLAN			
HOUSE TYPE: HAWTHORNE - ELEVATION 'B'			
DATE: JUNE, 2017	PROJECT NO. 2171		
SCALE: AS SHOWN	DRAWING 1 OF 2		

Practice	#	DA to practice	Imp Area to practice	ESDv= 894 cf			REV			Ownership
				Required	Provided	2% DA?	Required	Provided	Pe Provided	
(M-6) MicroBioretention	#6	5,102	3,860	102	420	PASS	497	767	1.6	Private
(N-2) Disc. of Non-Rooftop Runoff	#1	3,566	1,830					137	1.0	Private
Total Treated		8,668	5,690	102	420		497	905	1.6	
Site Total		27,349	5,932					145	137	

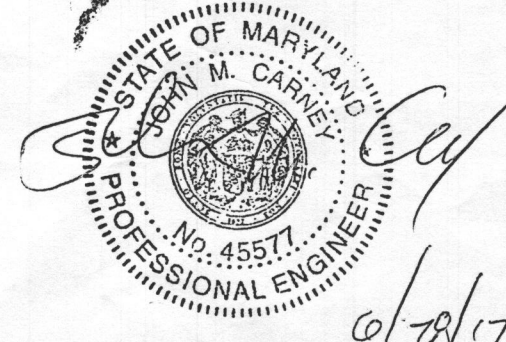


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1" = 50'

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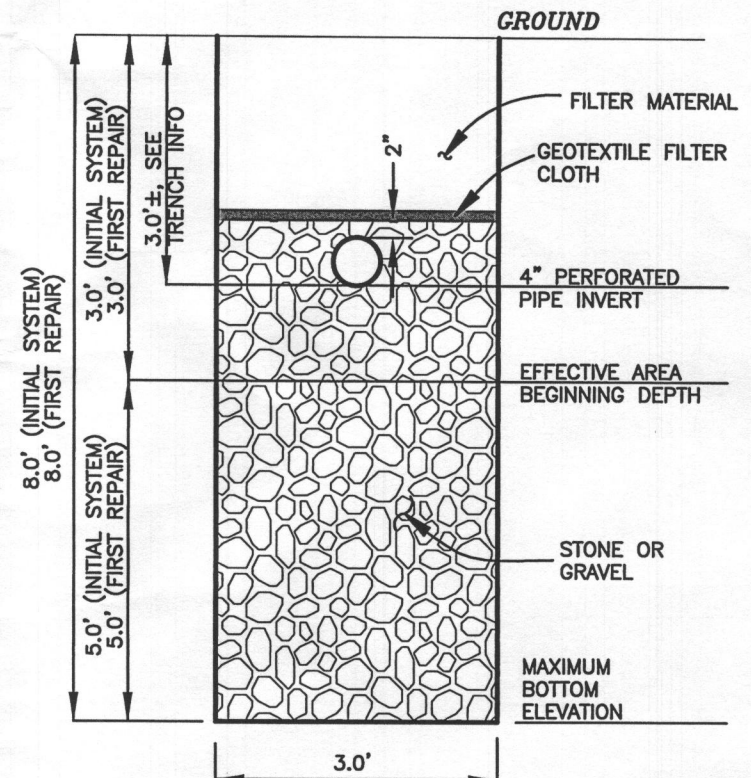
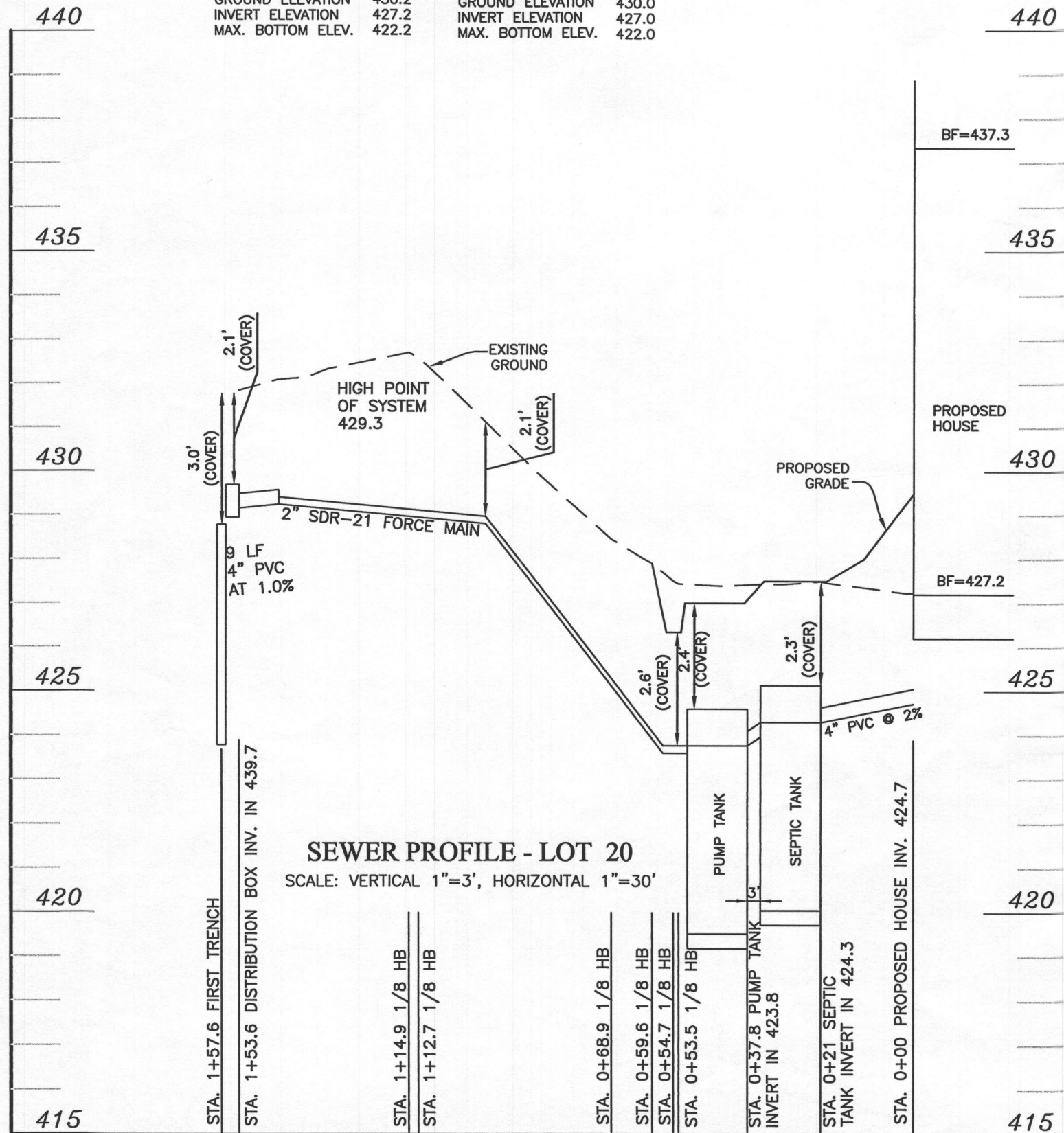


Approved Septic System Plan
Howard County Health Department
Dana Beard 8-9-17
Signature Date
B17002572

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LOCATION:		12240 PLEASANT SPRINGS COURT HIGHLAND, MD 20777 TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200 5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453	
TITLE:		SEPTIC PERMIT PLAN	
HOUSE TYPE:		HAWTHORNE - ELEVATION 'B'	
DATE:	JUNE, 2017	PROJECT NO.	2171
SCALE:	AS SHOWN	DRAWING	1 OF 4

TRENCH INFORMATION

INITIAL SYSTEM		FIRST REPLACEMENT SYSTEM	
TRENCH T-1		TRENCH T-3	
TRENCH LENGTH	38 LF	TRENCH LENGTH	38 LF
GROUND ELEVATION	431.8	GROUND ELEVATION	431.0
INVERT ELEVATION	428.8	INVERT ELEVATION	428.0
MAX. BOTTOM ELEV.	423.8	MAX. BOTTOM ELEV.	423.0
TRENCH T-2		TRENCH T-4	
TRENCH LENGTH	38 LF	TRENCH LENGTH	38 LF
GROUND ELEVATION	430.2	GROUND ELEVATION	430.0
INVERT ELEVATION	427.2	INVERT ELEVATION	427.0
MAX. BOTTOM ELEV.	422.2	MAX. BOTTOM ELEV.	422.0



INITIAL SYSTEM		
Number of Bedrooms	5	
Application Rate	1.2	gpd/sf
Effective Area Beginning Depth	3	ft
Bottom Max Depth	8.8	ft
Design Flow	750	gpd
Drainage Field square footage	625	sf
Sidewall reduction credit	0.36	
Trench width	3.2	
Effective Area Depth	5.3	
Linear Length of trench Required	74.9	lf

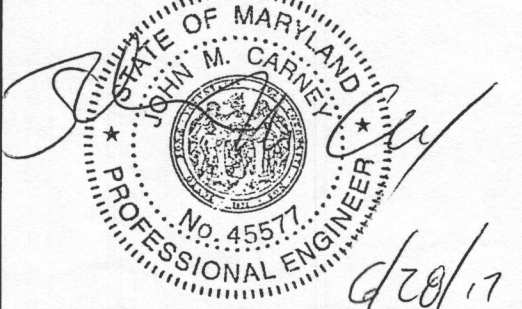
1st REPLACEMENT SYSTEM		
Number of Bedrooms	5	
Application Rate	1.2	gpd/sf
Effective Area Beginning Depth	3	ft
Bottom Max Depth	8	ft
Design Flow	750	gpd
Drainage Field square footage	625	sf
Sidewall reduction credit	0.36	
Trench width	3	
Effective Area Depth	5	
Linear Length of trench Required	74	lf

THIS PLAN IS FOR SEPTIC DESIGN ONLY

SEE MANUFACTURERS SPECIFICATIONS FOR DETAILS.
WWW.MAYERPRECAST.COM
EQUIVALENT FROM OTHER MANUFACTURERS CAN BE SUBSTITUTED.

SIGNATURE AND SEAL ARE FOR SEPTIC PROFILE AND CALCULATIONS ONLY, TANK AND DETAILS WERE NOT DESIGNED OR REVIEWED BY THE ENGINEER:

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2018.



2 wide Inlet 3' Bottom 8'

OWNER/BUILDER:

MB HIGHLAND RESERVE, LLC
1686 EAST GUDE DRIVE
ROCKVILLE, MD 20850
301-762-9511

BENCHMARK

ENGINEERS LAND SURVEYORS PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE SUITE 315
ELLCOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CMLENGINEERING.COM

PROJECT: **REGAN PROPERTY LOT 20**

LOCATION: 12240 PLEASANT SPRINGS COURT
HIGHLAND, MD 20777
TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200
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TITLE: **SEPTIC PERMIT PLAN**

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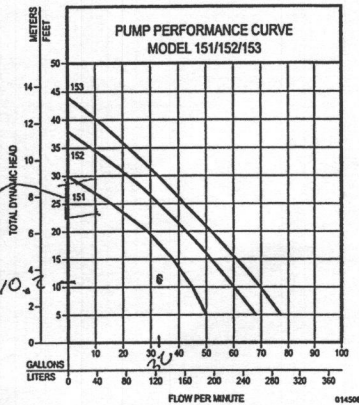
DATE: **JUNE, 2017** PROJECT NO. **2171**

SCALE: **AS SHOWN** DRAWING **2** OF **4**

**TOTAL DYNAMIC HEAD
FLOW PER MINUTE**

MODEL		151		152		153	
Feet	Meters	Gal.	Liters	Gal.	Liters	Gal.	Liters
5	1.5	50	189	69	261	77	291
10	3.0	45	170	61	231	70	265
15	4.6	38	144	53	201	61	231
20	6.1	29	110	44	167	52	197
25	7.6	16	61	34	129	42	159
30	9.1	-	-	23	87	33	125
35	10.7	-	-	-	-	22	85
40	12.2	-	-	-	-	11	42
Shut-off Head:		30 ft. (9.1m)		38 ft. (11.6m)		44 ft. (13.4m)	

Use Model 151



Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	H _z	Lbs	Kg	Simplex	Duplex
N151	Single	Non	115	1	6.0	1/3	60	15	7	1	2 or 3
E151	Single	Non	230	1	3.2	1/3	60	32	15	1	2 or 3
BN151	Single	Auto	115	1	6.0	1/3	60	33	15	*	2 or 3
BE151	Single	Auto	230	1	3.2	1/3	60	33	15	*	2 or 3
N152	Single	Non	115	1	8.5	4/10	60	37	17	1	2 or 3
E152	Single	Non	230	1	4.3	4/10	60	37	17	1	2 or 3
BN152	Single	Auto	115	1	8.5	4/10	60	39	18	*	2 or 3
BE152	Single	Auto	230	1	4.3	4/10	60	39	18	*	2 or 3
N153	Single	Non	115	1	10.5	1/2	60	37	17	*	2 or 3
BN153	Single	Auto	115	1	10.5	1/2	60	39	18	*	2 or 3
E153	Single	Non	230	1	5.3	1/2	60	37	17	1	2 or 3
BE153	Single	Non	230	1	5.3	1/2	60	39	18	*	2 or 3

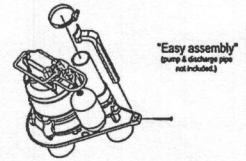
*BN and BE models include a 20' (6 m) piggyback variable level pump switch. Additional cord lengths are available in 25' (8 m) and 35' (11 m). 50' (15 m) cords are available for 230 V units only.
NOTE: Model 151 has a plastic base. Models 152 & 153 have a cast iron base.

SELECTION GUIDE

- For automatic, use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
- See FM1228 for correct model of simplex control panel.
- See FM0712 for correct model of duplex control panel.

OPTIONAL PUMP STAND P/N 10-2421

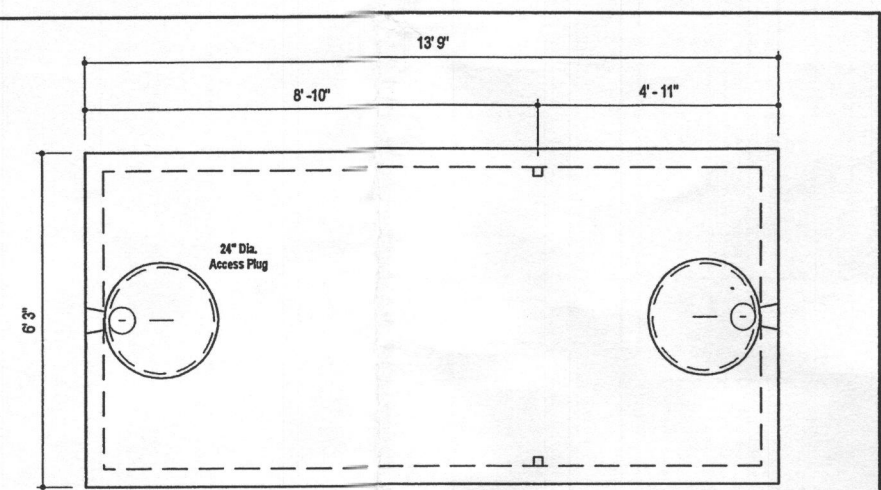
- Reduces potential clogging by debris
- Replaces rocks or bricks under the pump
- Made of durable, noncorrosive ABS
- Raises pump 2" (5 cm) off bottom of basin
- Provides the ability to raise intake by adding sections of 1 1/2" or 2" (DN40 or DN50) PVC piping
- Attaches securely to pump
- Accommodates sump, dewatering and effluent applications



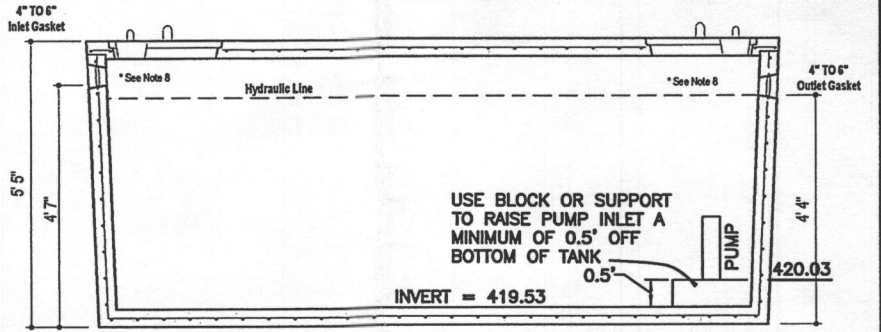
"Easy assembly" pump & discharge pipe not included.

CAUTION All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

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PLAN VIEW



SECTION A-A

DESIGN DATA & GENERAL NOTES

- Concrete strength f_c=4,000 p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-92.
- Admixtures & plasticizers per ASTM C 260-96 & C 494-92.
- Reinforcing per ASTM A195. Min. 1-1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, 4" base, & 6" top thickness.
- Max 3" of cover
- Depending on use of tank, Inlet & Outlet baffles may be required by code.

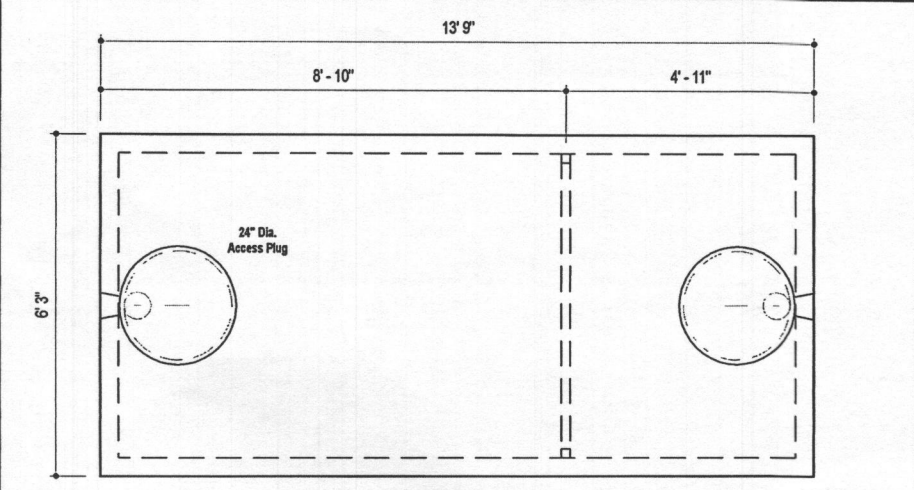
ITEM	ELEV.	RELATIVE TO BOTTOM
BOTTOM OF TANK	419.53	
TOP OF PUMP	421.13	1'-7 1/4"
PUMP OFF	421.20	1'-8"
PUMP ON	421.49	1'-11 1/2"
HIGH ALARM	421.99	2'-5 1/2"

WEIGHT = 19,000 lbs.

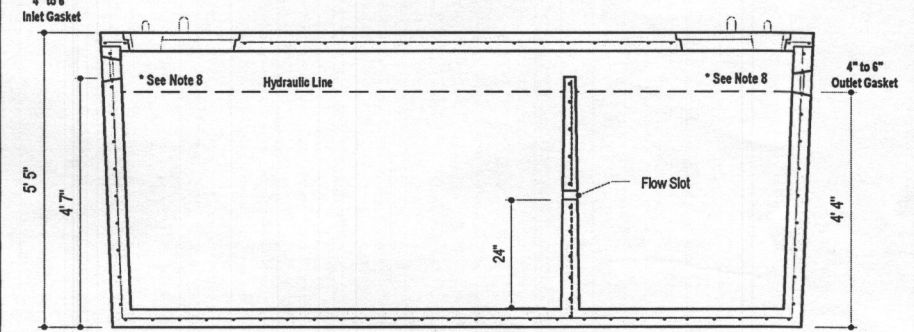
2,000 GALLON SEPTIC TANK 1-Compartment **LOT 20**
Stock Item [Approx. 19,000 lbs]

Mayer Bros., Inc. 6264 Race Road Elkridge, Maryland 21075 Tel. 410.796.1434 Fax. 410.796.1438 www.mayerbrosprecast.com

Dwg. No. 2000-1C No Scale Aug. 11, 2008



PLAN VIEW



SECTION A-A

DESIGN DATA & GENERAL NOTES

- Concrete strength f_c=4,000 p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type VII per ASTM C 150-92.
- Admixtures & plasticizers per ASTM C 260-96 & C 494-92.
- Reinforcing per ASTM A195. Min. 1-1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, 4" base, & 6" top thickness.
- Max 3" of cover
- Depending on use of tank, Inlet & Outlet baffles may be required by code.

2,000 GALLON SEPTIC TANK 2-Compartment **LOT 20**
Stock Item [Approx. 19,900 lbs]

Mayer Bros., Inc. 6264 Race Road Elkridge, Maryland 21075 Tel. 410.796.1434 Fax. 410.796.1438 www.mayerbrosprecast.com

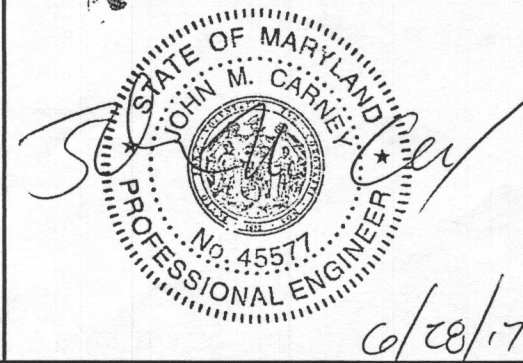
Dwg. No. 2000-2C No Scale Aug 11, 2008

THIS PLAN IS FOR SEPTIC DESIGN ONLY

SEE MANUFACTURERS SPECIFICATIONS FOR DETAILS. EQUIVALENT FROM OTHER MANUFACTURERS CAN BE SUBSTITUTED.

SIGNATURE AND SEAL ARE FOR SEPTIC PROFILE AND CALCULATIONS ONLY, TANK, PUMP, AND DETAILS WERE NOT DESIGNED OR REVIEWED BY THE ENGINEER:

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2018.



OWNER/BUILDER:

MB HIGHLAND RESERVE, LLC
1686 EAST GUDE DRIVE
ROCKVILLE, MD 20850
301-762-9511

BENCHMARK

ENGINEERS LAND SURVEYORS PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 315
ELLCOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

PROJECT:	REGAN PROPERTY LOT 20	
LOCATION:	12240 PLEASANT SPRINGS COURT HIGHLAND, MD 20777 TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200 5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453	
TITLE:	SEPTIC PERMIT PLAN	
HOUSE TYPE:	HAWTHORNE - ELEVATION 'B'	
DATE:	JUNE, 2017	PROJECT NO. 2171
SCALE:	AS SHOWN	DRAWING 3 OF 4

Pumping Station

Diameter of Force Main and Manifold = 2" of SDR 21 pipe
 Length of Force Main = 93 feet SDR 21 gallons/100 feet = 18.8 Table 4.2
 Volume of Main = 17.5 gallons ID = 2.149
 length = 100 gallon/sq ft 7.480519
 Total Volume = 17.5 gallons volume = 18.84222 gal/100 lf
 Minimum Dose must be greater than 1/6 of the design flow 125 gallons
 Minimum Dose must be greater than the volume of the main 18 gallons
 Use minimum dose of 160 gallons okay Doses per Day = 4.6875

Size Pump Chamber

Pump chamber must be able to hold one dose and one days design flow

One day Capacity = 750 gallons
 Dose = 160 gallons
 Totals = 910 gallons

Use 2,000 gallon pump tank

Tank Dimensions: Exterior Interior
 Length: 13.75 feet Length: 13.08 feet Walls: 0.33 feet
 Width: 6.25 feet Width: 5.58 feet Bottom: 0.33 feet
 Height: 5.42 feet Height: 4.67 feet Top: 0.42 feet
 Area: 73.05 sf Bottom to
 Volume: 341.14 cf Inlet: 4.58 feet

Sizing the Pump

Flow: runtime = 5 minutes
 rate = 32.00 gallons/minute

Design Head:

Design Head = Static Head + Friction Head
 Static Head = highest elevation of main - pump off elevation
 Highest component of system = 429.3 Main HP
 Pump off elevation = 421.20
 Static Head = 8.10 feet
 Friction Head = Head loss due to pipe friction
 2.0" pipe = 93 feet
 45° bends 6 loss for bend 24 feet per table 4.3
 Gate Valve 1 loss for tee 1.3 feet per table 4.3
 Friction loss per table 4.4 = 1.74 (ft/100 ft)
 Equivalent Length = 118.3 Friction loss 2.06 feet
 Total Friction Head = 2.06
 Design Head = 10.16 feet

Pump Requirements:

Performance = 32.00 gpm
 Head of Water = 10.16 feet of head

Pump Selection: Zoeller Pump Company Effluent Series, Model 151
 1/3 horse power

Pump Flow Rate = 44.00 gallons/minute per rating curve 3.64 Minutes
 TDH analysis 11.81 ft
 Between design and curve? Yes

Design Pump Chamber

Ground over Tank = 427.00 Cover 2.38 ft
 Top of Tank = 424.62
 Invert of Tank = 419.53
 6" Riser = 0.50 feet
 Pump Height = 1.10 feet

Min. Pump off = 421.13
 Selected Pump off = 421.20

Dose = 21.4 cf
 Area of Pit = 73.05 sf

Pump on dist. = 0.29
 Pump on Elev. = 421.49

Distance between Pump on and Highwater Alarm = 0.5 feet
 Highwater Alarm Elevation = 421.99

Dist. for a dose above alarm = 1.37
 Minimum Inlet Elev. = 423.37
 Tank Inlet = 423.78 Okay
 Dist. Alarm to Inlet = 1.79 Okay

THIS PLAN IS FOR SEPTIC DESIGN ONLY

SEE MANUFACTURES SPECIFICATIONS FOR DETAILS. EQUIVALENT FROM OTHER MANUFACTURERS CAN BE SUBSTITUTED.

SIGNATURE AND SEAL ARE FOR SEPTIC PROFILE AND CALCULATIONS ONLY, TANK, PUMP AND DETAILS WERE NOT DESIGNED OR REVIEWED BY THE ENGINEER:

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2018.



6/28/17

OWNER/BUILDER:	BENCHMARK ENGINEERS LAND SURVEYORS PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CMLENGINEERING.COM	
PROJECT:	REGAN PROPERTY LOT 20	
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TITLE:	SEPTIC PERMIT PLAN	
HOUSE TYPE:	HAWTHORNE - ELEVATION 'B'	
DATE:	JUNE, 2017	PROJECT NO. 2171
SCALE:	AS SHOWN	DRAWING 4 OF 4

I spoke with Kathy Ennis at the Permits Dept. and she has updated the Accela system to correct the permit to 5 bedrooms. Also, she confirmed for me that the simplified floor plan of exactly what is being built, that I dropped off with the permit application was scanned in on July 10th. She said it is there for you to view.

Thanks as always for your help. Marc

Marc Quint

Mitchell & Best Homes

1686 East Gude Drive

Rockville, MD 20850

O: 301.762.9511 ext. 318

C: 443.691.4201

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Mitchell & Best

The Name of Quality for Over 40 Years

From: Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]

Sent: Thursday, July 20, 2017 10:21 AM

To: Marc Quint <mquint@mitchellbest.com>

Subject: RE: 12241 Pleasant Springs Court

Marc,

The Office that is attached to the garage is considered a bedroom. Please send new plans that do not show this attachment. This office will be considered a 6th bedroom with no problem as I stated before the soils are good and we will have to calculate for 6 bedrooms. If this office is not attached please send me a new drawing without the attached office.

Thanks

Dana

From: Marc Quint [<mailto:mquint@mitchellbest.com>]

Sent: Thursday, July 20, 2017 9:41 AM

To: John Carney; Bernard, Dana

Subject: RE: 12241 Pleasant Springs Court

Dana:

I will have the permit office fix what is in Accela because it looks like it was just keyed in wrong. I have 5 on my application. John's design's is good. Also the address for Highland Reserve-Lot 20 is 12240.

Just to give you a final confirmation, we are going for a 5 bedroom house as the customer has purchased. They are getting 4 bedrooms upstairs, and the basement bedroom. They are not getting the in-law suite on this house.

Let me know if you need anything else. Thanks, Marc

From: John Carney [<mailto:jcarney@bei-civilengineering.com>]

Sent: Thursday, July 20, 2017 9:24 AM

To: Marc Quint <mquint@mitchellbest.com>; 'Bernard, Dana' <dbernard@howardcountymd.gov>

Subject: RE: 12241 Pleasant Springs Court

Bernard, Dana

From: Bernard, Dana
Sent: Monday, July 31, 2017 9:28 AM
To: Marc Quint
Subject: RE: 12240 Pleasant Springs Court - B17002572

Marc,

Sorry I could not get back to you on Friday, I was very busy. Marc I had a chance to review however with the changes to the septic area. I will need John to send me a revised percolation plan show the layout of the trenches he has proposed for this lot. He needs to show the Initial installation, and 2 replacements . The revised percolation certification plan has to be signed before I can release the permit.

Thanks
Dana

From: Marc Quint [mailto:mquint@mitchellbest.com]
Sent: Friday, July 28, 2017 10:23 AM
To: Bernard, Dana
Cc: John Carney
Subject: RE: 12240 Pleasant Springs Court - B17002572

Hi Dana. Did you get a chance to review? Thanks, Marc

From: Bernard, Dana [mailto:dbernard@howardcountymd.gov]
Sent: Thursday, July 27, 2017 9:33 AM
To: Marc Quint <mquint@mitchellbest.com>
Subject: RE: 12240 Pleasant Springs Court - B17002572

I will look at it today and get back to you.

From: Marc Quint [mailto:mquint@mitchellbest.com]
Sent: Thursday, July 27, 2017 9:32 AM
To: Bernard, Dana
Cc: John Carney
Subject: RE: 12240 Pleasant Springs Court - B17002572

Good morning Dana:

I just wanted to follow up with you on this. We are trying to finalize the permit. With the change in Accela and the floor plans scanned in by DILP of what is being built, do you have everything now to approve?

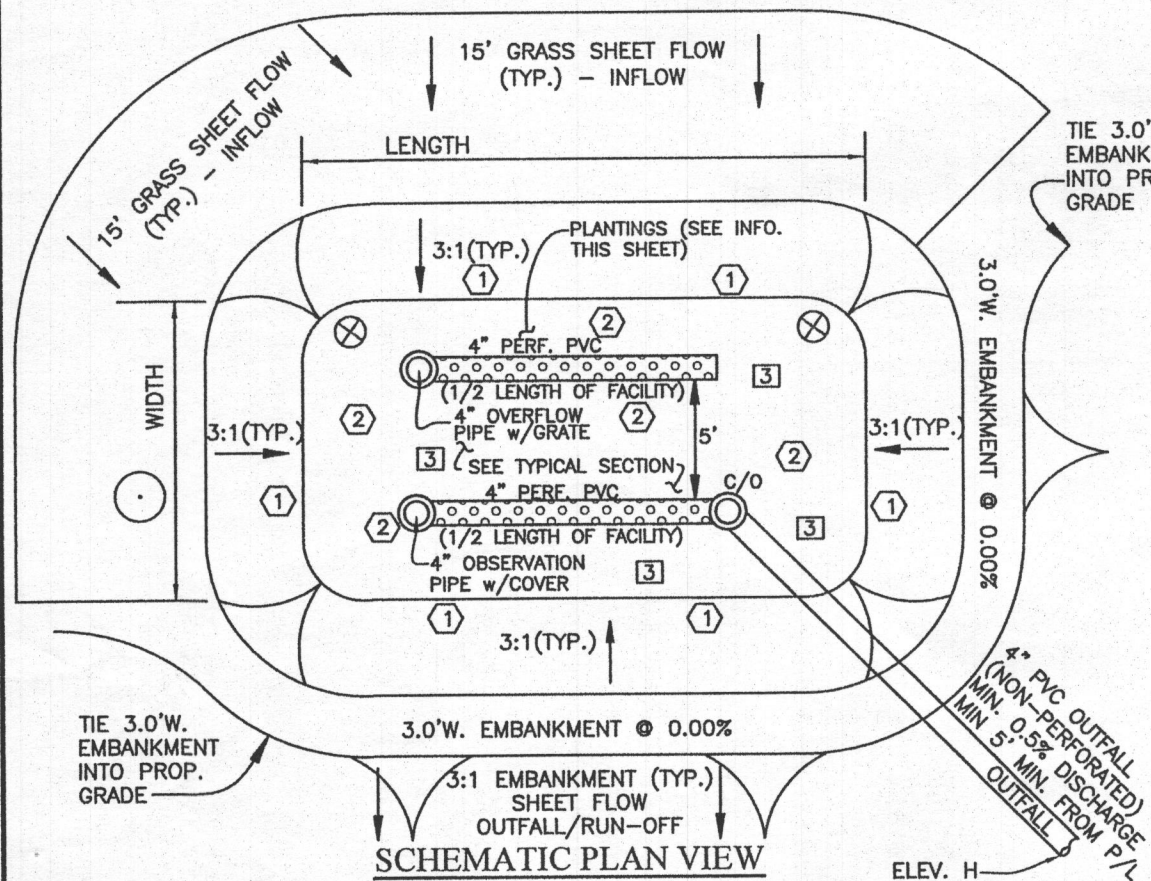
Thanks as always, Marc

From: Marc Quint
Sent: Tuesday, July 25, 2017 8:16 AM
To: 'Bernard, Dana' <dbernard@howardcountymd.gov>
Cc: 'John Carney' <jcarney@bei-civilengineering.com>
Subject: RE: 12240 Pleasant Springs Court - B17002572

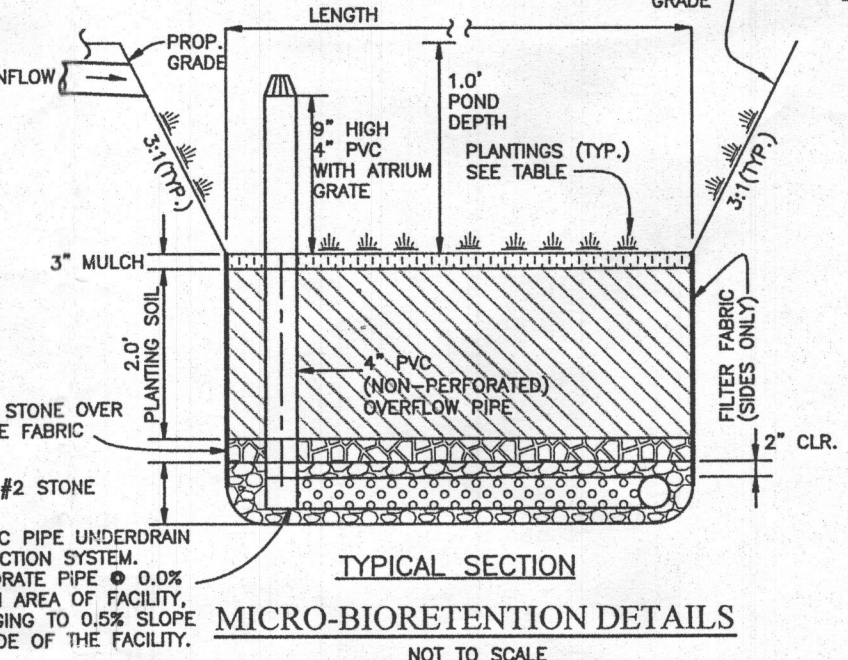
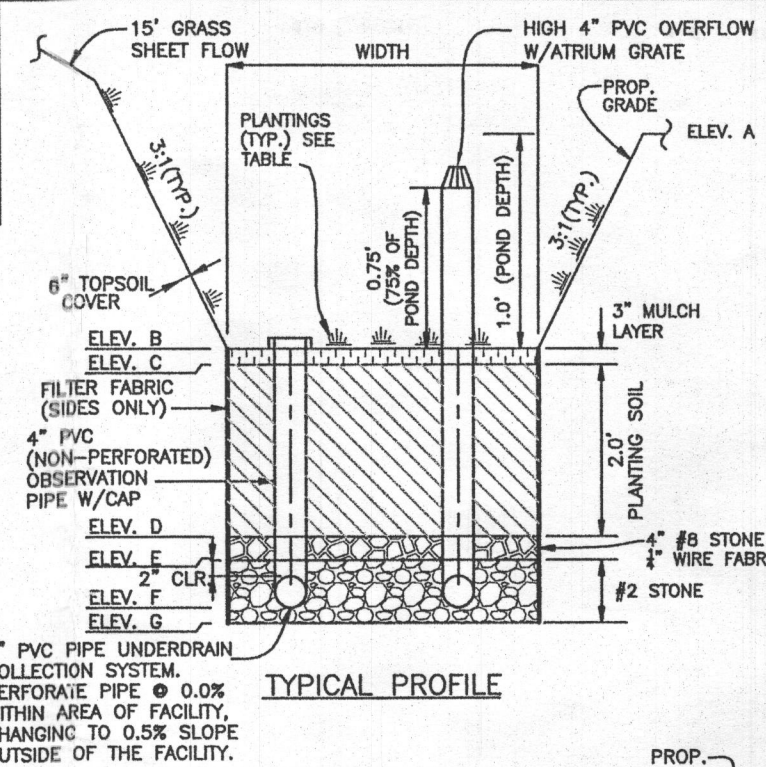
Good morning Dana:

ON-LOT BIORETENTION DIMENSIONS

FACILITY	A	B	C	D	E	F	G	H	LENGTH	WIDTH	FILTER (A _f)	PLANTINGS			LINER
												1	2	3	
MBR-1	425.50	424.50	424.25	422.25	421.92	421.42	420.34	421.12	35.6	11.8	420	47	47	23	NO



NOTE: IMPERMEABLE LINER REQUIRED WHEN FACILITY IS INSTALLED IN THE 100' WELL RADIUS. THIS LINING SHOULD INCLUDE ENTIRE SIDES AND BOTTOM OF THE EXCAVATION AND EXTEND TO TOP OF EMBANKMENT. LINING ON SIDE SLOPES SHALL BE BELOW A MINIMUM OF 6" OF TOP SOIL. LINING TO BE CLAY OR 30 MIL POND LINER



OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1), DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2)

- MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2018.

JOHN M. CARNELL
 PROFESSIONAL ENGINEER
 No. 45577
 6/20/17

MATERIALS & SPECIFICATIONS FOR MICRO-BIORETENTION

MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTINGS	SEE APPENDIX A; TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2.0' TO 4.0' DEEP)	LOAMY SAND 60-65% COMPOST 35-40% OR SANDY LOAM 30% COARSE SAND 30% & COMPOST 40%	N/A	USDA SOIL TYPES: LOAMY SAND OR SANDY LOAM; CLAY CONTENT <5%
ORGANIC CONTENT	MIN 10% BY DRY WEIGHT ASTM D 2974		
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM, NO PINE OR WOOD CHIPS
GEOTEXTILE (CLASS "C")		N/A	PE TYPE 1 NONWOVEN
GEOTEXTILE (1/4" WIRE MESH)		1/4" WIRE MESH	1/4" WIRE MESH
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6	0.375" TO 0.750"
UNDERDRAIN PIPING	F758, TYPE PS28 OR AASHTO M-278	4" TO 6" RIGID SCH.40 PVC, SDR35 OR HDPE	3/8" PERF. @ 6" O/C, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES. PIPE SHALL BE WRAPPED WITH 1/4-INCH GALVANIZED HARDWARE CLOTH
IMPERVIOUS LINER	ASTM-D-4833 (THICKNESS) ASTM-D-412 (TENSILE STRENGTH 1,100 LB., ELONGATION 200%) ASTM-D-624 (TEAR RESISTANCE - 150 LB./IN) ASTM-D-471 (WATER ADSORPTION: +8 TO -2% MASS)	30 MIL. THICK	LINER TO BE ULTRAVIOLET RESISTANT. A GEOTEXTILE FABRIC SHOULD BE USED TO PROTECT THE LINER FROM PUNCTURE.
GEOTEXTILE (BELOW IMPERV. LINER)	ASTM-D-4833 (PUNCTURE STRENGTH 125LB) ASTM-D-4632 (TENSILE STRENGTH 300 LB.)		

MICROBIORETENTION PLANTING SCHEDULE

- (PLANTING SPECIES AND DENSITY CAN BE CHANGED OR SUBSTITUTED BY A LANDSCAPE ARCHITECT OR QUALIFIED DESIGNER)
- 1 IRIS FULVA (COPPER IRIS) (1 PER SY)
 - 2 LOBELIA CARDINALIS (CARDINAL FLOWER) (1 PER SY)
 - 3 RUDBECKIA SUBTOMENTOSA (SWEET CONEFLOWER) (1 PER 2 SY)
 - ⊗ CALLUNA VULGARIS (HEATHER) (1 PER FACILITY)
 - ACER GINNALA (ARMUR MAPLE) (1 PER FACILITY)

MICROBIORETENTION PLANTING DATA

- PLANTINGS WITHIN THE PONDING AREA OF THE FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE
- PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE
- AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE RAIN GARDEN NEAR O.B. PIPE AND UNDERDRAIN.

OWNER/BUILDER:
 MB HIGHLAND RESERVE, LLC
 1686 EAST GUDE DRIVE
 ROCKVILLE, MD 20850
 301-762-9511

BENCHMARK
 ENGINEERS LAND SURVEYORS PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-8644
 WWW.BEI-CIVILENGINEERING.COM

PROJECT:	REGAN PROPERTY	
	LOT 20	
LOCATION:	12240 PLEASANT SPRINGS COURT HIGHLAND, MD 20777 TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200 5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453	
TITLE:	BUILDING PERMIT & STORMWATER MANAGEMENT NOTES & DETAILS	
HOUSE TYPE:	HAWTHORNE - ELEVATION 'B'	
DATE:	JUNE, 2017	PROJECT NO. 2171
SCALE:	NOT TO SCALE	DRAWING 2 OF 2

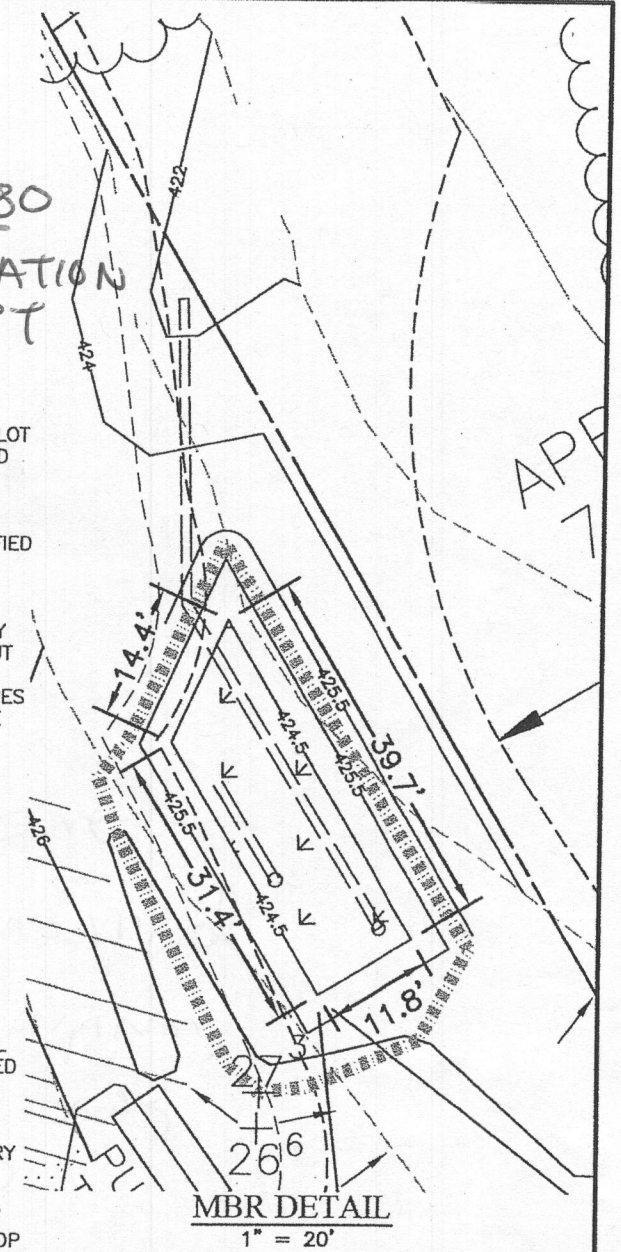


PLAN VIEW
1" = 50'

REVISED
Date: 11/01/17
Comments: B17003380
CHANGE TANK LOCATION PER HEALTH DEPT

BUILDING PERMIT PLAN NOTES:

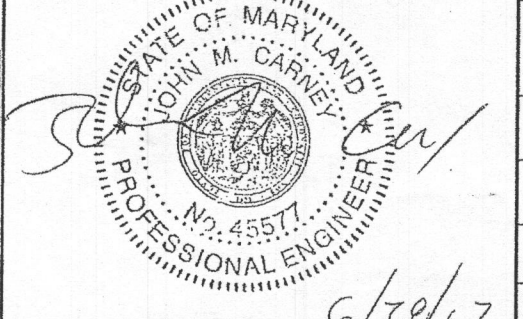
1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR REGAN PROPERTY, PLAT Nos. 23063-23074. REFER TO THE PLATS FOR LOT DIMENSIONS, LOT AREAS, ALL EASEMENTS AND CONDITIONS.
2. SEDIMENT AND EROSION CONTROLS WERE APPROVED BY HOWARD SOIL CONSERVATION DISTRICT UNDER A GRADING PLAN AND MODIFIED FOR THIS SPECIFIC HOUSE.
3. TOPOGRAPHY SHOWN HEREON IS TAKEN FROM THE APPROVED ROAD CONSTRUCTION PLANS AND TOPOGRAPHIC INFORMATION PROVIDED BY BENCHMARK ENGINEERING, INC., ON OR ABOUT JANUARY, 2012.
4. ALL SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS SITE SHALL COMPLY WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
5. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED ROAD CONSTRUCTION PLANS EXCEPT AS WAIVED.
6. THE EXISTING WELL SHOWN ON THIS PLAN, HO-14-0012, HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING, INC., AND IS ACCURATELY SHOWN.
7. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
8. ANY CHANGES TO A PRIVATE SEWAGE DISPOSAL AREA OR WELL BOX SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
9. STORMWATER MANAGEMENT FOR THIS LOT WAS DESIGNED AND PROVIDED BY ONE MICRO-BIORETENTION FACILITY (MDE M-6), DRY WELL FACILITY (MDE M-5) AND ONE NON-ROOFTOP DISCONNECTION (MDE N-2).
10. MICRO-BIORETENTION SHALL HAVE EITHER A 4" OR 6" ROOF LEADER DEPENDING ON ROOF-TOP AREA.



MBR DETAIL
1" = 20'

NOTE:
UNLESS OTHERWISE NOTED, THE FIRST RUN OF PVC ROOF LEADER SHALL BE 4" AND SHALL INCREASE TO AT LEAST 6" AFTER ANY CONFLUENCE OF 4" PIPES.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577. Expiration Date: 06-08-2018.



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(P) 410-465-6105 (F) 410-465-8644
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PROJECT: REGAN PROPERTY
LOT 20

LOCATION: 12240 PLEASANT SPRINGS COURT
HIGHLAND, MD 20777
TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200
5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453

TITLE: BUILDING PERMIT PLAN

HOUSE TYPE: HAWTHORNE - ELEVATION 'B'

DATE: JUNE, 2017
PROJECT NO.: 2171

SCALE: AS SHOWN
DRAWING: 1 OF 2

ESD STORMWATER MANAGEMENT SUMMARY TABLE											
Practice	#	DA to practice	Imp Area	ESDv			REV			Ownership	
				Required	Provided	2% DA?	Required	Provided			
(M-6) MicroBioretenion	#6	5,102	3,860	102	420	PASS	497	767	1.6	Private	
(N-2) Disc. of Non-Rooftop Runoff	#1	3,566	1,830					137	1.0	Private	
Total Treated		8,668	5,690	102	420		894	905	1.6		
Site Total		27,349	5,932								



Building Permit Application

Howard County Maryland
Department of Inspections, Licenses and Permits
3430 Court House Drive
Permits: 410-313-2455
www.howardcountymd.gov

Date Received: _____

G14000305

Permit No.: B17003380

Building Address: 12240 Pleasant Springs Ct.
City: Fulton State: MD Zip Code: 20759
Suite/Apt. # _____ SDP/WP/BA #: _____
Census Tract: _____ Subdivision: Highland Reserve aka Regan Property
Section: _____ Area: _____ Lot: 20
Tax Map: 34 Parcel: 200 Grid: 24
Zoning: RR-DEO Map Coordinates: _____ Lot Size: _____

Existing Use: Vacant
Proposed Use: Install Propane Tank
Estimated Construction Cost: \$ 3500.00
Description of Work: Install 1000 Gallon Propane Tank in ground, 1 tank only.

Occupant or Tenant: _____
Was tenant space previously occupied? Yes No
Contact Name: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____
Email: _____

Commercial Building Characteristics	Residential Building Characteristics	
Height:	<input checked="" type="checkbox"/> SF Dwelling <input type="checkbox"/> SF Townhouse	
No. of stories:	Depth	Width
Gross area, sq. ft./floor:	1 st floor: 60'	70'
Area of construction (sq. ft.):	2 nd floor: 60'	70'
Use group:	Basement: 60'	70'
Construction type:	<input checked="" type="checkbox"/> Finished Basement	
<input type="checkbox"/> Reinforced Concrete	<input type="checkbox"/> Unfinished Basement	
<input type="checkbox"/> Structural Steel	<input type="checkbox"/> Crawl Space	
<input type="checkbox"/> Masonry	<input type="checkbox"/> Slab on Grade	
<input type="checkbox"/> Wood Frame	No. of Bedrooms: <u>7</u>	
<input type="checkbox"/> State Certified Modular	Multi-family Dwelling	
	No. of efficiency units:	
	No. of 1 BR units:	
	No. of 2 BR units:	
	No. of 3 BR units:	
	Other Structure:	
	Dimensions:	
<input checked="" type="checkbox"/> Roadside Tree Project Permit	Footings:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Roof:	
Roadside Tree Project Permit #	<input type="checkbox"/> State Certified Modular	
	<input type="checkbox"/> Manufactured Home	

Property Owner's Name: MB Highland Reserve
Address: 1686 E. Gude Drive
City: Rockville State: MD Zip Code: 20850
Phone: 301-762-9511 ext. 318 Fax: _____
Email: _____

Applicant's Name & Mailing Address, (if other than stated herein)
Applicant's Name: Marc Quint - MB Highland Reserve LLC
Address: 1686 E. Gude Drive
City: Rockville State: MD Zip Code: 20850
Phone: 301-762-9511 Fax: 301-610-9564
Email: MQuint@mitchellbest.com

Contractor Company: National Propane Buyers Co-op
Contact Person: David Jaray
Address: 22318 Clarksburg Rd.
City: Boysa State: MD Zip Code: 20841
License No.: 67631
Phone: 301-515-0098 Fax: _____
Email: NPBS@NPBCgas.net

Engineer/Architect Company: _____
Responsible Design Prof.: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____
Email: _____

Utilities	
Water Supply	
<input type="checkbox"/> Public	RECEIVED SEP 11 2017 LICENSES & PERMITS DIVISION
<input checked="" type="checkbox"/> Private	
Sewage Disposal	
<input type="checkbox"/> Public	
<input checked="" type="checkbox"/> Private	
Electric: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Gas: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Heating System	
<input type="checkbox"/> Electric <input type="checkbox"/> Oil	
<input type="checkbox"/> Natural Gas <input checked="" type="checkbox"/> Propane Gas	
<input type="checkbox"/> Other:	
Sprinkler System:	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Grading Permit Number:	G14000305
Building Shell Permit Number:	

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Applicant's Signature: _____
MQuint@mitchellbest.com
Email Address
Operations Mgr., Mitchell & Best Homes LLC
Title/Company

Print Name: Marc Quint
Date: 9/11/2017

Checks Payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY
PLEASE WRITE NEATLY & LEGIBLY
-FOR OFFICE USE ONLY-

AGENCY	DATE	SIGNATURE OF APPROVAL
State Highways		
Building Officials		
PSZA (Zoning)		
PSZA (Engineering)		
Health	<u>11/13/17</u>	<u>[Signature]</u>

Is Sediment Control approval required for issuance? Yes No
 CONTINGENCY CONSTRUCTION START

DPZ SETBACK INFORMATION	
Front:	
Rear:	
Side:	
Side St.:	
All minimum setbacks met?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is Entrance Permit Required?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Historic District?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Lot Coverage for New Town Zone:	
SDP/Red-line approval date:	

Filing Fee	\$ <u>110.00</u>
Permit Fee	\$
Tech Fee	\$
Excise Tax	\$
PSFS	\$
Guaranty Fund	\$
Add'l per Fee	\$
Total Fees	\$
Sub- Total Paid	\$
Balance Due	\$
Check	# <u>002137</u>

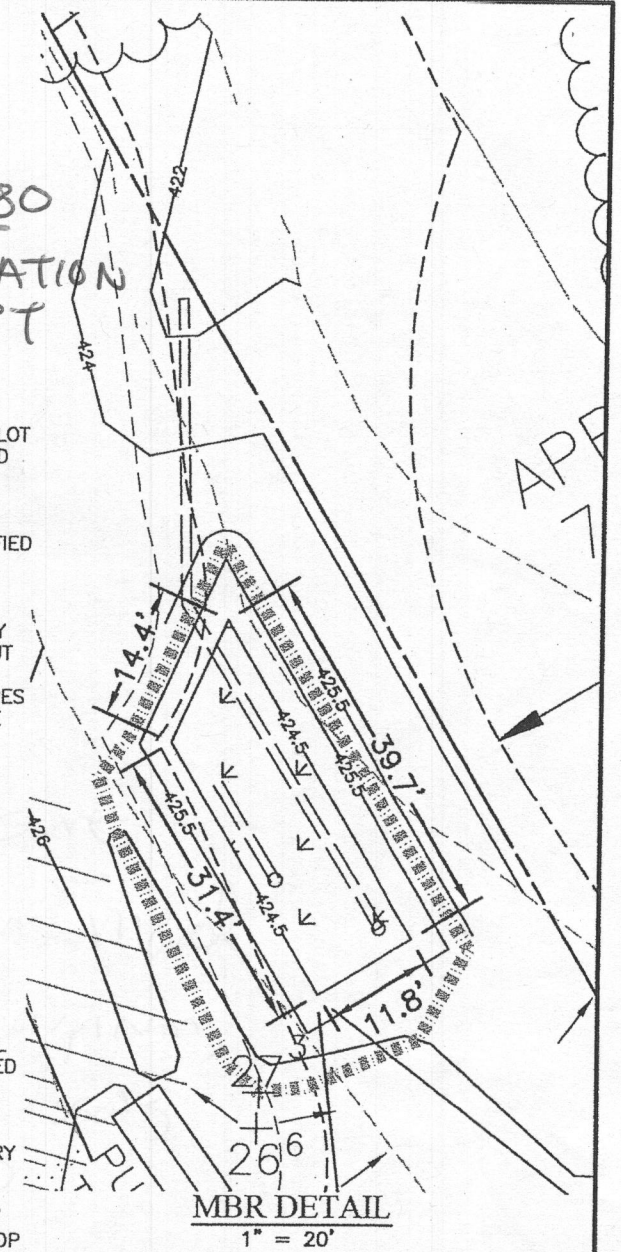
Distribution of Copies: White: Building Officials Green: PSZA, Zoning Yellow: PSZA, Engineering Pink: Health Gold: SHA



REVISED
Date: 11/01/17
Comments: B17003380
CHANGE TANK LOCATION
PER HEALTH DEPT

BUILDING PERMIT PLAN NOTES:

1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR REGAN PROPERTY, PLAT Nos. 23063-23074. REFER TO THE PLATS FOR LOT DIMENSIONS, LOT AREAS, ALL EASEMENTS AND CONDITIONS.
2. SEDIMENT AND EROSION CONTROLS WERE APPROVED BY HOWARD SOIL CONSERVATION DISTRICT UNDER A GRADING PLAN AND MODIFIED FOR THIS SPECIFIC HOUSE.
3. TOPOGRAPHY SHOWN HEREON IS TAKEN FROM THE APPROVED ROAD CONSTRUCTION PLANS AND TOPOGRAPHIC INFORMATION PROVIDED BY BENCHMARK ENGINEERING, INC., ON OR ABOUT JANUARY, 2012.
4. ALL SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS SITE SHALL COMPLY WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
5. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED ROAD CONSTRUCTION PLANS EXCEPT AS WAIVED.
6. THE EXISTING WELL SHOWN ON THIS PLAN, HO-14-0012, HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING, INC., AND IS ACCURATELY SHOWN.
7. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
8. ANY CHANGES TO A PRIVATE SEWAGE DISPOSAL AREA OR WELL BOX SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
9. STORMWATER MANAGEMENT FOR THIS LOT WAS DESIGNED AND PROVIDED BY ONE MICRO-BIORETENTION FACILITY (MDE M-6), DRY WELL FACILITY (MDE M-5) AND ONE NON-ROOFTOP DISCONNECTION (MDE N-2).
10. MICRO-BIORETENTION SHALL HAVE EITHER A 4" OR 6" ROOF LEADER DEPENDING ON ROOF-TOP AREA.

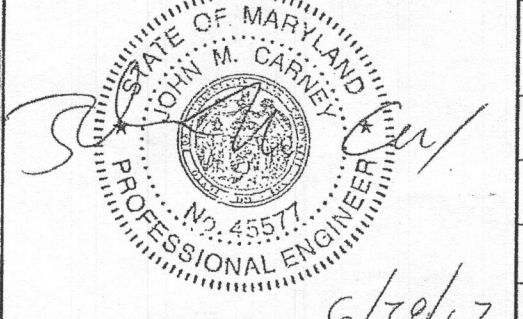


Propane Tank

OK
Jw
B17003380

NOTE:
UNLESS OTHERWISE NOTED, THE FIRST RUN OF PVC ROOF LEADER SHALL BE 4" AND SHALL INCREASE TO AT LEAST 6" AFTER ANY CONFLUENCE OF 4" PIPES.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577. Expiration Date: 06-08-2018.



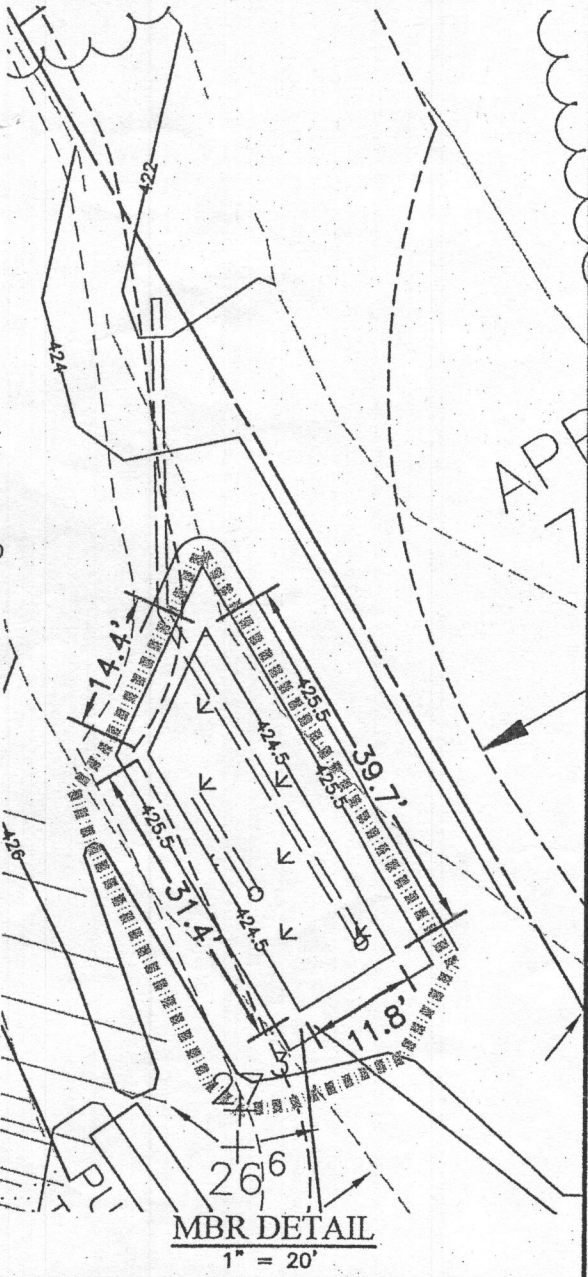
OWNER/BUILDER:	BENCHMARK ENGINEERS LAND SURVEYORS PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLCOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-8644 WWW.BEI-CMLENGINEERING.COM	
PROJECT:	REGAN PROPERTY LOT 20	
LOCATION:	12240 PLEASANT SPRINGS COURT HIGHLAND, MD 20777 TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200 5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453	
TITLE:	BUILDING PERMIT PLAN	
HOUSE TYPE:	HAWTHORNE - ELEVATION 'B'	
DATE:	JUNE, 2017	PROJECT NO. 2171
SCALE:	AS SHOWN	DRAWING 1 OF 2

Practice	#	DA to practice	Imp Area	Qe= 0.39 inches		ESDv= 894 cf	Rv= 0.25		Ownership	
				Required	Provided		Required	Provided		
(M-6) MicroBioretenion	#6	5,102	3,860	102	420	PASS	497	767	1.6	Private
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Site Total		27,349	5,932							



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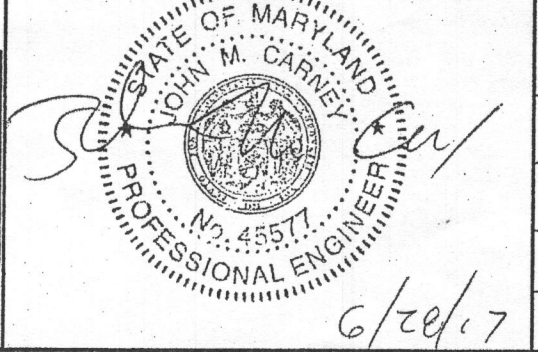


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OWNER/BUILDER:
MB HIGHLAND RESERVE, LLC
1686 EAST GUDE DRIVE
ROCKVILLE, MD 20850
301-762-9511

BENCHMARK ENGINEERING, INC.
ENGINEERS LAND SURVEYORS PLANNERS
8480 BALTIMORE NATIONAL PIKE SUITE 315
ELLCOTT CITY, MARYLAND 21043
(P) 410-465-6105 ▲ (F) 410-465-6644
WWW.BEI-CMLENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2018.



PLAN VIEW
1" = 50'

ESD STORMWATER MANAGEMENT SUMMARY TABLE											
Practice	#	Pe= 1.60 inches		Qe= 0.39 inches		ESDv= 894 cf	Rv= 0.25			Ownership	
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Site Total		27,349	5,932								

PROJECT: REGAN PROPERTY
Highland Reserve LOT 20

LOCATION: 12240 PLEASANT SPRINGS COURT
HIGHLAND, MD 20777
TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200
5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453

TITLE: BUILDING PERMIT PLAN

HOUSE TYPE: HAWTHORNE - ELEVATION 'B'

DATE: JUNE, 2017
PROJECT NO. 2171

SCALE: AS SHOWN
DRAWING 1 OF 2



PLAN VIEW
1" = 50'

Approved Septic System Plan
Howard County Health Department
Dona Bernard 8-9-17
Signature Date
B1700 2572

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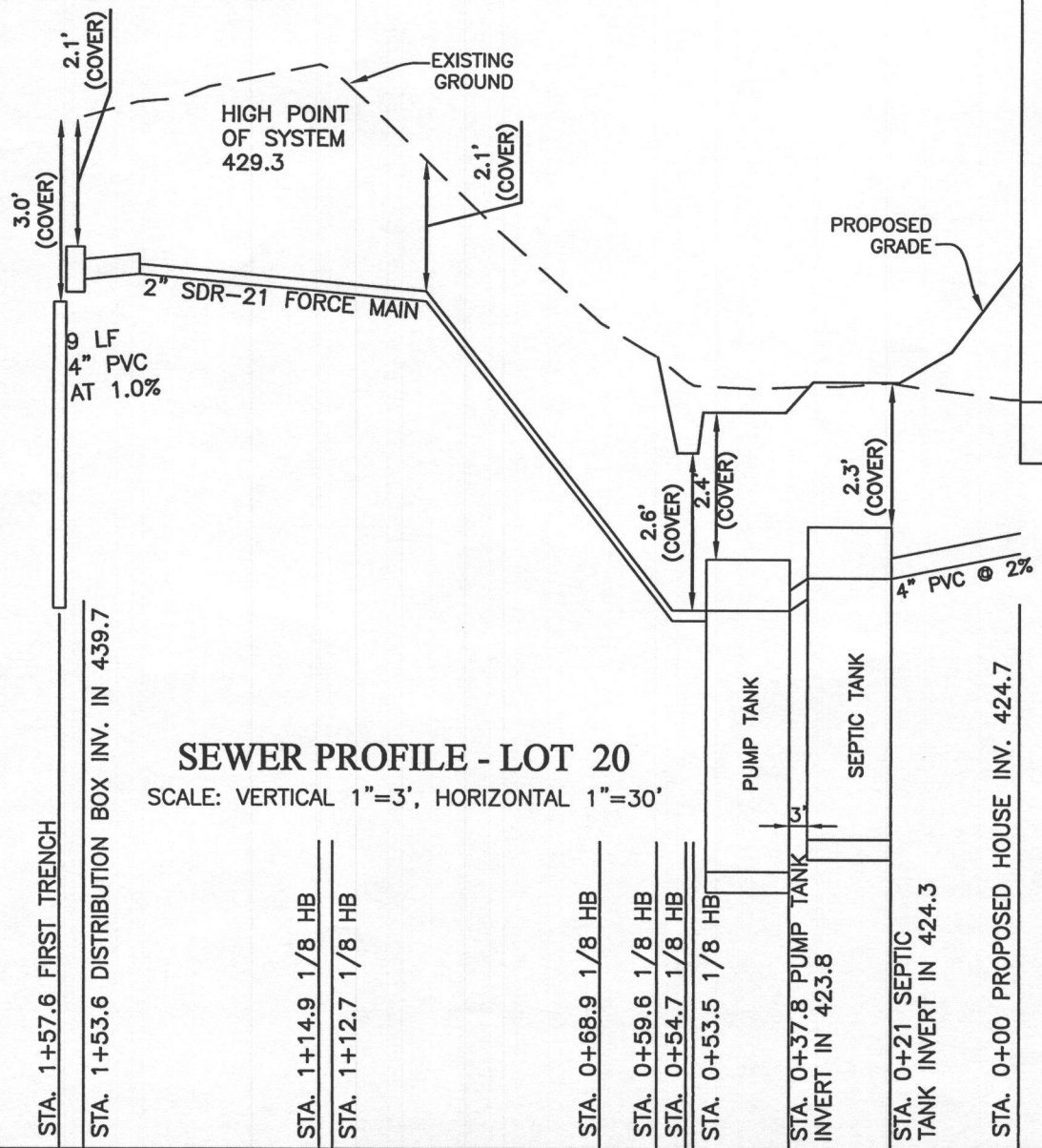


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PROJECT: REGAN PROPERTY LOT 20			
LOCATION: 12240 PLEASANT SPRINGS COURT HIGHLAND, MD 20777 TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200 5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453			
TITLE: SEPTIC PERMIT PLAN			
HOUSE TYPE: HAWTHORNE - ELEVATION 'B'			
DATE: JUNE, 2017		PROJECT NO.	2171
SCALE: AS SHOWN		DRAWING	1 OF 4

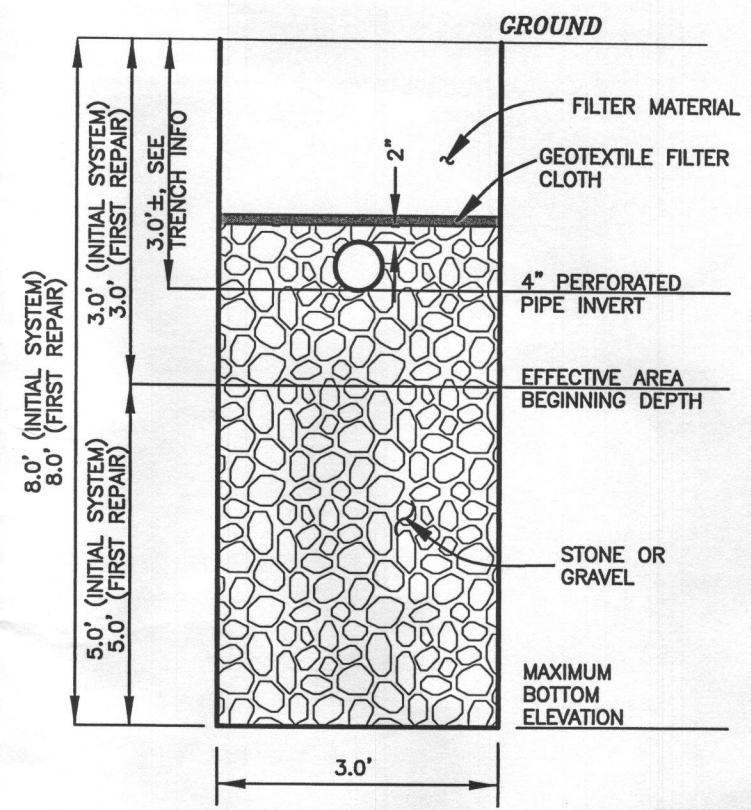
TRENCH INFORMATION

INITIAL SYSTEM		FIRST REPLACEMENT SYSTEM	
TRENCH T-1			
TRENCH LENGTH	38 LF	TRENCH LENGTH	38 LF
GROUND ELEVATION	431.8	GROUND ELEVATION	431.0
INVERT ELEVATION	428.8	INVERT ELEVATION	428.0
MAX. BOTTOM ELEV.	423.8	MAX. BOTTOM ELEV.	423.0
TRENCH T-2			
TRENCH LENGTH	38 LF	TRENCH LENGTH	38 LF
GROUND ELEVATION	430.2	GROUND ELEVATION	430.0
INVERT ELEVATION	427.2	INVERT ELEVATION	427.0
MAX. BOTTOM ELEV.	422.2	MAX. BOTTOM ELEV.	422.0
TRENCH T-3			
TRENCH LENGTH	38 LF	TRENCH LENGTH	38 LF
GROUND ELEVATION	431.0	GROUND ELEVATION	431.0
INVERT ELEVATION	428.0	INVERT ELEVATION	428.0
MAX. BOTTOM ELEV.	423.0	MAX. BOTTOM ELEV.	423.0
TRENCH T-4			
TRENCH LENGTH	38 LF	TRENCH LENGTH	38 LF
GROUND ELEVATION	430.0	GROUND ELEVATION	430.0
INVERT ELEVATION	427.0	INVERT ELEVATION	427.0
MAX. BOTTOM ELEV.	422.0	MAX. BOTTOM ELEV.	422.0

440
435
430
425
420
415



440
435
430
425
420
415



INITIAL SYSTEM		
Number of Bedrooms	5	
Application Rate	1.2	gpd/sf
Effective Area Beginning Depth	3	ft
Bottom Max Depth	8	ft
Design Flow	750	gpd
Drainage Field square footage	625	sf
Sidewall reduction credit	0.36	
Trench width	3	
Effective Area Depth	5	
Linear Length of trench Required	74	lf

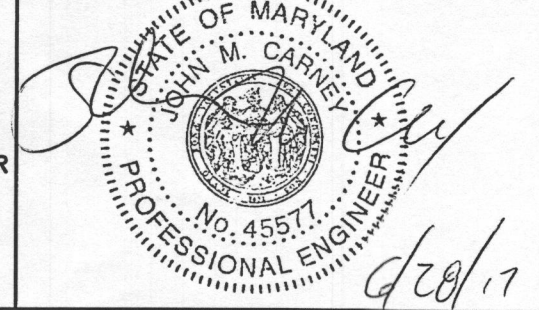
1st REPLACEMENT SYSTEM		
Number of Bedrooms	5	
Application Rate	1.2	gpd/sf
Effective Area Beginning Depth	3	ft
Bottom Max Depth	8	ft
Design Flow	750	gpd
Drainage Field square footage	625	sf
Sidewall reduction credit	0.36	
Trench width	3	
Effective Area Depth	5	
Linear Length of trench Required	74	lf

THIS PLAN IS FOR SEPTIC DESIGN ONLY

SEE MANUFACTURERS SPECIFICATIONS FOR DETAILS.
WWW.MAYERPRECAST.COM
EQUIVALENT FROM OTHER MANUFACTURERS CAN BE SUBSTITUTED.

SIGNATURE AND SEAL ARE FOR SEPTIC PROFILE AND CALCULATIONS ONLY, TANK AND DETAILS WERE NOT DESIGNED OR REVIEWED BY THE ENGINEER:

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2018.



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PROJECT: **REGAN PROPERTY LOT 20**

LOCATION: 12240 PLEASANT SPRINGS COURT
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TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200
5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453

TITLE: **SEPTIC PERMIT PLAN**

HOUSE TYPE: **HAWTHORNE - ELEVATION 'B'**

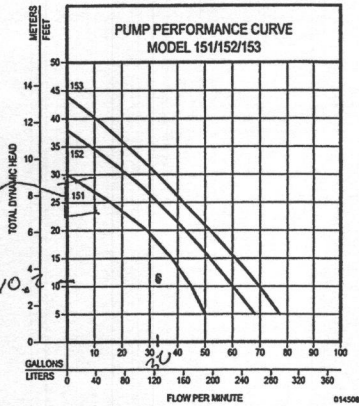
DATE: **JUNE, 2017** PROJECT NO. **2171**

SCALE: **AS SHOWN** DRAWING **2** OF **4**

**TOTAL DYNAMIC HEAD
FLOW PER MINUTE**

MODEL	151		152		153	
	Feet	Meters	Gal.	Liters	Gal.	Liters
5	1.5	50	189	69	261	77
10	3.0	45	170	61	231	70
15	4.6	38	144	53	201	61
20	6.1	29	110	44	167	52
25	7.6	16	61	34	129	42
30	9.1	--	--	23	87	33
35	10.7	--	--	--	22	85
40	12.2	--	--	--	11	42
Shut-off Head:	30 ft. (9.1m)		30 ft. (11.6m)		44 ft. (13.4m)	

Use Model 151



Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	H _z	Lbs	Kg	Simplex	Duplex
N151	Single	Non	115	1	6.0	1/2	60	15	15	1	2 or 3
E151	Single	Non	230	1	3.2	1/2	60	32	15	1	2 or 3
BN151	Single	Auto	115	1	6.0	1/2	60	33	15	*	2 or 3
BE151	Single	Auto	230	1	3.2	1/2	60	33	15	*	2 or 3
N152	Single	Non	115	1	8.5	4/10	60	37	17	1	2 or 3
E152	Single	Non	230	1	4.3	4/10	60	37	17	1	2 or 3
BN152	Single	Auto	115	1	8.5	4/10	60	39	18	*	2 or 3
BE152	Single	Non	230	1	4.3	4/10	60	39	18	*	2 or 3
N153	Single	Non	115	1	10.5	1/2	60	37	17	1	2 or 3
BN153	Single	Auto	115	1	10.5	1/2	60	39	18	*	2 or 3
E153	Single	Non	230	1	5.3	1/2	60	37	17	1	2 or 3
BE153	Single	Non	230	1	5.3	1/2	60	39	18	*	2 or 3

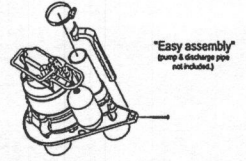
*BN and BE models include a 20' (6 m) piggyback variable level pump switch. Additional cord lengths are available in 25' (8 m) and 35' (11 m). 50' (15 m) cords are available for 230 V units only.
NOTE: Model 151 has a plastic base. Models 152 & 153 have a cast iron base.

SELECTION GUIDE

- For automatic, use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
- See FM1228 for correct model of simplex control panel.
- See FM0712 for correct model of duplex control panel.

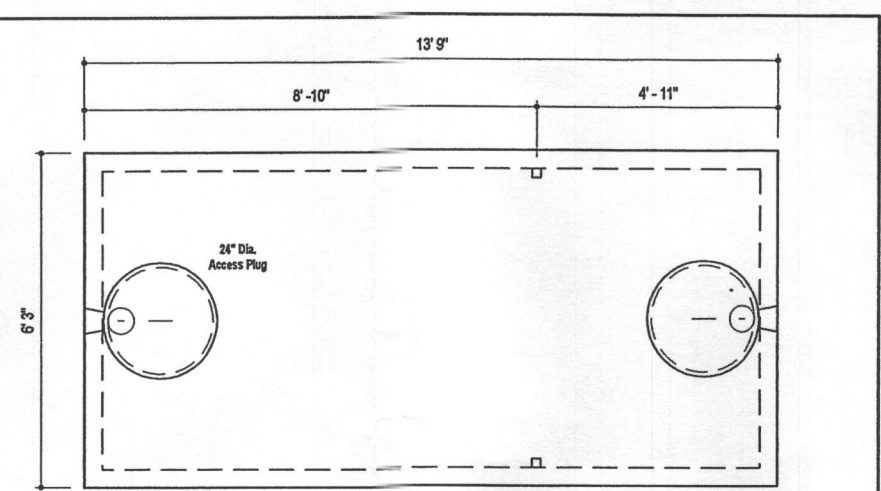
OPTIONAL PUMP STAND P/N 10-2421

- Reduces potential clogging by debris
- Replaces rocks or bricks under the pump
- Made of durable, noncorrosive ABS
- Raises pump 2" (5 cm) off bottom of basin
- Provides the ability to raise intake by adding sections of 1/2" or 2" (DN40 or DN50) PVC piping
- Attaches securely to pump
- Accommodates sump, dewatering and effluent applications

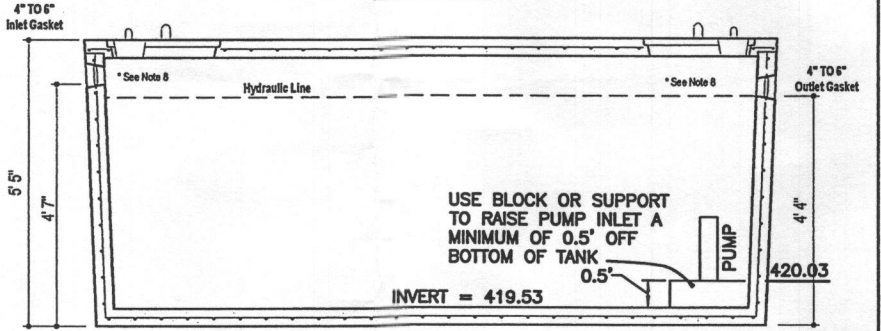


CAUTION All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

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PLAN VIEW



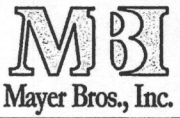
SECTION A-A

DESIGN DATA & GENERAL NOTES

- Concrete strength f_c=4,000 p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-92.
- Admixtures & plasticizers per ASTM C 260-98 & C 494-92.
- Reinforcing per ASTM A198. Min. 1-1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, 4" base, & 6" top thickness.
- Max 3" of cover
- Depending on use of tank, Inlet & Outlet baffle may be required by code.

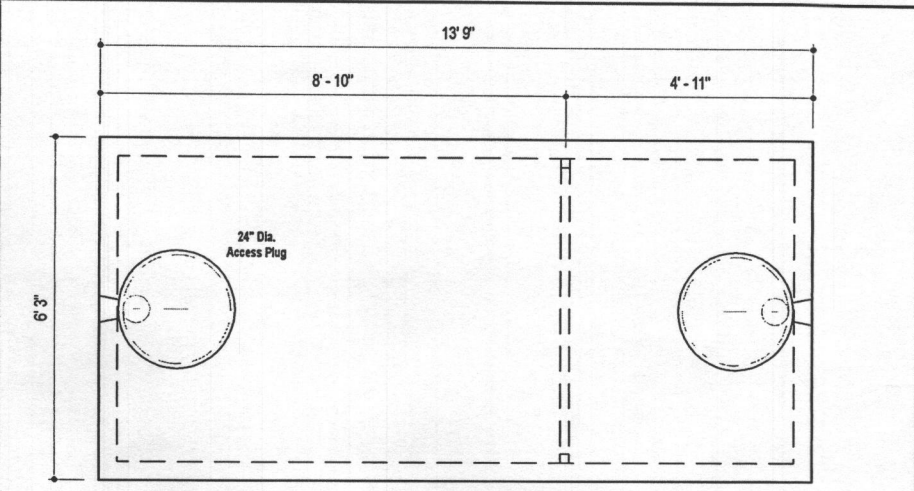
FLOAT TREE:	ELEV.	RELATIVE TO BOTTOM
BOTTOM OF TANK	419.53	
TOP OF PUMP	421.13	1'-7 1/4"
PUMP OFF	421.20	1'-8"
PUMP ON	421.49	1'-11 1/2"
HIGH ALARM	421.99	2'-5 1/2"

WEIGHT = 19,000 lbs.

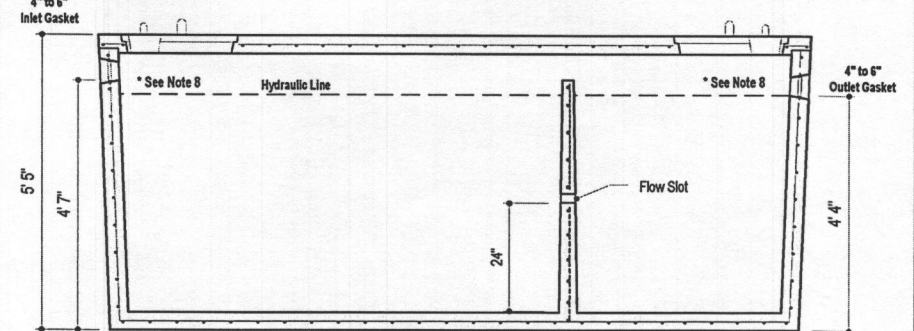


6264 Race Road
Elkridge, Maryland 21075
Tel. 410.796.1434
Fax. 410.796.1438
www.mayerbrosprecast.com

**2,000 GALLON SEPTIC TANK
1-Compartment LOT 20**
Stock Item [Approx. 19,900 lbs]
Dwg. No. 2000-1C No Scale Aug. 11, 2008



PLAN VIEW



SECTION A-A

DESIGN DATA & GENERAL NOTES

- Concrete strength f_c=4,000 p.s.i. @ 28 days. Density = 150 pcf.
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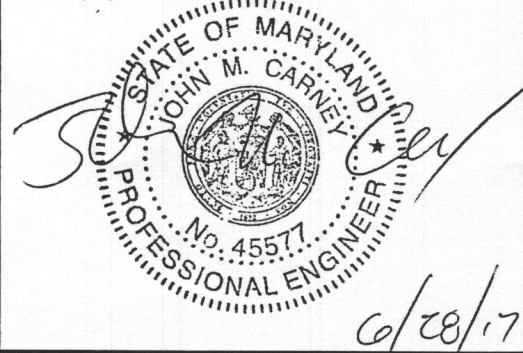
**2,000 GALLON SEPTIC TANK
2-Compartment**
Stock Item [Approx. 19,900 lbs]
Dwg. No. 2000-2C No Scale Aug. 11, 2008

**THIS PLAN IS FOR
SEPTIC DESIGN ONLY**

SEE MANUFACTURERS
SPECIFICATIONS FOR
DETAILS.
EQUIVALENT FROM OTHER
MANUFACTURERS CAN BE
SUBSTITUTED.

SIGNATURE AND SEAL ARE FOR SEPTIC
PROFILE AND CALCULATIONS ONLY, TANK,
PUMP, AND DETAILS WERE NOT DESIGNED
OR REVIEWED BY THE ENGINEER:

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2018.



OWNER/BUILDER:	BENCHMARK ENGINEERS LAND SURVEYORS PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CVLENGINEERING.COM	
PROJECT:	REGAN PROPERTY LOT 20	
LOCATION:	12240 PLEASANT SPRINGS COURT HIGHLAND, MD 20777 TAX MAP No. 34 - BLOCK No. 24 - PARCEL No. 200 5TH ELECTION DISTRICT, TAX ID NUMBER: 05 597453	
TITLE:	SEPTIC PERMIT PLAN	
HOUSE TYPE:	HAWTHORNE - ELEVATION 'B'	
DATE:	JUNE, 2017	PROJECT NO. 2171
SCALE:	AS SHOWN	DRAWING 3 OF 4

Pumping Station

Diameter of Force Main and Manifold = 2 " of SDR 21 pipe
 Length of Force Main = 93 feet SDR 21 gallons/100 feet = 18.8 Table 4.2
 Volume of Main = 17.5 gallons ID = 2.149
 length = 100 gallon/sq ft 7.480519
 Total Volume = 17.5 gallons volume = 18.84222 gal/100 lf
 Minimum Dose must be greater than 1/6 of the design flow 125 gallons
 Minimum Dose must be greater than the volume of the main 18 gallons
 Use minimum dose of 160 gallons okay Doses per Day = 4.6875

Size Pump Chamber

Pump chamber must be able to hold one dose and one days design flow

One day Capacity = 750 gallons
 Dose = 160 gallons
 Totals = 910 gallons

Use 2,000 gallon pump tank

Tank Dimensions:		Exterior	Interior		
Length:	13.75 feet	Length:	13.08 feet	Walls:	0.33 feet
Width:	6.25 feet	Width:	5.58 feet	Bottom:	0.33 feet
Height:	5.42 feet	Height:	4.67 feet	Top:	0.42 feet
		Area:	73.05 sf	Bottom to	
		Volume:	341.14 cf	Inlet:	4.58 feet

Sizing the Pump

Flow: runtime = 5 minutes
 rate = 32.00 gallons/minute

Design Head:

Design Head = Static Head + Friction Head
 Static Head = highest elevation of main - pump off elevation
 Highest component of system = 429.3 Main HP
 Pump off elevation = 421.20
 Static Head = 8.10 feet
 Friction Head = Head loss due to pipe friction
 2.0" pipe = 93 feet
 45° bends 6 loss for bend 24 feet per table 4.3
 Gate Valve 1 loss for tee 1.3 feet per table 4.3
 Friction loss per table 4.4 = 1.74 (ft/100 ft)
 Equivalent Length = 118.3 Friction loss 2.06 feet
 Total Friction Head = 2.06
 Design Head = 10.16 feet

Pump Requirements:

Performance = 32.00 gpm
 Head of Water = 10.16 feet of head

Pump Selection: Zoeller Pump Company Effluent Series, Model 151
 1/3 horse power

Pump Flow Rate = 44.00 gallons/minute per rating curve 3.64 Minutes
 TDH analysis 11.81 ft
 Between design and curve? Yes

Design Pump Chamber

Ground over Tank = 427.00 Cover 2.38 ft
 Top of Tank = 424.62
 Invert of Tank = 419.53
 6" Riser = 0.50 feet
 Pump Height = 1.10 feet
 Min. Pump off = 421.13
 Selected Pump off = 421.20
 Dose = 21.4 cf
 Area of Pit = 73.05 sf
 Pump on dist. = 0.29
 Pump on Elev. = 421.49
 Distance between Pump on and Highwater Alarm = 0.5 feet
 Highwater Alarm Elevation = 421.99
 Dist. for a dose above alarm = 1.37
 Minimum Inlet Elev. = 423.37
 Tank Inlet = 423.78 Okay
 Dist. Alarm to Inlet = 1.79 Okay

THIS PLAN IS FOR SEPTIC DESIGN ONLY

SEE MANUFACTURES SPECIFICATIONS FOR DETAILS. EQUIVALENT FROM OTHER MANUFACTURERS CAN BE SUBSTITUTED.

SIGNATURE AND SEAL ARE FOR SEPTIC PROFILE AND CALCULATIONS ONLY, TANK, PUMP AND DETAILS WERE NOT DESIGNED OR REVIEWED BY THE ENGINEER:

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 06-08-2018.



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DATE:	JUNE, 2017	PROJECT NO. 2171
SCALE:	AS SHOWN	DRAWING 4 OF 4

HEALTH B17002572

I. General Requirements

- A. The term "work" as used in these notes shall include all provisions as drawn or specified in these documents as well as all other provisions specifically included by the Owner in the form of drawings, specifications, and written instructions and approved by the Architect.
- B. Contractor shall visit the site to verify all plan and existing dimensions and conditions and shall notify the Architect in writing, of any discrepancies before proceeding with the work or shall be responsible for same.
- C. Contractor shall be familiar with provisions of all applicable codes and shall insure compliance of work to those codes.
- D. These documents do not include the necessary components for construction safety. Safety, care of adjacent properties during construction, compliance with state and federal regulations specified in the Owner/Contractor contract is, and shall be, the Contractor's responsibility.
- E. Contractor shall supervise and direct the work and shall be solely responsible for all construction means, methods, techniques, and safety procedures and for coordinating all portions of the work.
- F. If in the event of conflict between local, state, and national codes, the more stringent shall govern.
- G. AIA General Conditions of the Contract for Construction are a part of this project.
- H. All construction is to be in compliance with the following code: International Residential Code For One & Two Family Dwellings, 2015 Edition (As Amended by Montgomery and Howard County, MD)
- I. This project is an Owner/Builder project wherein the Owner is performing as the Contractor. The Owner is responsible for all construction means and methods as well as all compliance with building codes and other applicable laws, ordinances and regulations. The Architect is available to the Owner, however, all questions regarding this project must be directed to the Owner. The Architect assumes no responsibility for the means and methods of construction of the project, inasmuch as the Owner/Builder has full control and has assumed full responsibility.
- J. Use of these documents without written permission of the Architect is forbidden. © Copyright 2016 Sutton Yantis Associates Architects, P.C.
- K. Any and all drawings and specifications for sitework, plumbing supply or waste, electrical circuiting, and heating, ventilation, and air conditioning systems not contained in the "List of Drawings" listed on this page are not a part of the professional services provided to the Owner by the Architect under their Agreement. Any discrepancies with these documents by any of the above listed services shown in documents by others should be indicated in writing to Architect immediately.
- L. Contractor shall be responsible for all noise attenuation requirements.

II. Structural Specifications

A. General Requirements

- 1. The conditions and assumptions stated in these specifications shall be verified by the Contractor for conformance to local codes and conditions. In the event of a discrepancy between these specifications and local codes or conditions, the Contractor shall notify the Architect in writing of the discrepancy and special engineering requirements shall be applied to insure the building's structural integrity.
- 2. These requirements may be superseded by more stringent information contained within the drawings. The more stringent shall be followed.
- 3. Soil conditions shall conform to the following conditions:
Bearing capacity: Min. 2000psf, field verify, under all footings and slab.
Water Table: Min. 2'-0" below bottom of all concrete slabs and footings. Footings, foundations, walls and slabs shall not be placed on or in Marine Clay, Peat and other organic materials.
- 4. Bottom of all footings shall extend to below frost line of the locality or to a minimum of 2'-6" below grade.
- 5. Free draining granular backfill shall be used against foundation walls. Equivalent fluid pressure of backfill not to exceed 30 pcf. If backfill pressures exceed 30 pcf then foundation walls must be designed for actual equivalent fluid pressure.
- 6. All backfill under slabs and footings shall be clean, porous soil compacted in 8" layers to 95% density. Where distance from edge of foundation wall exceeds 16", but is less than 4'-0", provide backfill as described above or reinforce with #4 rebar @ 2'-0" o.c., 1'-0" beyond edge of undisturbed soil and 1'-0" into foundation wall.

B. Concrete

- 1. All concrete shall attain the following 28 day compressive strengths:
-Foundation Walls, Footings, Piers and Interior Slabs . . . 3000 psi
-All other slabs on grade (including garage slabs) . . . 3500 psi.
- 2. Reinforcing steel shall conform to ASTM A-615, new billet, grade 60.
- 3. Welded wire mesh shall conform to ASTM A-185, with minimum laps of 8".
- 4. Maximum slump 5".
- 5. All exposed exterior concrete shall be 6+/-1% air entrained or shall conform to ASTM C260.
- 6. Walls with lateral earth pressures shall be shored or floor/roof construction shall be in place prior to backfilling.
- 7. All concrete work shall be in accordance with ACI 318.

C. Steel

- 1. All structural steel specified in these documents shall conform to ASTM A-36.
- 2. Steel pipe shall conform to ASTM A-53.
- 3. All welds shall comply with AWS standards.
- 4. All bolts in bolted steel connections shall conform to ASTM A-325.
- 5. All required steel anchor bolts, anchors straps, nails, caps, joist hangers shall be constructed of code approved galvanized or stainless steel. All metal nails, hangers, straps & bolts that are in direct contact with pressure treated lumber shall be fabricated from stainless steel or other non-corrosive metal approved by the Building Official.
- 6. All connections shall conform to AISC standards.
- 7. Fitch Beams: Unless noted otherwise, all steel fitch beams shall be assembled with 2 rows of 1/2" bolts @ 12" o.c. top and bottom, stagger rows 6". There shall be a bolt top and bottom 8" from each end.

II. STRUCTURAL SPECIFICATIONS (continued)

D. Wood

- 1. All structural wood joists and headers shall be stressed graded #2 Hem Fir 19% M.C. in accordance with NDS by NFA, unless noted. All wood shall comply to the following minimum specifications:

#2 Hem Fir, 19% M.C.

F _b min:	980 psi repetitive use 850 psi single member use
E min:	1,300,000 psi
F _v min:	75 psi
F _c min:	1,250 psi
F _{cL} min:	405 psi

#2 Spruce Pine Fir 19% M.C. (#2 S.P.F.)

F _b min:	1,005 psi repetitive use 875 psi single member use
E min:	1,400,000 psi
F _v min:	70 psi
F _c min:	1,100 psi
F _{cL} min:	425 psi

#2 Southern Pine, 19% M.C. (#2 S.Y.P.)

F _b min:	1,120 psi repetitive use 975 psi single use
E min:	1,600,000 psi
F _v min:	90 psi
F _c min:	1,450 psi
F _{cL} min:	565 psi

Note: Pressure-treated lumber shall be #2 Southern Pine KD-19 pressure pressure treated to .40 pounds per cubic foot chemical retention and shall be denoted as (P.T.)

MICRO-LAM

F _b min:	2,600 psi
E min:	1,900,000 psi
F _v min:	285 psi
F _c min:	2,310 psi
F _{cL} min:	750 psi

All studs & wall plates in bearing walls shall conform to the following minimum specifications:

Stud Grade Spruce Pine Fir 19% M.C.

F _b min:	775 psi repetitive use 675 psi single use
E min:	1,200,000 psi
F _v min:	70 psi
F _c min:	675 psi
F _{cL} min:	425 psi

- 1. All manufactured wood trusses and truss headers shall be designed by manufacturer according to Truss Plate Institute (TPI) and other requirements specified by local building authority. Manufacturer shall submit to Architect, shop drawings and calculations sealed by a Professional Engineer registered in the governing jurisdiction. Erection shall be in accordance with TPI "Building Component Safety Information (BCSI) Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses." Roof trusses and all bridging and/or lateral bracing required for structural integrity of roof truss system is to be designed by Manufacturer's drawings.
- 2. All structural wood exposed to outside unprotected or bearing directly on concrete shall be pressure treated with approved materials to resist decay and infestation by termites and moisture.
- 3. All wall sill plates shall be min. 2x4 and shall be anchored into foundation walls with 1/2" diameter anchor bolts min. 7" into poured in place concrete and 15" into grouted cmu. Minimum 2 anchors per section of plate and anchors shall be placed 12" from end of each plate. Maximum spacing of anchors 6'-0" on center for one and two story buildings and 4'-0" on center for buildings more than two stories in height or as required per local code. Anchor straps may be used as a substitute and shall be installed per manufacturers' specifications
- 4. All exterior wood framework supported on approved foundation walls shall be minimum 8" above finish grade.
- 5. All wood framed exterior corners shall be laterally braced 4'-0" each direction from the corner with 1/2" exterior plywood or other code approved structural method.
- 6. Provide continuous double top plate at all bearing stud walls.
- 7. Provide blocking between all joists, 2 x 12 or greater, at intervals not to exceed 8'-0".
- 8. All structural wood posts under beams and headers over 4'-0" span shall be min. 2-2x4 unless noted otherwise.
- 9. All structural wood posts under beams and headers over 4'-0" span shall be min. 2-2x4 unless noted otherwise.
- 10. All bearing partitions shall be 2x4 studs at 16" o.c. or as noted.
- 11. Provide solid blocking at 4'-0" o.c. between rim joist and first interior parallel joist.
- 12. All framing shall be detailed and installed in accordance with AF&PA Details for Conventional Wood Frame Construction
- 13. All ceramic tile shall be installed per Tile Council of North America as specified in the Handbook for Ceramic Tile Installation. Contractor is responsible for providing sufficient movement joints, as per Tile Council of North America specifications, for all floor tile. Movement joint locations and details are not a part of these documents.
- 14. Plywood subfloors shall be glued and nailed to Floor Joists with APA approved elastomeric structural adhesive and 8d common nails spaced at 6" o.c. at panel edges and 12" o.c. at intermediate supports.
- 15. All wood posts labeled continuous (cont.) shall be continuous from under side of beam to concrete or steel bearing.

To: Health Dept.

12280 Pleasant Springs Ct.,

Fulton, MD 20759

5 Bedroom Application

II. STRUCTURAL SPECIFICATIONS (continued)

- 16. Manufactured Floor Trusses: Unless otherwise noted manufactured floor trusses shall be installed in accordance with manufacturers specifications and details.
- 17. All plywood roof, floor and wall sheathing shall be APA approved.

E. Masonry

- 1. Materials
Mortar: Type "S" ASTM C270
Hollow CMU: ASTM C-90
Face Brick: ASTM C-216
Grout Aggregated: ASTM C-404
- 2. All masonry shall be protected from freezing for not less than 48 hours after installation and shall not be constructed below 40 degrees F without precautions necessary to prevent freezing. No anti-freeze admixtures shall be added to the mortar.
- 3. Brick veneer shall be attached to wood frame with minimum #22 galvanized sheet gage corrosion-resistant corrugated metal ties min. 7/8" wide at vertical intervals max. 16" and horizontal intervals max 16". Provide weep holes at 2'-0" o.c. @ first course above grade and first course above steel lintels.
- 4. Provide horizontal joint reinforcement (Durowall) in all masonry walls @ 8" o.c. unless otherwise specified.
- 5. The top course of all masonry bearing walls shall be constructed of solid masonry units or grout filled hollow units or otherwise designed to insure adequate distribution of load.
- 6. All masonry work shall conform to the applicable requirements of BIA and NCMA.

III. Doors and Windows

- 1. Unless otherwise noted, window sizes define intended aesthetic size and type by indicating sash opening in feet and inches (I.E., 2856 DH denotes a 2'-8" wide by 5'-6" tall sash opening double hung window). Contractor shall verify that windows and doors (including overhead doors) to be installed comply with local code standards for egress, light, and ventilation, wind/impact loads.
- 2. All glazing installed in hazardous locations, as defined by local code, shall be safety glazing and shall be provided with a visible manufacturer's label, designating the safety standard with which it complies.

IV. Thermal and Moisture Protection

- 1. Blank
- 2. Waterproof all exterior foundation walls below grade enclosing habitable spaces as specified by code at exterior face of wall.
- 3. Dampproof all exterior foundation walls enclosing basements and crawl spaces with dampproofing as specified by code at exterior face of wall.
- 4. Flashing: Code approved corrosion resistive flashing shall be provided at all locations required by code in such manner as to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Similar flashings shall be installed at the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings; under and at the ends of masonry wood or metal copings and sills; continuously above all projecting wood trim at wall and roof intersections; under built-in gutters; at junctions of chimneys and roofs; and in all roof valleys and around all roof openings. All windows and doors shall be flashed in accordance with the manufacturers written instructions.
- 5. Building Paper: When veneer of brick, clay tile, concrete, or natural or artificial stone are used, 15 pound felt or paper shall be attached to the sheathing with flashing whenever necessary to prevent moisture penetration behind the veneer. Approved water resistant sheathing may be substituted for building paper.

V. Other

- 1. In locations required by local code, window opening limiting devices are to be installed by window manufacturer in compliance with code section R312.2.2.
- 2. Residential Energy Efficiency compliance is per the Total UA Alternative Method per the 2015 International Energy Conservation Code for climate zone 4A. Refer to REScheck Compliance Certificate and to "N" sheets (Energy Plans) for additional information.
- 3. NOTE: Structural Design is for Gravity Loads ONLY. Structural Engineering for Lateral Load Design requirements specified per Building Code is NOT included in these documents and shall be provided by others.
- 4. Whole house ventilation system to be installed (by others).

List of Drawings

1	General Notes & Specifications	10	Pr'tl Upper Floor Plan W/Alt. Elev "B"	29	Pr'tl Left & Right Side Elevations	E3	Upper Floor Electrical Plan
RC	REScheck Compliance Certificate	11	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	30	w/Opt. Alt. Elevation "C"	E3A	Pr'tl Upper Floor Electrical Plan
D1	Foundation/Framing Details	11A	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	31	w/Opt. Attic and Opt. Attic Floor Electrical Plan		
D2	Foundation/Framing Details	12	W/Opt. 8ft Extension	32	Pr'tl Left & Right Side Elevations		
AW	Arwayway Details	12	Pr'tl Lower Floor Plan W/Alt. Elev "C"	33	w/Opt. Alt. Elevation "D"	E3B	Pr'tl Bsmnt, Lower & Upper Floor Electrical Plans W/Opt. 6 Ft. Extension
TR1	Trim Details	12A	Pr'tl Lower Floor Plan W/Alt. Elev "C"	34	W/Opt. 8ft Extension	E4	Pr'tl Bsmnt, Lower & Upper Floor Electrical Plans W/Opt. 8 Ft. Side Extension
TR2	Trim Details	13	W/Opt. 8ft Extension	35	34A Roof & Fir Framing Pln W/Opt. Attic	E5	Pr'tl Bsmnt & Lower Floor Electrical Plans W/Opt. 3 Car SideLoad Garage
TR3	Trim Details	13A	Pr'tl Upper Floor Plan W/Alt. Elev "C"	36	Pr'tl Lower, Upper & Roof Framing Plans W/Opt. 3 Car SideLoad Garage	E6	Pr'tl Bsmnt & Lower Floor Electrical Plans W/Opt. 3 Car SideLoad Garage & Opt. Home Office/In-Low Suite
TR4	Trim Details	14	Pr'tl Upper Floor Plan W/Alt. Elev "C"	37	Pr'tl Lower, Upper & Roof Framing Plans w/Opt. 3 Car SideLoad Garage	E6A	Pr'tl Lower & Upper Floor Electrical W/Opt. Bonus Room Over Garage
TR5	Trim Details	14A	Pr'tl Fndn/Bsmt & Lower Floor Plan W/Alt. Elev. "D"	38	Pr'tl Upper Floor & Roof Framing Plan W/Opt. Bonus Room over Garage	E7	Pr'tl Lower Floor Electrical Plans W/Opt. Rear Covered Porch
TR6	Trim Details	15	Pr'tl Fnd/Bmt, Lower & Upper Fir Pln w/Opt. 8ft Extension & Opt. 4'-0" Family Room Extension	39	Pr'tl Roof Framing Plan W/Opt. Rear Covered Porch & Deck Framing Plan	E8	Pr'tl Bsmnt. & Lower Floor Electrical Plans W/Alt. Elevation "B"
TR7	Trim Details	16	Pr'tl Fnd/Bsmt Fir Pln W/Alt Elev "C"	40	Pr'tl Lower, Upper & Roof Framing Plans W/Alt. Elevation "B"	E9	Pr'tl Upper Floor Electrical Plan W/Alt. Elevation "B"
UK	Deck Details	17	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	41	Pr'tl Lower, Upper & Roof Framing Plans W/Alt. Elevation "C"	E10	Pr'tl Bsmnt Electrical Plan W/Alt. Elevation "C"
7	Lower Floor Plan W/Elev "A"	18	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	42	Pr'tl Lower Floor Framing W/Alt. Elevation "C"	E11	Pr'tl Lower Floor Electrical Plan W/Alt. Elevation "C"
8	Upper Floor Plan W/Elev "A"	19	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	43	Pr'tl Upper Floor Framing W/Alt. Elevation "C"	E12	Pr'tl Upper Floor Electrical Plan W/Alt. Elevation "C"
4A	Alt. Upper Floor w/Opt. Attic & Opt. Attic	20	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	44	Pr'tl Roof Framing Plan W/Alt. Elevation "C"	E13	Pr'tl Bsmnt & Lower Floor Electrical W/Alt. Elevation "D"
4B	Pr'tl Fnd/Bmt, Lower & Upper Fir Pln w/Opt. 8ft Extension & Opt. 4'-0" Family Room Extension	21	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	45	Pr'tl Lower & Upper Floor Framing W/Alt. Elevation "D"	E14	Pr'tl Upper Floor Electrical Plan W/Alt. Elevation "D"
5	Upper Floor Plans Lower & Upper Floor Plans W/Opt. 8ft Side Extension	22	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	46	Pr'tl Roof Framing Plan W/Alt. Elev "D"	N1	Energy Plans
6	Pr'tl Fndn/Bsmt & Lower Floor Plan W/Opt. Attached 3 Car Garage	23	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	47	Pr'tl Truss Joist Details	N2	Energy Plans
7	Pr'tl Fndn/Bsmt & Lower Floor Plan W/Opt. Attached 3 Car Garage and W/Opt. Home Office/In-Low Suite	24	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	E1	Basement Electrical Plan	N3	Energy Section "A" & "B"
7A	Pr'tl Fndn/Bsmt & Lower Floor Plan W/Opt. Attached 3 Car Garage and W/Opt. Bonus Room over Garage	25	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"	E2	Lower Floor Electrical Plan		
8	Pr'tl Fndn/Bsmt & Lower Floor Plan W/Opt. Rear Covered Porch	26	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"				
9	Pr'tl Fndn/Bsmt & Lower Floor Plan W/Alt. Elev. "B"	27	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"				
		28	Pr'tl Fndn/Bsmt Fir Pln W/Alt Elev "C"				

Symbols

⊖	Duplex Outlet	⊖	One Way Switch	⊖	Cont. Running Mech Fan
⊖	Duplex Outlet, Weather Proof on GFI circuit	⊖	Three Way Switch		
⊖	Duplex Outlet, Floor Mounted	⊖	Four Way Switch		
⊖	Duplex Outlet, Switch Operated	⊖	Switch w/ Rheostat		
⊖	Range Outlet	⊖	Smoke Detector		
⊖	Gas Outlet	⊖	Chime		
⊖	Ceiling Mounted Incandescent	⊖	Bathroom Exhaust Fan		
⊖	Junction Box	⊖	Television Outlet		
⊖	Eyeball Light	⊖	Telephone Outlet		
⊖	Wall Washer Light (Recessed)	⊖	Medicine Cabinet		
⊖	Recessed Light	⊖	Frost Proof Hose Bib		
⊖	2⊖ Fluorescent Light	⊖	Recessed Waterproof Light		
⊖	4⊖ Fluorescent Light	⊖	Dedicated Circuit Outlet		
⊖	Exterior Flood Lights	⊖	Steel Angle (Lintel)		
⊖	Wall Mounted Incandescent	⊖	Structural Post		
⊖	Pull Switch Light	⊖	Smoke/Carbon Monoxide Detector		
		⊖	Fan/Light		

List of Abbreviations

ADJ.	Adjustable	MC	Medicine Cabinet
A.S.F.	Above Subfloor	MFG.	Manufacturing Overall
BF	Bifold	O.A.	On Center
BM	Beam	O.C.	Optional
B.O.J.	Bottom of Joist	PART.	Partial
B.W.L.	Braced Wall Line	PLYWD	Plywood
CLG	Ceiling	P.T.	Pressure Treated
CMU	Concrete Masonry Unit	R/A	Return Air
C.O.	Cased Opening	R.C.	Rough Cut
COL	Column	REF	Refrigerator
CONC.	Concrete	R/O	Range Oven
CONT.	Continuous	SF	Square Feet
CS	Casement	SHWR	Shower
CVAC	Central Vacuum	SIM.	Similar
DBL	Double	S.L.	Sliding Door/Window Standard
DES.	Design	STD.	Standard
DH	Double Hung	STL	Steel
DTL	Detail	S&P	Shelf & Pole
DW	Dishwasher	S.V.B.	Solid Valley Blocking
FD	Floor Drain/French Door	T&G	Tongue & Groove
F.P.	Fireplace	T.B.D.	To Be Determined
FTG.	Footing	T.O.S.	Top of Slab
GFI	Ground Fault Circuit Interrupter	T.O.W.	Top of Wall
GPDW	Gypsum Drywall	T.R.	Trim
HD, HGT	Window Head Height	TR	Typical
HDR	Header	V.I.F.	Verify In Field
HFL	Heat/Fan/Light	WD	Wood
HHW	Hot Water Heater	W/O	Wall Oven
INSUL.	Insulation	W.W.M.	Welded Wire Mesh
L.I.F.	Locate In Field		
LT.	Laundry Tub		

Area Calculations

Area Calculations include gross floor area to exterior face of wall for all conditioned spaces and exclude upper levels of multi-story spaces.

	LOWER	UPPER	BASEMENT
BASE HOUSE	1844 SF	1842 SF	102 SF
OPT. FINISHED BASEMENT			+1525 SF
OPT. 2' FRONT EXTENSION	+76 SF	+76 SF	+77 SF
OPT. 8' SIDE EXTENSION	+97 SF	+97 SF	+104 SF
OPT. 3-CAR SIDELOAD GARAGE	+140 SF		
OPT. HOME OFFICE/INLAW SUITE W/3-CAR SIDELOAD GARAGE		+372 SF	
ALT. ELEV. C	+76 SF	+60 SF	+77 SF
BONUS ROOM OVER GARAGE		+547 SF	
OPT. 6'-0" FAMILY DINING EXTENSION	+77 SF	+77 SF	+77 SF
OPT. 4'-0" FAMILY ROOM EXTENSION	+92 SF	+92 SF	+92 SF
OPT. ATTIC			+697 SF
OPT. BAY WINDOW	+16 SF		
MAX. SQ. FOOTAGE FOR BASE HOUSE W/ ALL AVAILABLE OPTIONS: 7,747 SF			

Date	REV.	BY	DATE
REV. 07/10/15	REV. 07/10/15	REV. 07/10/15	REV. 07/10/15
REV. 07/10/15	REV. 07/10/15	REV. 07/10/15	REV. 07/10/15
REV. 07/10/15	REV. 07/10/15	REV. 07/10/15	REV. 07/10/15
REV. 07/10/15	REV. 07/10/15	REV. 07/10/15	REV. 07/10/15
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REV. 07/10/15	REV. 07/10/15	REV. 07/10/15	REV. 07/10/15
REV. 07/10/15	REV. 07/10/15	REV. 07/10/15	REV. 07/10/15
REV. 07/10/15	REV. 07/10/15	REV. 07/10/15	REV. 07/10/15
REV. 07/10/15	REV. 07/10/15	REV. 07/10/15	REV. 07/10/15

Project Number: 0106-01

HAWTHORNE MITCHELL BEST HOMES

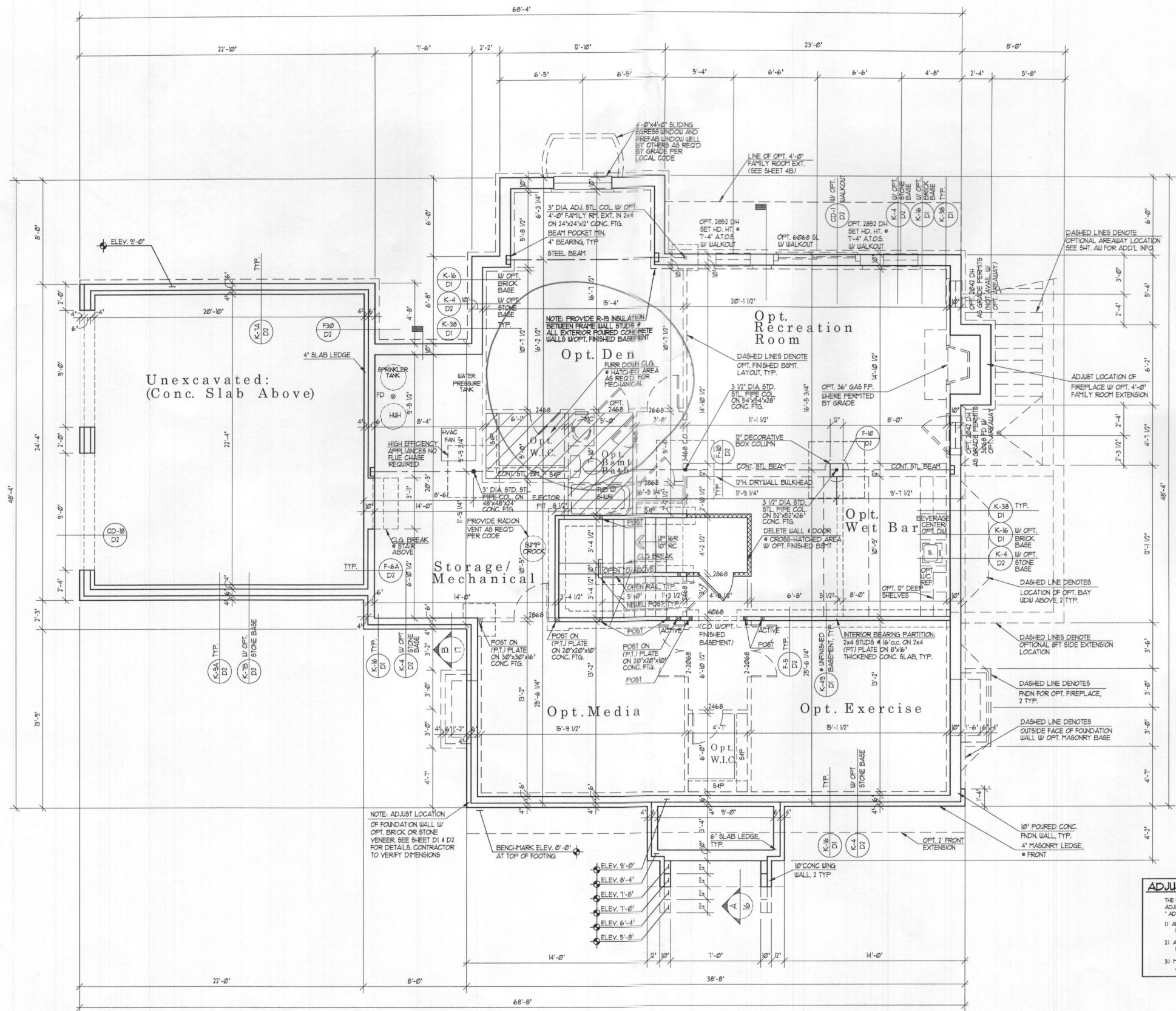
Architect

SUTTON YANTIS ASSOCIATES ARCHITECTS

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FOUNDATION/BASEMENT PLAN
W/ELEVATION "A"

UNLESS OTHERWISE NOTED ALL INTERIOR PARTITIONS TO BE 3/4" UNLESS OTHERWISE NOTED WINDOW HEAD HEIGHT TO BE 8'-0" A.T.O.S.

1/4" = 1'-0"

Date	REV.	BY	DATE
AC 10/10/10 JT	REV. 01/02/12 JG	REV. 02/15/16 JR	
AC 10/10/10 JT	REV. 02/17/12 JG	REV. 01/05/16 JT	
PA 11/19/10 JT	REV. 04/12/12 JG		
CA 01/01/11 JH/CB	PA 05/09/13 JG		
REV. 02/09/11 JH/CB	PA 06/19/13 JG		
REV. 06/10/11 DG	REV. 12/13/13 JB		
	REV. 10/25/14 JR		

Project Number: 07106-02

HAWTHORNE
MITCHELL BEST HOMES

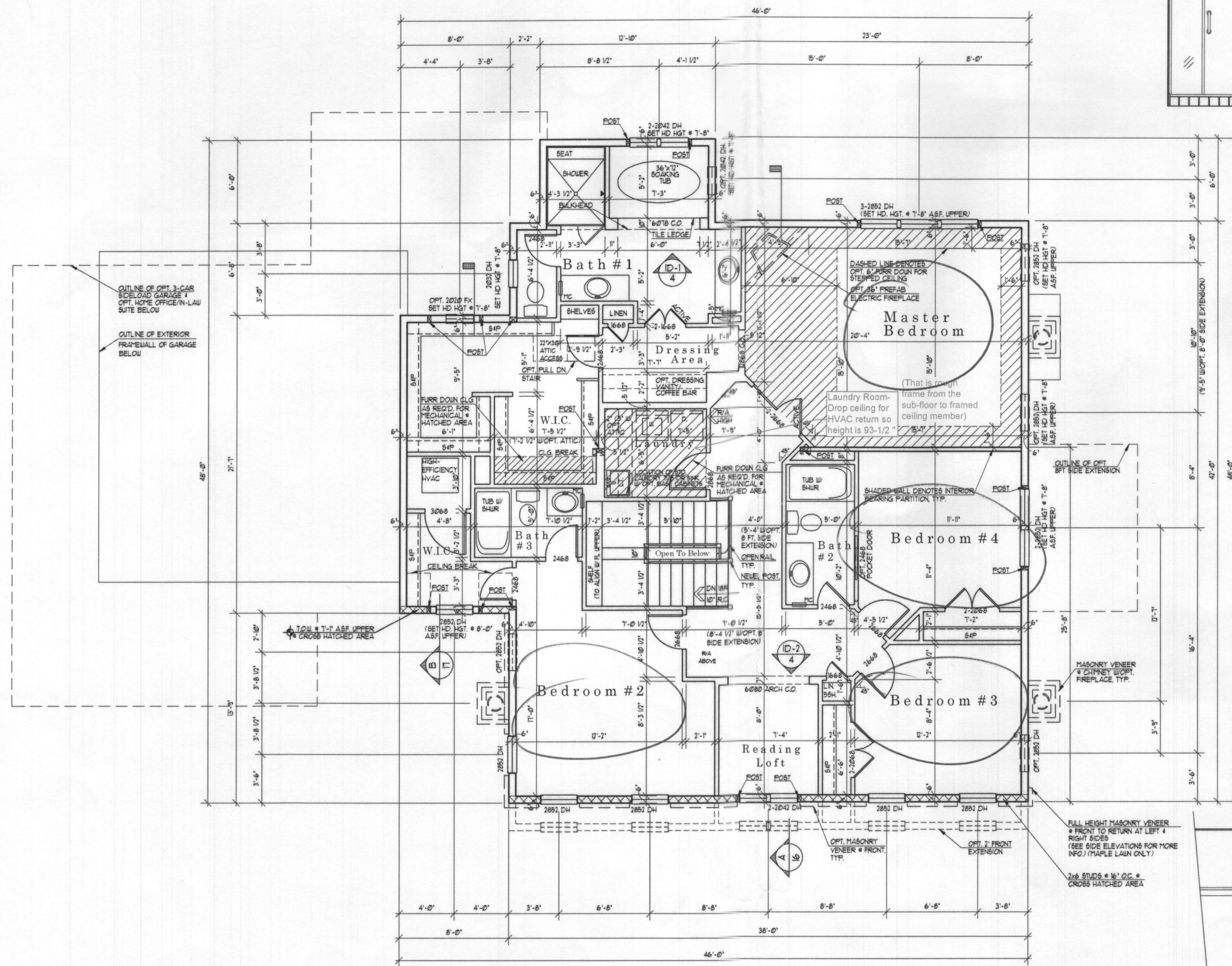
Architect

SUTTON YANTIS ASSOCIATES ARCHITECTS

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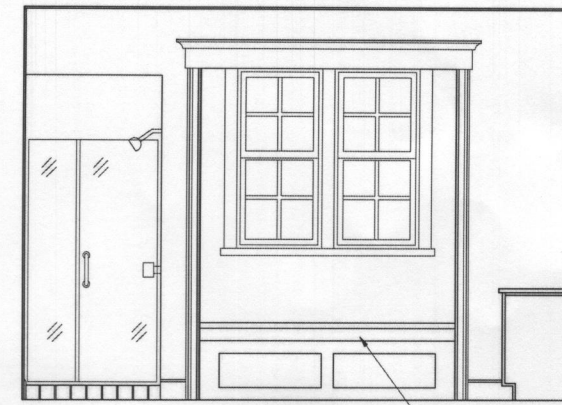


UPPER FLOOR PLAN

W/ELEVATION "A"

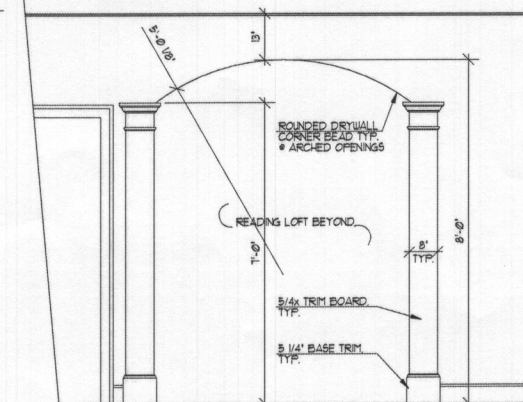
UNLESS OTHERWISE NOTED ALL INTERIOR PARTITIONS TO BE 3/4" W/STAINLESS STEEL
 UNLESS OTHERWISE NOTED WINDOW HEAD HEIGHT TO BE 7'-0" AS.F.
 UNLESS OTHERWISE NOTED PROVIDE 2-2x4 POSTS BETWEEN ALL MULTIPLE WINDOWS.

1/4" = 1'-0"



ID-1 Interior Elevation
Master Bath

1/2" = 1'-0"



ID-2 Interior Elevation

Reading Loft Cased Opening

1/2" = 1'-0"

Date	REV. 01/02/10 JS	REV. 01/15/10 AT
AC. 10/10/07 BCB	REV. 01/02/10 JS	REV. 01/15/10 AT
AC. 10/10/07 AT	REV. 01/02/10 JS	REV. 01/15/10 AT
AC. 10/10/07 AT	REV. 01/02/10 JS	REV. 01/15/10 AT
PA. 10/10/07 AT	REV. 01/02/10 JS	REV. 01/15/10 AT
CA. 01/01/10 JWC3	REV. 01/02/10 JS	REV. 01/15/10 AT
REV. 01/02/10 JWC3	REV. 01/02/10 JS	REV. 01/15/10 AT
REV. 01/02/10 DG	REV. 01/02/10 JS	REV. 01/15/10 AT

Project Number: 0706-04

HAWTHORNE
MITCHELL BEST HOMES

Architect

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