

VILLAGE OF BARRINGTON HILLS

Board of Health

NOTICE OF SPECIAL MEETING



Wednesday, October 22, 2014 ~ 7:30 pm
MacArthur Room - 112 Algonquin Road

AGENDA

1. Organizational
 - 1.1 Call to Order
 - 1.2 Roll Call
2. [Approve] Minutes
3. [Recommend] Septic Review – 42 Otis Road
4. [Recommend] Mound & At-Grade Systems Report
Village Engineer
5. [Approve] Public Comment Rules
6. Public Comment
7. Adjournment

Chairman: Gwynne Johnston

Next Regular Meeting Thursday, November 12, 2014

NOTICE AS POSTED

**VILLAGE OF BARRINGTON HILLS
BOARD OF HEALTH MEETING
September 9, 2014**

The regular meeting of the Village of Barrington Hills Board of Health was called to order at 7:31 p.m. by Chairman Johnston.

Board of Health Members Present: Gwynne Johnston, Chairman
Frank J. Konicek, M.D., Vice Chairman
Anne Majewski, M.D.

Board of Health Members Absent: Shirley Conibear, M.D.

Others Present: Dan Strahan, Village Engineer
R. Kurt Thomsen, KOT Environmental Consulting, Inc.
Peder Finnberg, Heritage Land Consultants
James Atlas, Resident

APPROVAL OF MINUTES: Dr. Majewski made a motion to approve the minutes of the July 23rd, 2014 meeting of the Board of Health. The motion was seconded by Dr. Konicek and approved unanimously. Chairman Johnston noted his thanks to the author of the minutes.

SEPTIC VARIANCE (22 SPRING LANE): Peder Finnberg, the design engineer for the property owner, presented a request for variance with regard to the proposed septic system. Mr. Finnberg noted that the changes to the Village Septic Ordinance required soil testing to demonstrate a minimum separation of 24” between the bottom of the septic system and the limiting layer. Based on soil tests performed at the site the depth to the limiting layer was found to be 8-12” deep in the area of the proposed septic system, precluding the possibility of a traditional trench system. To meet the setback requirement, Mr. Finnberg proposed a mound system designed in accordance with the mound design standards of the Lake County Health Department.

Village Engineer Dan Strahan noted that GHA had reviewed the plans and recommended approval of the variance.

After discussion Dr. Konicek made a motion, seconded by Dr. Majewski, for approval of the request for a septic variance to construct a Type V mound system. The motion was approved by all members present.

MS4 STORMWATER PROGRAM- WATER QUALITY TESTING: Mr. Strahan introduced the item, noting that current IEPA requirements under the NPDES program require annual

surface water quality monitoring on Flint Creek and Spring Creek. This testing has been in place since 2009. Mr. Strahan than introduced Dr. Kurt Thomsen of KOT Environmental Consultants, Inc.

Dr. Thomsen presented the details of a proposed expansion to the water quality monitoring currently being done by several BACOG communities. He noted that as NPDES regulations require water quality testing at locations where Flint Creek and Spring Creek enter and exit various municipalities, in many cases duplicate tests are done as adjacent municipalities fulfill the testing requirements individually. By consolidating the locations of the testing program, Dr. Thomsen proposed to test for a greater number of analytes at a modest increase in price. Dr. Thomsen also noted that this was part of an EPA grant program that included both water quality and quantity measurements in Flint Creek and Spring Creek. Dr. Thomsen explained that the benefit to the Village would be that the testing program would fulfill the requirement of the NPDES program for each municipality while also establishing a baseline for a greater number of water quality characteristics.

Chairman Johnston inquired as to what was being asked of the Board of Health. Mr. Strahan noted that the Board, if so inclined, could recommend the program described by Dr. Thomsen as viable from a technical standpoint.

After discussion Dr. Majewski made a motion, seconded by Dr. Konicek, to recommend that the Village Board support the concept of testing current water quality conditions in order to provide a baseline of current conditions and fulfill the Village's annual obligations under the NPDES permit, provided appropriate funding is available. The motion was approved by all members present.

PUBLIC COMMENT: No comments from the public. Chairman Johnston noted that requests for septic variances for at-grade and mount systems had been frequent since the ordinance revisions in January of 2014 and requested that Mr. Strahan provide a comment and recommendation regarding a potential amendment to the Village Septic Ordinance to address the frequent variances.

ADJOURNMENT: Dr. Majewski motion to adjourn at 8:18 PM. Dr. Konicek seconded the motion. All present said aye.

October 3, 2014

850 Forest Edge Drive, Vernon Hills, IL 60061
TEL 847.478.9700 ■ FAX 847.478.9701

820 Lakeside Drive, Suite 5, Gurnee, IL 60031
TEL 847.855.1100 ■ FAX 847.855.1115

www.gha-engineers.com

Mr. Peder Finnberg
Heritage Land Consultants
758 Ridgeview Drive
McHenry, IL 60050

Re: Septic Review- 42 Otis Road
Review #1

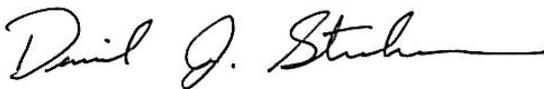
Dear Mr. Finnberg:

Our office has reviewed the permit submittal for the proposed four-bedroom residence at the above referenced address. Based on our review additional information and revision is needed prior to approval. Our review is based on HLC Project # 2014-214 SEP, dated September 15, 2014.

1. A Type IV (at-grade mound) system has been proposed in order to meet the required 24" separation from the limiting layer, found to be at a 25" depth within the proposed septic area. **Based on the Village Code a variance from the Board of Health would be required to allow an at-grade mound system.** The next two regular Board of Health meetings are scheduled for Thursday, October 16th and Wednesday, November 12th. The applicant should contact the Village Clerk to request that this item be placed on an upcoming agenda.
2. It is understood that the location of the proposed septic system may be modified. A final proposed location should be provided prior to the variance application before the Board of Health.
3. The submittal notes an existing wetland outside the limits of the building footprint, but does not indicate the location of the wetland beyond the description of "on the East property line". As the wetland has been delineated, the location of the wetland should be noted on the plans or on a separate exhibit to demonstrate that it is sufficiently setback outside of the area of construction.

The above review comments are provided based on the engineering information provided. Additional comments may be generated as the final plans and associated materials are submitted. Please include with the final engineering submittal a cover letter with a written response to each of the above comments.

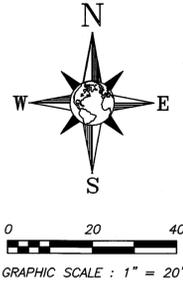
Sincerely,
Gewalt Hamilton Associates, Inc.



Daniel J. Strahan, P.E., CFM
Village Engineer

cc: Wendi Frisen, VBH
Lori Ward, CR Embassy Construction Owners' Rep.

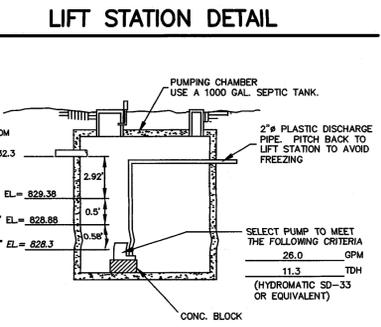
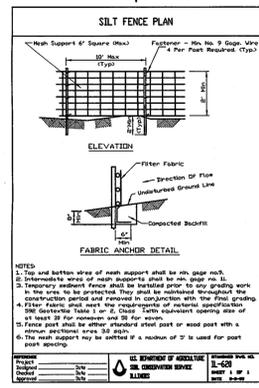
SEPTIC SYSTEM DESIGN



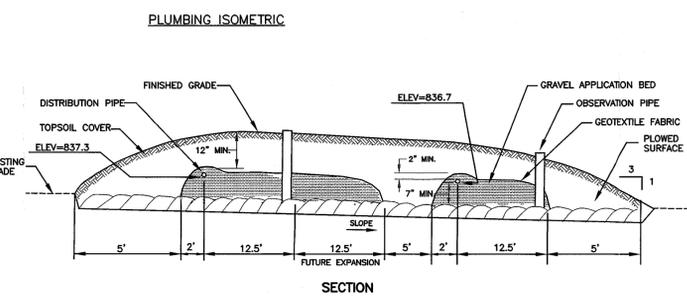
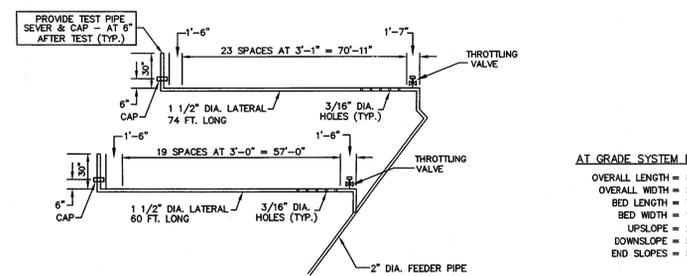
- LEGEND**
- ⊖ = 22 L.F. - 4" P.V.C. (SCHED #40) W/SEALED JOINTS AT 2.0% MIN.
 - ⊖ = 750 GALLON SEPTIC TANK
 - ⊖ = 750 GALLON CLASS 1 AEROBIC UNIT (CLEARSTREAM, MULTI-FLO, OR EQUAL)
 - ⊖ = 3+22 L.F. - 4" P.V.C. (ASTM 3034) AT 1.0% MIN. SLOPE
 - ⊖ = LIFT STATION (SEE DETAIL)
 - ⊖ = 53 L.F. - 2" P.V.C. SOLID PLASTIC DISCHARGE PIPE.
 - = L.F. SEPTIC FIELD 4" PERFORATED PLASTIC PIPE LAID LEVEL IN 36" WIDE TRENCHES. 20" DEEP. USE APPROVED DROP BOXES.
 - = L.F. CURTAIN DRAIN AND L.F. 4" SOLID PLASTIC PIPE. PITCH DOWNHILL AT 0.3% MIN. SLOPE AND DISCHARGE TO SEWER LINE. CONNECT ALL GUTTER DOWNSPOUTS AND FOOTING TILE SUMP PUMP TO CURTAIN DRAIN.
 - = PROPOSED PIPE INVERT ELEVATION
 - ⊖ = SOIL PROFILE BORING
 - = PROPOSED FINISH CONTOUR
 - - - = EXISTING CONTOUR
 - X-X- = SILT FENCE

THIS DRAWING IS FOR SEPTIC SYSTEM DESIGN ONLY. REFER TO SITE PLAN DRAWING(S) BY OTHERS FOR ALL OTHER ENGINEERING/SITE PLAN RELATED INFORMATION.

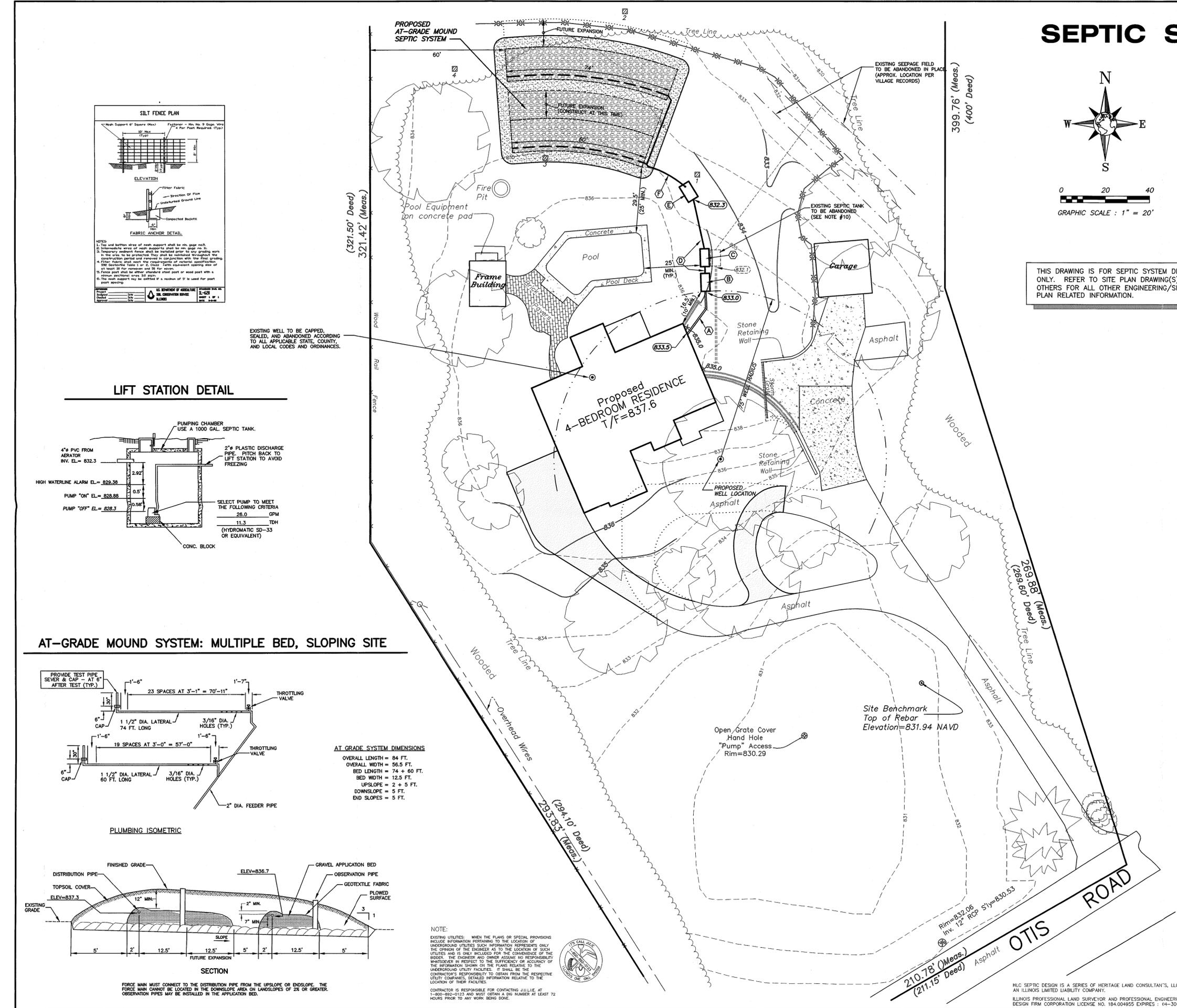
- SPECIAL NOTES**
- THIS DESIGN IS BASED UPON (1) THE FIELD CONDITIONS AS THEY WERE ON THE DAY THE PERCOLATION TEST OR TYPING AND/OR TOPOGRAPHIC INFORMATION WERE OBTAINED, AND (2) DATA FURNISHED BY THE OWNER OR GENERAL CONTRACTOR OR THEIR REPRESENTATIVE - REGARDING BUILDING SIZE, NUMBER OF BEDROOMS, AND/OR PEOPLE WITHIN THE UNIT TO BE SERVED.
- ANY DEVIATIONS FROM THESE DESIGN CONDITIONS SUCH AS (1) CHANGING THE NUMBER OF BEDROOMS AND/OR PEOPLE TO BE SERVED, (2) REDUCING THE PERCOLATION CAPACITY OF THE SOILS - BY RUNNING HEAVY EQUIPMENT OVER, OR STOCK PILING BUILDING MATERIAL OR EXCAVATED SOIL ON THE SEEPAGE FIELD AREA, (3) REDUCING THE EFFECTIVE SEEPAGE FIELD BY - SIGNIFICANTLY CHANGING, ACTUALLY REDUCING, OR COVERING THE SEEPAGE FIELD WITH PAVEMENT, (4) DIVERTING GROUND WATER INTO OR OVER THE SEEPAGE FIELD, OR (5) INTRODUCING OILS AND/OR GREASES INTO THE SEEPAGE FIELD - WILL VOID THIS DESIGN.
- GENERAL NOTES**
1. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES, AND HAVE ALL EXISTING UTILITY INSTALLATIONS LOCATED AND STAKED PRIOR TO CONSTRUCTION.
 2. DELETED.
 3. THE CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS SUCH AS WELL LOCATIONS, HOUSE AND ANY EXISTING SEPTIC FIELD LOCATIONS, ALL ELEVATIONS PRIOR TO INITIATING ANY CONSTRUCTION.
 4. ALL DOWNSPOUTS AND SUMP PUMP SHALL DISCHARGE AWAY FROM THE SEEPAGE FIELD, OR INTO A CURTAIN DRAIN.
 5. ALL INSTALLATIONS SHALL CONFORM TO THE APPROPRIATE REGULATORY AGENCY REQUIREMENTS.
 6. PRIOR TO THE START OF ANY BUILDING CONSTRUCTION ACTIVITY A TEMPORARY FENCE SHALL BE CONSTRUCTED AROUND THE PROPOSED SEEPAGE FIELD AREA.
 7. NO SEEPAGE FIELD CONSTRUCTION, OR PLACING OF TOPSOIL IS PERMITTED UPON WET OR FROZEN GROUND.
 8. NO LAWN IRRIGATION SYSTEMS MAY BE INSTALLED WITHIN 25' OF THE SEPTIC SEEPAGE FIELD AREA.
 9. SEPTIC CONTRACTOR IS TO NOTIFY DESIGN ENGINEER AND VILLAGE REPRESENTATIVE 48-HOURS IN ADVANCE OF CONSTRUCTION TO REVIEW AND INSPECT INSTALLATION PRIOR TO COMMENCEMENT OF ANY BACKFILLING.
 10. ABANDONED SEPTIC TANKS SHALL BE COMPLETELY PUMPED, THE FLOOR AND WALLS SHALL BE CRACKED OR CRUMBLED SO THE TANK WILL NOT HOLD WATER AND THE TANK SHALL BE FILLED WITH GRANULAR COMPACTED FILL.
 11. THE INSTALLER AND/OR SUPPLIER OF THE AERATION UNIT SHALL PROVIDE THE HOMEOWNER WITH THE REQUIRED WARRANTY INFORMATION AND OWNERS MANUALS FOR THE AERATION UNIT. IT IS THE HOMEOWNER'S RESPONSIBILITY TO READ THESE MANUALS AND USE THE SYSTEM AS IT WAS INTENDED AND IN A RESPONSIBLE MANNER. THE INSTALLER AND/OR SUPPLIER SHALL SERVICE THE UNIT ACCORDING TO THE WARRANTY TERMS OF THE PARTICULAR UNIT. AFTER THE INITIAL WARRANTY PERIOD, IT IS THE INSTALLER OR APPROVED SERVICE ORGANIZATION'S RESPONSIBILITY TO PURCHASE A MAINTENANCE CONTRACT FROM THE HOMEOWNER. IT IS THE HOMEOWNER'S RESPONSIBILITY TO PURCHASE SAID MAINTENANCE CONTRACT FROM AN APPROVED SERVICE COMPANY FOR THE PARTICULAR UNIT TO INSURE THE CONTINUED SATISFACTORY OPERATION OF THE AERATION UNIT.
 12. EXISTING TOPOGRAPHIC SURVEY WAS PREPARED BY SURVEY SYSTEMS OF AMERICA AND PROPOSED SITE PLAN INFORMATION WAS PREPARED BY WILLS BURCKE KELSEY ASSOCIATES, L.T.C. AND WAS PROVIDED BY THE CLIENT.
- VILLAGE OF BARRINGTON HILLS NOTES**
1. THE DESIGN ENGINEER SHALL APPROVE THE LAYOUT OF THE SEPTIC SYSTEM INSTALLATION PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.
 2. THE DESIGN ENGINEER AND VILLAGE REPRESENTATIVE SHALL REVIEW THE SEPTIC SYSTEM INSTALLATION PRIOR TO COMMENCEMENT OF ANY BACKFILLING.
 3. THE INSTALLER SHALL NOTIFY THE DESIGN ENGINEER OF THE PROPOSE TIME SCHEDULE FOR THIS PROJECT 2 DAYS IN ADVANCE OF INITIATING ANY CONSTRUCTION, AND SHALL UPDATE THE ENGINEER OF ANY DELAYS DUE TO WEATHER.
 4. THE CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL TO INSPECT THE SITE IN ACCORDANCE WITH THE CONDITIONS OF THE PERMIT. SPECIFICALLY, AT LEAST ONCE EVERY 7 CALENDAR DAYS, AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER, OR EQUIVALENT SNOWFALL, THE CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL, MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. RECORDS SHALL BE KEPT ON FILE WITH THE CONTRACTOR AND SHALL BE MADE AVAILABLE TO THE VILLAGE UPON REQUEST.



AT-GRADE MOUND SYSTEM: MULTIPLE BED, SLOPING SITE



NOTE:
EXISTING UTILITIES: WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITIES SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE USER. THE ENGINEER AND OTHER ASSOCIATES ACCEPT NO RESPONSIBILITY WHATSOEVER IN RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS RELATIVE TO THE UNDERGROUND UTILITY FACILITIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES, DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES.
CONTRACTOR IS RESPONSIBLE FOR CONTACTING JULLIE AT 1-800-892-0123 AND MUST OBTAIN A DIG NUMBER AT LEAST 72 HOURS PRIOR TO ANY WORK BEING DONE.



SEPTIC SYSTEM DESIGN PREPARED BY AND/OR UNDER THE DIRECT SUPERVISION OF:

Robert A. Finninger
ROBERT A. FINNINGER, P.E.
LICENSED PROFESSIONAL ENGINEER
ILLINOIS NO. 62-28834
EXPIRES: 11-30-15

RECEIVED
SEP 25 2014
VILLAGE OF BARRINGTON HILLS
BUILDING DEPARTMENT

62-28834
ROBERT A. FINNINGER
P.E.
ILLINOIS

SEPTIC SYSTEM DESIGN		SCALE: 1" = 20'	
42 Otis Road, Barrington Hills Cook County, IL		DATE: 9-15-2014	
PAF SEPTIC DESIGN		DRAWN BY: MWR	
DISK: 140912 FILE NM: 14214SEP FILE NM: N/A PAC. NO. N/A	ADDRESS:	CHECKED BY: PAF	
CLIENT: CR EMBASSY CONSTRUCTION	42 OTIS ROAD	JOB NUMBER: 2014-214 SEP	
LORI WARD	BARRINGTON HILLS, IL	HLC SEPTIC DESIGN 758 RIDGEVIEW DRIVE MOKENA, ILLINOIS 60050 (815) 344-3252	

HLC SEPTIC DESIGN IS A SERIES OF HERITAGE LAND CONSULTANTS', LLC, AN ILLINOIS LIMITED LIABILITY COMPANY.
ILLINOIS PROFESSIONAL LAND SURVEYOR AND PROFESSIONAL ENGINEERING DESIGN FIRM CORPORATION LICENSE NO. 184.004955 EXPIRES: 04-30-2015

MEMORANDUM

To: Robert Kosin, Village of Barrington Hills
Board of Health Members

From: Daniel J. Strahan, P.E., CFM
Gewalt Hamilton Associates

Date: October 20, 2014

Re: At-grade & Mound Septic Systems

850 Forest Edge Drive, Vernon Hills, IL 60061
TEL 847.478.9700 ■ FAX 847.478.9701

820 Lakeside Drive, Suite 5, Gurnee, IL 60031
TEL 847.855.1100 ■ FAX 847.855.1115

www.gha-engineers.com

On January 1, 2014, a number of amendments to the Village septic ordinance went into effect as necessitated by amendments to the Illinois Department of Public Health (IDPH) Private Sewage Disposal Code. As anticipated, the elimination of the percolation test and the requirement of 24" separation from the limiting layer has had the result that for a number of properties a standard trench system cannot be approved as it could not meet this separation requirement. This has resulted in a number of variance requests to the Board of Health. At the September 9, 2014 meeting, the Board requested a review and recommendation from our office as to whether consideration of an amendment to the Village septic ordinance to allow such systems without a variance would be warranted.

Building Permit Applications -2014

Thus far in 2014, the Village has received six building permit applications that have required a full septic system design and were subject to the ordinance amendments. These have included three applications for new single family residences, one residential addition, and two replacement septic system designs. Of these six applications received, five have included a request for variance to the Board of Health for an at-grade or mound system, including a request on the agenda for the October meeting. Four of the five variance requests have come from properties in Cook County and one has come from a property in McHenry County.

County Records

As the sample size within the Village is relatively small, our office requested and received installation records from Lake and McHenry County to determine the frequency of mound and at-grade septic systems in neighboring areas. These two counties were chosen as they had already eliminated the use of percolation tests for septic designs prior to the IDPH ordinance amendments and both allow mound systems. Records were provided in Lake County for 2013, while McHenry County provided records from 2012 and 2013.

The report provided by the Lake County Health Department indicates that a majority of systems permitted in 2013 were mound systems. Excluding septic tank replacements and other permits that would not involve soil absorption, Lake County received 48 permit applications that involved septic design in 2013. Thirty five (35) of these applications were for mound systems, representing 72.9% of all applications received.

McHenry County is generally considered to have more granular, better drained soils than Lake County, and the septic installation records are reflective of these soils. Excluding septic tank replacements and other permits that would not involve soil absorption, McHenry County received 64 permit applications that involved septic design in 2012. Five of these were for mound systems, representing 7.8% of the applications received. Mound systems were even rarer in 2013, accounting for just one out of the 62 applications approved, or 1.6%.

Recommendations

Based on the applications received to date and soil conditions observed in the Village, we anticipate a significant percentage of building permit applications in the future would require a variance. There are very few foreseeable conditions under which such a variance would not be granted. In the case of a septic replacement, the lack of a proper septic system would render an existing house uninhabitable. Similarly, in the case of new construction a property is not buildable without an approved septic system.

As mound septic systems have been an approved technology in Northeast Illinois for over twenty years and such systems are likely to be a routine design feature due to the new state requirements, we would recommend that the Village Code include some consideration for at-grade and mound systems as an approved system. At the same time, the Village of Barrington Hills has traditionally emphasized non-mechanical forms of sewage disposal which require less maintenance. As evidenced by the county statistics provided and our experience with soil conditions in the Village, soil suitability can change significantly from location to location. With residential properties five acres or greater, that variation can sometimes occur within a given property. As a result, we would recommend the following criteria for consideration of mound septic systems:

- For new construction and tear-down/reconstruct permits, where initial soil testing indicates an at-grade or mound system would be required, soil mapping should be prepared for the remainder of the property to verify that there are no options to install a trench system. This should also include criteria to consider what a reasonable distance would be for this soils review; if suitable soil exists on the property but is over 300' away from the residence, for instance, consideration could be given to allow an at-grade or mound system at a location more accessible to the house.
- For replacement systems, mound and at-grade systems should be approved without any additional soil testing. Such permits are typically much more time and cost sensitive as they result from a failed or failing system.

As the Village septic code remains subject to IDPH requirements, any proposed amendment to the ordinance should start with a review and preliminary approval by the state. If the Board concurs with the general approach outlined above, we would suggest the following schedule:

- November 2014- GHA to draft proposed amendments to section 4-2-7 of the Village Code and review with IDPH.
- December 2014- Preliminary review of ordinance amendment by the Board of Health.
- January 2015- Recommendation of ordinance amendment by the Board of Health and approval by the Village Board of Trustees.

BOARD OF HEALTH

PUBLIC PARTICIPATION

Any person has the right to speak to an item on the agenda after the Public Meeting is opened and confirmation of the public notice is entered into the hearing record but before action is taken. Time is scheduled on the agenda to allow the public to provide input as testimony to the Board of Health on a particular subject that is the purpose of the Public Meeting or of interest to the Board of Health.

This is not a question and answer time.

The Board will consider all testimony after the conclusion of a presentation.

PROCEDURE FOR PARTICIPATION

- 1) Sign up on the sheets provided.
- 2) When recognized, please proceed to podium.
- 3) State your name.
- 4) Please limit your comments to THREE MINUTES.

You may submit your written comments to the Village Clerk.

Comments of a personal nature directed towards individual Board members, employees of the Village or any other individual are not permitted. It is the prerogative of the Presiding Officer of the Board to limit the discussion of any speaker to allow for broad and diverse public participation. Speakers may submit materials, written testimony, or pictures to the Village Clerk for the consideration of the Board.

Date of Adoption