

DISTRIBUTION:

Trustee Guy Franzese,
Chairperson
Trustee Al Paveza
Trustee Tony Schiappa
Nancy Montelbano
Alice Krampits
David Allen
Vacant
Doug Pollock
Steve Stricker
David Preissig

AGENDA**STORMWATER COMMITTEE**

Tuesday, May 9th, 2017

7:00 p.m.

**Public Works Conference Room
451 Commerce Street**

- 1) CALL TO ORDER**
- 2) ROLL CALL**
- 3) APPROVAL OF FEBRUARY 6, 2017 MINUTES**
- 4) UPDATE REGARDING BUCKTRAIL ESTATES SUBDIVISION**
- 5) UPDATE REGARDING SPECTRUM SENIOR LIVING FACILITY P.U.D.**
- 6) STATUS OF PROPOSED IMPROVEMENTS FOR 7600 COUNTY LINE ROAD
(MED PROPERTIES GROUP)**
- 7) CONSIDERATION OF REQUEST TO REVISE DRAINAGE POLICY
REGARDING 8112 PARK AVENUE (NOWACZYK)**
- 8) CONSIDERATION OF DITCH EROSION AND STABILIZATION MEASURES AT
16W215 94TH STREET & 10S681 OAK HILL COURT**
- 9) CONSIDERATION OF AMENDMENT TO BURR RIDGE ZONING ORDINANCE
REGARDING REAR YARD LOT COVERAGE AND PERMEABLE PAVERS**
- 10) AUDIENCE DISCUSSION**
- 11) ADJOURNMENT**



M E M O

To: Chairperson Guy Franzese
Members of the Village of Burr Ridge Stormwater Committee

From: David Preissig, P.E., Director of Public Works & Village Engineer

Date: May 5, 2017

Subject: Agenda Summary for Stormwater Committee Meeting on May 9, 2017

1) CALL TO ORDER

2) ROLL CALL

3) APPROVAL OF MINUTES FROM FEBRUARY 6, 2017 STORMWATER COMMITTEE MEETING

Please see attached minutes for consideration [*Attachment A*].

4) UPDATE REGARDING BUCKTRAIL ESTATES SUBDIVISION

At the February 6, 2017 Stormwater Committee meeting, the Committee was advised that the subdivision is substantially completed and the developer would request a reduction in its letter of credit by the Village. While the Village reduced this letter of credit for completing the roadway base, utilities, and mass grading, the Village retained over \$70,000 in consideration of corrections needed to the stormwater management system.

The detention pond in the outlot of the subdivision was designed to retain a volume of stormwater and subsequently infiltrate into the soils below as required by the “volume control” best management practices of the MWRD Watershed Management Ordinance (WMO). The pond is not operating to these required specifications. The WMO prefers retention-based practices for volume control, but also permits “flow-through practices” for treatment of any portion of the volume control storage that cannot be treated using retention-based practices.

As such, the Engineering Division worked with the developer to eliminate the retention practice and instead provide the “flow-through” practice. As a flat-bottomed wetland, this re-design should provide a better system that would prevent a large volume of standing water while still meeting the requirements of the WMO. The revised pond plantings have been reviewed by the Village’s wetland consultant. Revised plans have addressed any outstanding

review comments of the Engineering Division and approved for construction. This work is anticipated in May 2017 during an extended period of dry weather.

5) UPDATE REGARDING SPECTRUM SENIOR LIVING FACILITY P.U.D.

Construction activities continue for the Spectrum Senior Living – Burr Ridge. Over the past three months, work has included site grading, sanitary sewer installation, construction of the main building foundation, and continued earth excavation for the site stormwater detention and sediment control measures.

Overnight on Wednesday, March 29 into Thursday, March 30, 2017, 2.25 inches of rainfall fell on the site in short duration, which quickly inundated the site and surcharged its stormwater systems. As a result, sediment escaped the site along the 91st Street ditch as well as the south east detention pond overflow. The Falling Water community is downhill from the entire site; therefore, its ponds received the silty runoff.

The developer directed his excavator to create swales to help control the surface water on site north of the building pad. However, the aggregate backfill around the sanitary sewers was creating drainage paths beneath these swales and discharging water against the silt fence along 91st Street. Increased pressure from this discharge caused silt fence along 91st Street to fail.

The southeast detention pond that serves as the site's sediment basin was also overtopped at the outfall manhole and breached at the top of the basin wall. This sent a significant and sudden volume of silty water down the rear-yard swales of adjacent residential properties, onto Fallingwater Drive West, and into the nearby pond.

On Thursday, April 6, 2017, after noting unsatisfactory progress to correct the sedimentation failures, the Village of Burr Ridge issued a Stop Work Order. The only work that could proceed was anything related to correction or remedies of these issues. No other trades or construction activities were permitted until such time that proper erosion and sediment protection had been reinstated and inspected. The developer completed the work to reinstate the berm at the detention basin and several additional measures to flocculate the silty water. The Stop Work Order was lifted on Saturday, April 8, 2017.

This occurrence followed the storm event of January 16, 2017, that resulted in similar run-off, as reported to this Committee at its February meeting.

Warmer weather now allows the installation of temporary vegetative cover that can help to alleviate, but not eliminate, silty runoff from the 19 acres of exposed soil. The developer and his landscapers are working to provide this cover within the next two weeks.

A status meeting with the Fallingwater HOA, Spectrum development team, and Village engineer will be scheduled for the week of May 8, 2017, to discuss sediment control and the Summer 2017 construction schedule. Currently, Spectrum has advised of these on-site milestones anticipated:



- Frame and pour slab on grade main building 5/8 – 6/15/17
- Retaining walls at east side of project 5/19/17 – 9/1/17
- Wood frame main building 5/22 – 9/15/17
- 91st Street Improvements 5/29/17 – 7/15/17
- Interior paving 7/1/17-7/8/17
- Landscape at south, east and north sides of site 7/15/17 – 10/15/17
- MEP rough-in 1st floor 7/5 – 12/1/17
- MEP rough-in 2nd floor 8/7 – 1/15/18
- Roofing main building 7/19 – 11/22/17
- Start drywall 1st floor 11/15/17
- Exterior Masonry 8/24/17 – 5/2/18

6) STATUS OF PROPOSED IMPROVEMENTS FOR 7600 COUNTY LINE ROAD (MED PROPERTIES GROUP)

The Board of Trustees approved the variations and special use for a medical office building at 7600 County Line Road subject to the final review of stormwater plans and architectural materials and colors by the Plan Commission. The developer, Village staff, and neighboring residents met to review the plans over two meetings in January and February 2017. The Plan Commission at its February 6, 2017, regular meeting gave its approval to the final plans and the building materials and elevations subject to final staff approval of the plans.

The “Core & Shell” plans dated 3/20/2017 were submitted and reviewed for permit. Plans were not approved at that time, and staff returned these plans for revisions. The developer’s engineer was in contact with the Village Engineer at various times during the week of May 1, 2017. At this time, the developer is still targeting a June 1, 2017, start for demolition.

7) CONSIDERATION OF REQUEST TO REVISE DRAINAGE POLICY REGARDING 8112 PARK AVENUE (NOWACZYK)

The basic principle of the law of natural drainage is that landowners shall take whatever advantages or inconveniences of drainage nature places upon their land. What these advantages or inconveniences are ultimately depends on the level of one's property in relation to the land around it.

The Illinois Drainage Laws were established in the late 1800s, by farmers and landowners to cover the inadequacies and legalities of natural drainage rules and to give landowners a means of securing proper drainage utilities. In May 1879, the “Levee Act” was passed “to provide for the construction, reparation and protection of drains, ditches and levees across the lands of others, for agricultural, sanitary and mining purposes, and to provide for the organization of drainage districts”. The current Illinois laws are found in Section 605 of Chapter 70 in the Illinois Compiled Statutes, and titled the “Illinois Drainage Code”.

A fundamental principle of Illinois drainage law follows the natural drainage principles: the owner of lower ground must receive surface water that naturally flows from higher ground.



According to the law of natural drainage, owners of lower ground, known as a servient tenement, are bound to receive surface water that flows naturally onto it from higher ground, known as the dominant tenement. Therefore, owners of land that is lower than adjoining land must take the water that flows through natural depressions onto their land. Likewise, unless an agency (Village) has adopted a system of artificial drainage, owners of lots that are lower than adjoining lots must receive the water that drains from the higher lots.

Landowners have the right to improve drainage on private property, including improvements to the natural channels that carry surface water or tile their property to expedite the flow of water. Improvements can be made to these and other conveyances so long as they do not:

- Unreasonably increase flow
- Change the point of entry on lower land
- Bring in water from another watershed
- Connect their tile to tile of another landowner without consent

Burr Ridge Building Ordinance Section 308 “Surface and Sub-Surface Water Drainage” locally governs the permitted discharge of “surface water, rain water, or any other source of surface run-off water, ground water or sub-surface water” [*please see Attachment B*]. Requirements of the Building Ordinance are that an underground discharge can be no closer than ten (10) feet from a rear property line. In new construction, this requirement is increased to fifteen (15) feet unless a connection to a storm sewer system is readily accessible.

A resident of 8112 Park Avenue, Burr Ridge, has been persistently critical of the natural drainage laws and Burr Ridge ordinances. The Village has been corresponding in writing since at least 2007 with this resident and uphill neighbor [*see Attachment B*]. It should be noted that prior to this date, the Village installed an 8-inch plastic pipe from the Village’s storm sewer on the east side of Park Avenue beneath the roadway over the southeast corner of 8112 Park Avenue for the benefit of this neighborhood.

Neighbors at 8109 Garfield Avenue (Michalski) have taken extra precautions in the collection and discharge of downspouts and sump pump drains. These homeowners advised that in 2008, they installed “french drains” and extra perforated pipe to disperse their stormwater runoff underground for lighter flows, or in heavier flows to be distributed over two (2) outfalls above ground, which are more than 25 feet from the rear property line.

Neighbors at 8115 Garfield Avenue (Mokrzycki) and 8118 Park Avenue (Bindingnavle), both located uphill and south of 8112 Park Avenue, have also worked to alleviate concerns for stormwater point discharges. These neighbors collectively installed a pipe underdrain that apparently takes the sump discharges from 8115 Garfield Avenue and 8118 Park Avenue into the rear yard of 8118 Park Avenue, to discharge approximately 30 feet from the sideyard of 8112 Park Avenue. These residents have been informed of the small-diameter plastic pipe located near 8112 Park Avenue that is available to further benefit their own properties.

The resident of 8112 Park Avenue is requesting that the Village install a storm sewer along the east side of Garfield Avenue for the benefit of uphill residences and to which these homes



should then be required to connect their sump pumps. Attachment B also includes a topographic map and storm sewer atlas of this area. Approximately 370 feet of storm sewer would be needed along Garfield Avenue which would also require restoration of parkways and replacement of four (4) driveways, at a cost of approximately \$33,000.

8) CONSIDERATION OF DITCH EROSION AND STABILIZATION MEASURES AT 16W215 94TH STREET & 10S681 OAK HILL COURT

At the November 2016 meeting of the Stormwater Committee, staff reported that DuPage County Department of Stormwater Management had informed the Village of a complaint received from Fallingwater residents regarding drainage off Oak Hill Estates. Fallingwater residents believed the adjacent property was unincorporated and contacted the County with their concerns for transport of debris in stormwater from uphill. Debris often collects on storm inlet grates near 9401 Fallingwater Drive West, which causes water to instead flow overland in a channel created by this homeowner to divert water away from the residence and into the Fallingwater pond behind the property.

A ditch that originates from 94th Street and Oak Hill Court is eroding through the properties at 16W215 94th Street and 10S681 Oak Hill Court. As proposed at this Committee's meeting in November, the Department of Public Works placed boulders of broken concrete in the ditch near the culvert pipe outflow to dissipate energy from the culvert pipe at 94th Street before it enters private property. This work was completed in mid-January 2017.

Perhaps during the rainstorms of March 29-30, 2017, further ditch erosion was observed. Upon responding to a phone call from the resident, the Village observed that a tree collapsed into the ravine, the slope further eroded, and the resident's stockade fence became unstable [*see Attachment C*]. Some silt from this ravine ran onto Fallingwater Drive West and was also cleared by Public Works crews.

Maintenance and stabilization of this ravine may be beyond the abilities of either homeowner. DuPage County acknowledges that these matters are in the corporate limits and the jurisdiction of the Village, but has offered technical assistance. The Village is working with County staff to develop flow calculations and slope stabilization remedies. Village staff will estimate the costs of various stabilization options and will provide these at a later date to the Village Board for consideration.

Cost sharing arrangements and temporary easement agreements will be needed for the Village to perform this work. There are no easements along either property line that would permit the Village to enter affected properties and perform the extensive work in the ravine. However, it must be noted that the Village is in legal proceedings against one of these affected homeowners at 10S681 Oak Hill Court for building code and construction permit violations (permit #07-250); therefore entry to this property is not advised. The Falling Water HOA is aware of the Village's assessment for counteracting this condition.



9) CONSIDERATION OF AMENDMENT TO BURR RIDGE ZONING ORDINANCE REGARDING REAR YARD LOT COVERAGE AND PERMEABLE PAVERS

At the direction of the Village Board, the Plan Commission at its April 3, 2017 regular meeting, conducted a public hearing in consideration of an amendment to the Zoning Ordinance relative to rear yard lot coverage.

Section IV.H.9 of the Zoning Ordinance states that the “combined horizontal area of all accessory buildings, structures, and uses shall not exceed 30 percent of the area to the rear of the principal building.” Accessory buildings and structures include garages, sheds, swimming pools, decks, patios, driveways, and similar structures. While the Zoning Ordinance does not describe the purpose of this regulation, it may be intended for two reasons: to limit stormwater run-off and to more generally preserve green space.

The variation recently granted by the Board of Trustees (Ordinance A-834-04-17; 15W241 81st Street) permitted the rear lot coverage to be increased from 30% to 38% and was based on the driveway and walkways in the rear yard using a permeable paver system. In that particular case, the rear lot coverage was 20% for an accessory building with the remaining 18% being a driveway and walks built with permeable pavers.

Staff researched the topic of permeable pavers and found that it is common for municipal zoning and stormwater regulations to give some credit for permeable paver systems in lot coverage calculations. If installed and maintained properly, permeable paver systems can mitigate some stormwater run-off and provide a benefit to the stormwater system.

However, as stated by the Plan Commission during its April meeting, a permeable paver surface is not the same as green space in appearance. Thus, an exception for permeable paver systems would only address one of the presumed Zoning Ordinance reasons for the rear lot coverage requirement.

The practice of stormwater management Best Management Practices (BMPs), including the use of permeable pavements, is a dynamic and rapidly changing field with new techniques, materials, and equipment introduced and tested continually. In spite of stated environmental advantages of permeable pavements, these systems have typically remained outside the ordinary conventions of urban design and construction. Sparse design guidelines or standards are available for reference or guidance with respect to the benefits of this technology for use as a BMP. The Village utilizes current County stormwater ordinances and critically reviews other BMP standards that may be proposed by developers and their engineers.

Documents presented to the Plan Commission as part of their public hearing, including a letter related to the variance request, a brochure from Unilock, and a report from the Village Engineer are included in *Attachment D*.

Staff is requesting additional consideration and review by the Stormwater Committee that can be returned to the Plan Commission at a specified time.



ATTACHMENTS

A: Minutes, Stormwater Management Committee Meeting, November 1, 2016

B: Related Ordinances and Correspondence for 8112 Park Avenue

C: Pictures of Drainage Ditch at 94th Street & Oak Hill Court

D: Plan Commission Review and Documents Related to Permeable Pavers



**MINUTES
STORMWATER MANAGEMENT COMMITTEE MEETING
February 6, 2017**

CALL TO ORDER

Chairperson Guy Franzese called the meeting to order at 7:00 PM

ROLL CALL

Present: Chairperson Guy Franzese, Trustee Al Paveza, Nancy Montelbano, Dave Allen, Alice Krampits and Trustee Tony Schiappa (arrived at 7:05 p.m.)

Absent: Wil Wilcox

Also Present: Village Administrator Steve Stricker, Public Works Director/Village Engineer David Preissig

APPROVAL OF MINUTES

A **motion** was made by Alice Krampits to approve the minutes of November 1, 2016. The motion was **seconded** by Nancy Montelbano and **approved** by a vote of 5-0.

Trustee Tony Schiappa arrived at 7:05 p.m.

SPECTRUM SENIOR LIVING FACILITY UPDATE

Public Works Director David Preissig stated that the Spectrum Senior Living development is currently under construction and that, although soil erosion and sediment control measures were installed the week of October 3, 2016, the January 16, 2017, rainstorm produced 0.9" liquid precipitation over frozen ground, which resulted in silty runoff into the Fallingwater HOA ponds on 91st Street and those near Fallingwater Drive West. He stated that the heavy rains washed into the 91st Street ditch that had been protected already with several ditch checks and into their front pond. He stated that runoff on-site from nearly 19 acres exceeded the capacity of the sediment basin, riser pipe and restrictor in the southeast corner of the development.

As a result of this occurrence, an on-site meeting with Spectrum was requested the following morning with the contractor and engineer, as well as a specialist in sediment and erosion control. The results of that meeting determined that additional measures were necessary in the sediment basin to treat the sediment-laden water on-site. Mr. Preissig stated that existing perforated riser pipes were extended higher and additional pipes added to each side like a manifold to increase the filtration and flow capacity through this critical outlet. An aluminum sulfate flocculation chemical was added to settle the suspended clay particles and decrease the turbidity of the stormwater runoff. Mr. Preissig indicated that water runoff to the southeast was noticeably clearer within hours and the full effect was more apparent within two days.

Mr. Preissig stated that the next meeting with the Spectrum development team will be held the week of February 20, 2017, to continue to discuss sediment control, the spring 2017 construction schedule and the expectations of ultimate stormwater outfalls and flows.

STORMWATER IMPROVEMENTS FOR REHABILITATION INSTITUTE OF CHICAGO (MED PROPERTIES GROUP)

Public Works Director Preissig stated that, based on the Village Board's direction, the Plan Commission and Village staff took in a public review process of stormwater plans for a new medical office proposed at 7600 and 7630 County Line Road. He stated that Village staff has met with the developer, neighbors and engineers regarding the stormwater plans in two meetings on January 4, 2017, and February 1, 2017. He stated that meetings were attended by the developer, site engineer, three adjoining residents with their civil engineering consultant, as well as the Plan Commission chairman and Village Staff members. He stated that, at the final meeting, the developer's engineer presented a detailed engineering plan and stormwater report, which he was able to review and revise. He stated that, at the first meeting, off-site topography was requested to be surveyed at least 100' west of the development and that this work was presented and discussed at the second meeting to show relative extents of lower elevations and ponding. He stated that residents at the second meeting proposed working with the developer at the time of construction of the RIC site to improve their private lot grading.

Mr. Preissig stated that off-site stormwater and drain tile would be routed separately from the on-site impervious surface storm sewer conveyance, which is an improvement over the existing system. He stated that drain tile originating from Drew Avenue properties will be intercepted with a cleanout pipe and 6" PVC pipe and then routed to a drywell. The drywell will infiltrate the low-flow occurrences of the drain tile, while heavier flows will surcharge the drywell and exit at a higher elevation into the proposed storm sewer that outfalls directly to the ditch along South Frontage Road. He stated that the existing ditch along the west property line will be re-graded and lined with a stoned invert to maintain a proposed 1% slope. The ditch will be enclosed by the proposed privacy fence for the RIC site. The proposed fence has not been detailed, but will be set 6"-8" above grade to permit off-site overland runoff from the west to be intercepted into the ditch.

Residents Russ Allen and Mark Thoma were present at the meeting. In response to a question from Chairperson Franzese, Mr. Allen stated that he felt that the engineers for RIC did a pretty good job, but he still had concerns regarding future maintenance of the ditch and hoped that it would be included in any final Ordinances passed by the Village. He stated that he appreciated the efforts of Staff and the RIC engineers to help with the residents' stormwater concerns.

In response to a question from Chairperson Franzese as to whether it would be a wet or dry basin, Public Works Director Preissig stated that it would be a wetland bottom, as per the DuPage County Ordinance. Chairperson Franzese also stated that he liked the idea of separating the two systems.

Mark Thoma shared pictures regarding ponding on his property that occurred last spring and echoed concerns regarding the future maintenance of the ditch on the north side of the proposed development.

The elevation of the ditch was discussed and Public Works Director Preissig indicated that the ditch would need to be low enough so that the water from the west could flow into it and that the elevation would need to be set at 705.

After additional discussion, Chairperson Franzese asked Public Works Director Preissig to continue to work with the residents regarding this project.

COUNTY/MUNICIPAL PARTNERSHIP FOR COMPLIANCE WITH NPDES GENERAL STORMWATER PERMIT FOR MS4'S

Public Works Director Preissig reminded the Committee that an annual report of Village compliance with the NPDES Stormwater Permit requirements must be completed by June 1 of each year. He stated that new requirements of the MS4 program include developing a storm water management program, which will be comprised of best management practices and measurable goals for several different types of control measures. Mr. Preissig stated that the Village has been working with other municipalities and DuPage County to create a County Municipal Partnership for NPDES compliance. This issue was discussed at the Municipal Engineers Committee's November 2016 meeting. He stated that, as a result, the County is currently in the process of IEPA approval of their draft framework for acceptance as a Qualifying Local Program.

Mr. Preissig again indicated that it would be advantageous for the Village of Burr Ridge to participate in this joint process. A minimum level of involvement of County services will be determined that provides the most benefit to the Village in meeting the new IEPA requirements without substantially increasing staff time, use of consultants or purchases of equipment. He indicated that the proposed FY 2017-18 Stormwater Management Fund Budget included \$5,000 for this expenditure.

FY 2017-18 STORMWATER BUDGET

Administrator Stricker indicated that he anticipated approximately \$20,010 in Revenues, with total expenditures in this year's Fund of \$13,930, which includes the \$5,000 cost to work with DuPage County regarding the NPDES program. Village Administrator Steve Stricker stated that it is anticipated that, at the end of the year, there will \$122,662 in the Stormwater Fund and that the Village is trying to set money aside for future larger projects. In response to a question from Committee member Dave Allen, Administrator Stricker stated that a potential longer range project could be to remove siltation from an existing Village pond. Mr. Allen asked if there are any private ponds on the watch list. In response, Mr. Preissig stated that there were none at this time.

A **motion** was made by Dave Allen to recommend approval of the FY 2017-18 Stormwater Management Fund Budget. The motion was **seconded** by Trustee Tony Schiappa and **approved** by a vote of 6-0.

OTHER BUSINESS

Public Works Director Preissig briefly updated the Committee regarding the Bucktrail Estates Subdivision. He stated that the streets have been installed, but that he still has concerns regarding the proper flow of stormwater, based on the system that was constructed last summer and fall. He stated that the developer is looking for approval of the improvements and to reduce the letter of credit. Mr. Preissig stated that he could agree to reduce the letter of credit somewhat to take into account the acceptance of the roads, but that full acceptance could not be granted until we go through the spring to make sure the stormwater facilities constructed actually work.

AUDIENCE COMMENTS

None.

NEXT MEETING

Public Works Director Preissig indicated that the next meeting of the Committee will be held on May 9, 2017.

ADJOURNMENT

There being no further business, a **motion** was made by Dave Allen to adjourn the meeting. The motion was **seconded** by Nancy Montelbano and **approved** by a vote of 6-0. The meeting was adjourned at 7:40 p.m.

Respectively submitted,



Steve Stricker
Village Administrator

SS:bp

308. Surface and Sub-Surface Water Drainage

- 308.1 It shall be unlawful for the owner, agent, or other person in control or possession of any premises jointly or severally to permit any eave trough, footing drain, drain downspout, piping, sump pump, or other device or appliance, permanent or temporary, above or below grade, for collecting and discharging surface water, rain water, or any other source of surface run-off water, ground water or sub-surface water to be so designed, located, or constructed over or across any street, alley, public way, or any rights-of-way thereof, or public property other than by means of a Village approved storm sewer, drainage swale or other drainage system or structure. It is further the intent of this Ordinance that no such waters shall be collected and discharged

**Article III
Miscellaneous**

on any adjoining property. All such waters must be discharged on the owner's property, and no such waters shall be collected and discharged closer than six (6) feet from the side or rear lot line of the premises unless it is enclosed in a sub-surface drainage system approved by the Village which discharges such water at or near the front property line or at a point no closer than ten (10) feet from the rear property line; provided, however, if there is a public sidewalk on or adjacent to the subject property, no such waters shall be collected and discharged closer than six (6) feet from any such sidewalk.

- 308.2 In addition, the following shall apply to all new single-family home construction and additions larger than 1,000 gross square feet. All waters collected and discharged from sump pumps must be connected to a Village-approved storm sewer or structure. If no storm sewer is adjacent to the property, then sump pump drainage must be discharged on the owner's property no closer than fifteen (15') feet from the rear, front, or side lot line. Furthermore, if standing water is present as a result of said sump pump discharge, further effort may be required as determined by the Village Engineer to minimize the presence of the standing water. (Amended by Ordinance A-860-03-03)



VILLAGE OF BURR RIDGE

7660 S. COUNTY LINE ROAD • BURR RIDGE, IL 60527-4721 • (630) 654-8181

FAX: (630) 654-4542

<http://www.burr-ridge.gov>

Gary Grasso
Mayor

Karen J. Thomas
Village Clerk

Steven S. Stricker
Administrator

April 11, 2007

Mr. & Mrs. Lawrence Nowaczyk
8112 Park Avenue
Burr Ridge, IL 60527

Mr. & Mrs. John Michalski
8109 Garfield Avenue
Burr Ridge, IL 60527

Re: Permission to install underdrains through sideyards

Dear Mr. and Mrs. Nowaczyk, and Mr. and Mrs. Michalski,

Thank you for allowing the Engineering Division to assist you with your stormwater concern. It was a pleasure for me to speak with all interested homeowners on April 10, 2007, at the site that day while observing wet conditions in both of your backyards. This letter is intended to summarize our conversations that day, and to express the Village's commitment to assist you in any work you may undertake to address the drainage problem.

Recent work in the backyard of the Michalski's inadvertently altered drainage patterns in the backyard of the Nowaczyk's. The Michalski's work included landscaping enhancements and extensions of underground piping for one (1) gutter downspout and a sump pump discharge. This work did not require a permit from the Village of Burr Ridge, nor would the nature of the work normally require any inspections by Village staff. I have reviewed the completed improvements, and have found that the work was done in a professional manner in accordance with current Village codes. Now that these improvements are established, the new location of the drainage discharge, as constructed by their landscaper, has proven to be problematic and is causing some areas within the backyard of the Nowaczyk's to experience greater, prolonged concentrations of stormwater and ponding.

As discussed that day, a solution to the soggy conditions would be the installation of a small-diameter, plastic pipe from the Michalski's discharge to an existing, plastic pipe previously constructed by the Nowaczyk's. The Nowaczyk's pipe takes stormwater from their gutter downspouts and sump pump directly to a Village storm sewer along Park Avenue. Connecting the Michalski's sump pump discharge to this pipe would take away a large portion of the water that is persistently settling in the backyards, and bypass it directly to a Village-owned storm sewer. Connecting to the Nowaczyk's pipe would certainly lessen the cost, time, and effort involved to remedy the situation for both neighbors.

The Nowaczyk's expressed a concern that additional water in their pipe would cause it to overflow and damage their sump pump and basement. Plastic pipes of the type installed in the Nowaczyk's sideyard can typically carry a significant amount of rainwater. As I stated that

day, both sump pumps will constantly flush the pipe of any dirt that may accumulate. If constructed properly, the pipe should not overflow. The Michalski's and Nowaczyk's will be responsible for maintaining the pipe in each of their yards, as they do presently.

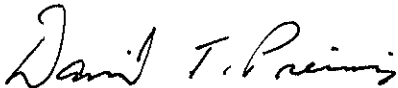
Staff from the Village's Engineering Division will be available to assist in providing technical advice for this installation, and may offer suggestions to its construction. A building permit will not be required for this work; however, Village staff should be apprised of your progress.

You will be required to discuss this matter with neighbors in whose yards you would be working. Any arrangements for backyard access, dates for the work, or cost sharing agreements should be discussed prior to any further involvement by the Village.

We are thankful for your neighborly cooperation with this issue and for your commitment to maintaining your property to the highest standards. We truly understand your concerns for nuisance issues, and offer our assistance to the fullest extent possible.

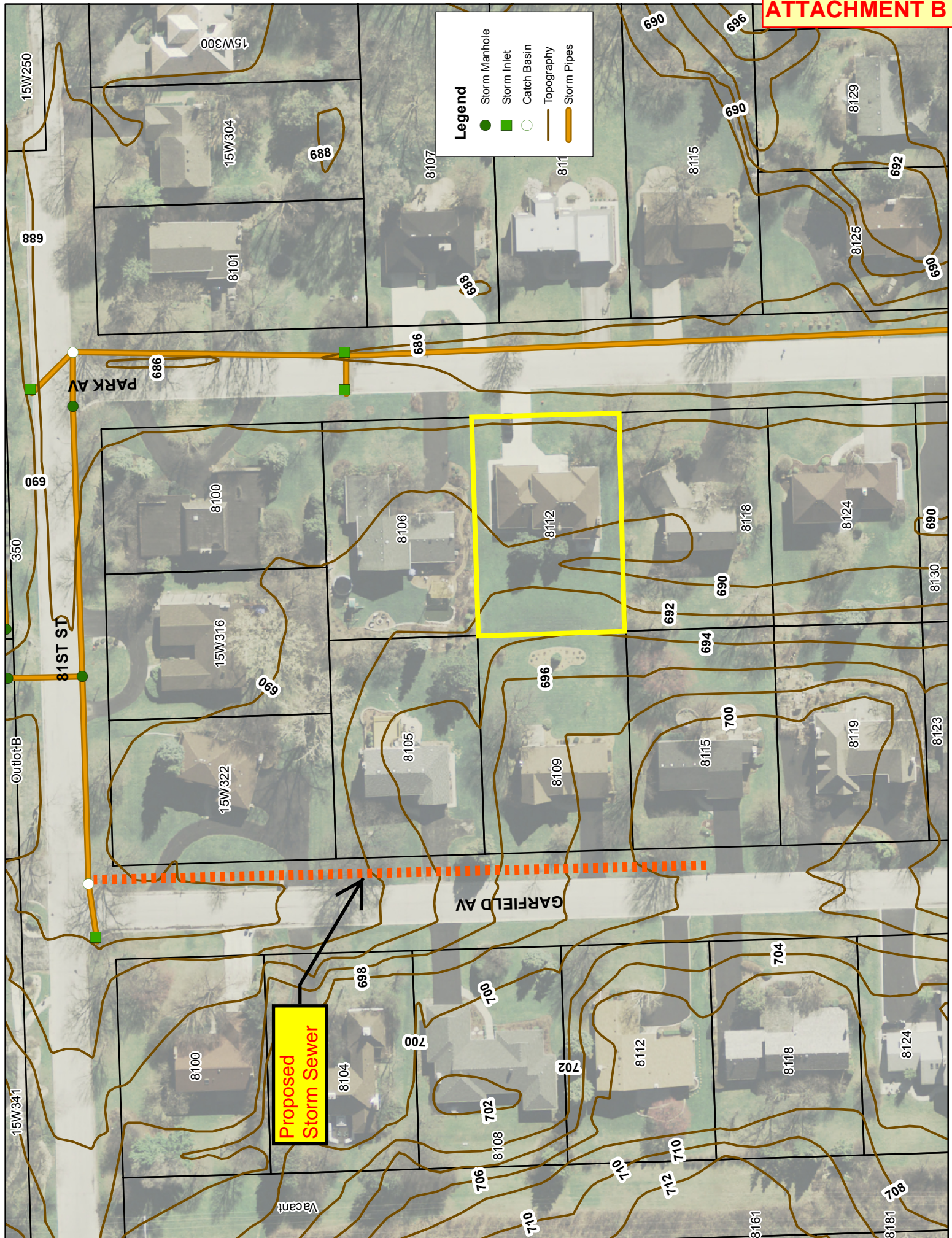
Please call me if you would like to discuss this matter further, or before you begin your work. Also, for your safety, please remember to **notify the one-call utility locating service, J.U.L.I.E., at 800-892-0123** before you dig.

Sincerely,

A handwritten signature in dark ink, reading "David T. Preissig". The signature is fluid and cursive, with the first name "David" being the most prominent.

David T. Preissig, P.E.
Acting Village Engineer

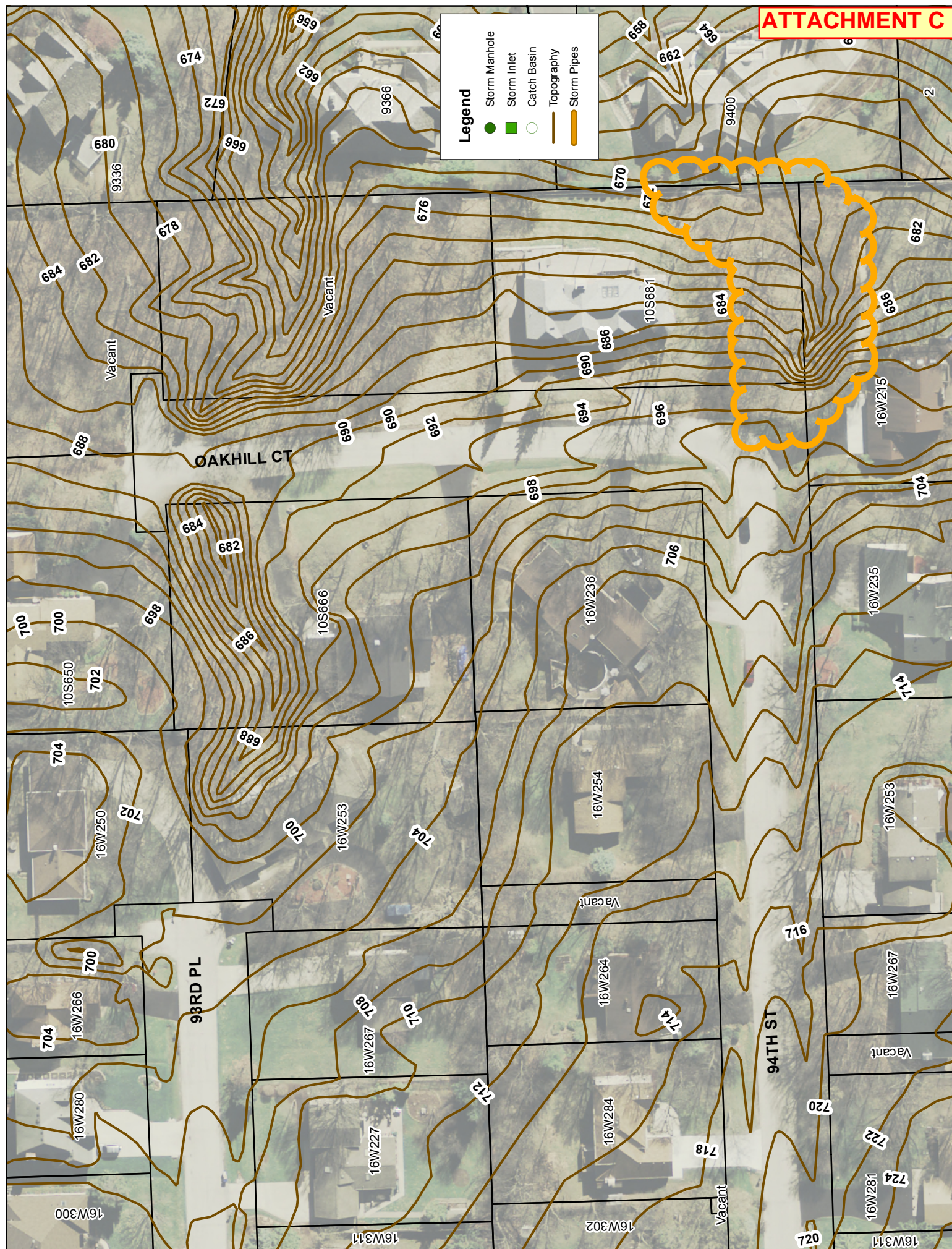
cc: Steven S. Stricker, Administrator – Village of Burr Ridge







ATTACHMENT C



Z-05-2017; Zoning Ordinance Text Amendment; Permeable Pavers and Rear Lot Coverage.

As requested by Chairman Trzupek, Mr. Pollock summarized the hearing as follows: This hearing was scheduled as requested by the Plan Commission and approved by the Village Board and in response to a variation granted by the Board of Trustees. The Board granted a variation that allowed a resident on 81st Street to have 38% rear lot coverage provided that 18% was a permeable paver system. The hearing was scheduled to determine if the Village wants to amend the Zoning Ordinance to permit a similar regulation for all residential properties. Mr. Pollock referenced the documentation from the Village Engineer and from other sources that was included in the packet.

Chairman Trzupek and Commissioner Hoch asked about definitions and standard for permeable pavers. Mr. Pollock provided description but cautioned that there appears to be no established definition or common language regarding this product.

Commissioner Broline expressed concerns regarding the lack of a common understanding of the systems and products.

Commissioner Hoch asked how the Village would regulate the installation and maintenance of permeable or porous pavers. Mr. Pollock responded that installation could be regulated through the permit process but that maintenance would be more challenging. Mr. Pollock noted that maintenance is critical to maintain the stormwater benefits of permeable paver systems.

Mr. Pollock suggested that this type of amendment could be structured to reduce impervious surfaces in rear yards and provide a stormwater benefit. He described a sample amendment whereby rear lot coverage could be increased from 30% to 40% but only if 20% of the coverage is permeable. He said that would reduce impervious surfaces from 30% to 20%.

Commissioner Broline asked about the possibility of allowing increases by variation or similar Plan Commission approval. Mr. Pollock said that a review and approval process was possible but that he is concerned that the standards for approval could be viewed as somewhat arbitrary.

Commissioner Hoch asked how often this issue comes up. Mr. Pollock said not that often but occasionally residents ask for permeable pavers and/or ask about exceeding the 30% limit.

Chairman Trzupek asked for questions and comments from the public.

Ms. Alice Krampits, 7515 Drew Avenue, said she was opposed to the change. She said there are too many drainage problems in the Village and that porous pavers and permeable paver systems are not the same as grass and landscape areas. She said there are problems with proper installation and required maintenance. She suggested that more research needs to be done before any changes are approved.

Chairman Trzupek noted that this is a benefit when the permeable pavers replace hardsurface but not when it replaces grass. He said that when his architectural firm has used permeable surfaces, it has experienced problems.

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Commissioner Hoch said that the information provided is from industry that sells permeable pavers so it clearly describes the benefits without perhaps stating the problems.

Mr. Pollock said that the issue is whether permeable pavers can be trusted to always provide the stormwater benefits. He suggested that this matter be tabled so that staff can do more research on this topic.

At 8:19 p.m. a **MOTION** was made by Commissioner Broline and **SECONDED** by Commissioner Grunsten to continue the hearing for Z-05-2017 to May 15, 2017.

ROLL CALL VOTE was as follows:

AYES: 5 – Broline, Grunsten, Hoch, Praxmarer, and Trzupek

NAYS: 0 – None

MOTION CARRIED by a vote of 5-0.



M E M O

To: Doug Pollock, Community Development Director
From: David Preissig, P.E., Director of Public Works & Village Engineer
Date: March 24, 2017
Subject: Engineering Summary for Plan Commission: Consideration of Permeable Pavers With Respect to an Allowance for Increasing Rear-Lot Coverage

The concept of porous pavement is to allow rainwater to infiltrate into and through the surfaces of driveways, parking lots, and other normally impervious surfaces. Permeable pavers are an example of porous pavement and consist of solid concrete pavers with small, stone-filled joints that allow water to flow into highly permeable, open-graded bedding, base, and subbase aggregates. The void spaces among the aggregates can store water and enable infiltration into the soil subgrade rather than generating surface runoff. Depending on material, the paver blocks are largely impervious; however, the paver joints should provide 100% surface permeability.

Several considerations are needed when designing, constructing, and maintaining a permeable paver system. When designing a porous surface, the designer must evaluate where the infiltrated rainwater is draining and how the stormwater is being conveyed. During construction, strict adherence to stone material specifications and proper compaction methods would be required. Post-construction, the person or persons responsible for perpetual maintenance must consider all the steps, work, and schedules necessary to ensure long-term functionality.

Design Considerations:

The assortment of permeable paver systems from different vendors as well as the variety of applications around homes and businesses would require the designer to consider at a minimum the following:

- Must be sized and designed based on drainage area, structural requirements, soils, and the volume control storage. In northeast Illinois, the system should be designed to provide a stormwater runoff coefficient (C-value) of 0.7 or better. Runoff coefficients are dimensionless values that relate the amount of runoff to the amount of precipitation received; larger value for areas with low infiltration and high runoff (pavement, steep gradient), and lower values for permeable, well vegetated areas (forest, flatland). A C-value of 0.7 indicates roughly 70% of stormwater would not infiltrate but instead would run off a surface. It should be noted that various technical guidelines estimate porous paver systems to be equivalent in infiltration as plain gravel surface.

- Soil infiltration rates must be determined before design. Underdrains may be used to provide drainage unless the soil can infiltrate greater than 0.5 inches of rainfall in an hour. However, caution should be used in areas underlain with highly permeable soils such that infiltrated pollutants could not reach the groundwater.
- The bottom of the base aggregate should be as level as possible in order to uniformly distribute infiltration to the surrounding soil.
- The effects of subgrade compaction, freeze-thaw cycles, frozen ground, and use of de-icing chemicals in snow removal must be considered.
- During construction, additional precautions must be prescribed and followed to ensure the paver voids are not contaminated with debris, dirt, or dust from adjacent construction of the home, business, or landscaping.
- Additional design considerations are provided in the Illinois Urban Manual Practice Standard No. 890 “Pervious and Porous Pavement” [see attached].

Maintenance Considerations:

Perpetual maintenance activities are needed to ensure the permeable paver area performs as originally approved. Maintenance procedures include: sweeping off of gravel-filled pavers, and use of vacuums, brushes, and water to clear out voids (additional aggregate may be needed to replenish the joints following each cleaning). Schedules for the maintenance procedures should be according to the manufacturers’ specifications, but general adhere to the following:

- Debris and litter removal shall be performed after storm events totaling approximately two inches over a 24-hour period or as needed in order to prevent clogging.
- Adjacent landscaping or side slopes draining onto the paver system must be maintained to ensure that debris, wood chips, and other runoff will not cause erosion problems or spill-over to develop.
- Pipe underdrains and their outlets must be checked and maintained.
- Removal of sediment shall be performed as needed to ensure proper working order of the paver system at all times.
- When the permeable paver system deteriorates or cannot be effectively maintained, and would no longer provide the stormwater benefit, then its replacement in-kind would be required as soon as possible.

Permitting, Inspection, and Enforcement Considerations:

A unique set of plans, details, specifications and certifications should be a considered if a permeable paver system would be allowed to increase rear-yard lot coverage. With submittal of a site plan to the Village, the designer would be responsible for providing calculations and details that demonstrate the functionality of the paver system as a stormwater benefit. Inspection during construction of the permeable paver system may add significant time and responsibilities to the



Village's staff in order to ensure and document that procedures and materials are at all times compliant with the designer's specifications.

Additional documentation would be required for recording with the building permit file that ensures the constructed paver system closely followed the approved plans. Already as conditions of the DuPage County Countywide Stormwater and Flood Plain Ordinance related to stormwater best management practices (BMPs), the Village requires record drawings that have been prepared, signed, and sealed by a professional engineer or land surveyor showing the final "as-built" and actual in-place elevations, location of the BMP, and topography. To maintain the stormwater benefit of the pervious paver system or continue its allowance toward increasing rear-yard lot coverage, the property owner's records should be annually required that demonstrate all required maintenance activities have been performed and repairs have been completed.

Similar Municipal Restrictions:

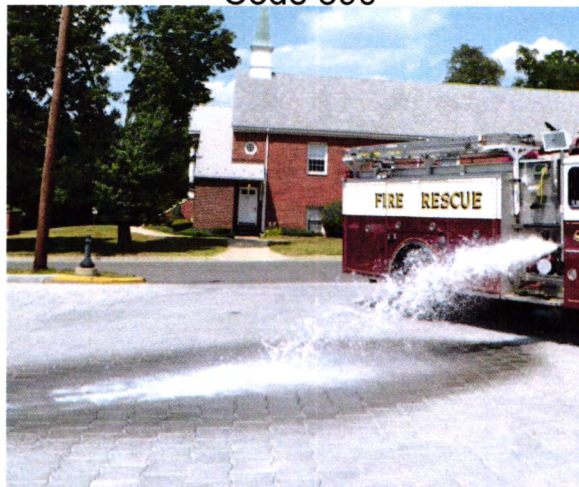
As an example, the Village of Downers Grove encourages property owners to incorporate various stormwater management practices such as permeable pavers, by providing credits and incentives to their stormwater utility bill. The Village of Downers Grove issues a monthly stormwater fee, billed to all property owners in that Village, that is based on the total amount of impervious area on each parcel.

The Village of Downers Grove requires extensive documentation after construction for each party applying for or receiving a stormwater fee credit to demonstrate compliance with all applicable maintenance practices. Annual documentation includes photographs of the facility, certifications of the property owner, indemnification of the Village, and agreements to allow the Village unrestricted access to inspect the facility. Other documents are required that how the title to the property is recorded to perpetually indemnify the Village and requiring the stormwater facility on that property to remain privately owned and maintained.

Attachments

1. Illinois Urban Manual, Practice Standard No. 890 "Pervious and Porous Pavement", revised June 2013.



ILLINOIS URBAN MANUAL
PRACTICE STANDARD**PERVIOUS and POROUS PAVEMENT**(sq, ft.)
Code 890

Source: IUM Technical Review Committee

DEFINITION

Alternate pavement systems are designed to allow water to pass through the surface into the subsurface for storage and infiltration and to also reduce peak runoff rates and volumes, as well as reduce pollution loads.

PURPOSE

The purpose of this practice is to promote volume reduction, peak flow reduction and to reduce pollution into down stream water bodies.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies where pavement is desirable or required, including but not limited to:

1. Parking lots

2. Driveways for residential and light commercial use
3. Alleys
4. Low traffic roadways
5. Boat ramps
6. Paths and sidewalks
7. Fire lanes
8. Community spaces
9. As an alternative to conventional paving

CRITERIA

1. Permeable soils.
2. Tributary area is less than 3 times the porous/pervious pavement area. Things that may affect this are: soil permeability, stabilization practice and amount of overland flow.

3. The site slope is less than 2%.
4. If the soils are not permeable then some type of under drain system should be used when the sub-grade soil permeability is less than 0.5 in / hr.
5. Under drain use must require a storm drain infrastructure.
6. Depth of water table. If water table is less than 2 feet below finish surface this practice should not be considered.
7. To facilitate infiltration, a graded stone and/or geo-textile fabric ([IUM 592](#)) should be used.
8. Heavy traffic loading will effect performance and longevity.
9. Ice management; low or no chloride, no sanding or cinders.
10. Use this practice with no sanding or cinders for ice management.
11. Not suitable for storm water hot spots, areas with high pollutant loads or contaminated soils.
12. Roadway and parking lot marking should be applied as paint vs. an adhesive tape.
13. The base material shall be free of contaminates to allow for water passage.
14. ASTM test C1701 should be used to indentify the needed flow through the porous / pervious pavement layer.
2. A porous system is going to have more void space in its cross section than a pervious system, allowing more water passage.
3. ADA compliant.
4. Pollutants of concern shall be identified along with the appropriate Best Management Practices to address or mitigate them.
5. Materials may consist of vegetation, interlocking blocks (P-ACM/M), unbound aggregate, concrete, asphalt, paver bricks and recycled glass.
6. Recommend draw down time of the sub-surface layer to be less than 48 hours.
7. Pipe under drains shall be sized for flow requirements. Perforations shall be slotted vs. round. A geo-textile may be needed ([IUM 592](#)).
8. Some practices are better suited to reduce contributions to the heat island effect.
9. No seal coating or sealers can be used with this practice because of reduced volume of water flow.
10. Street sweeping is one method that may help to remove debris; however, it may not remove debris far enough into the cross section.
11. Should not be used for high speed roads.
12. Areas of concerned if used would be:
 - a. Sediment laden runoff
 - b. High traffic counts
 - c. Heavy repetitive loading

CONSIDERATIONS

1. Pretreatment of flows may be necessary.

- d. Not accessible for maintenance
 - e. Non-permeable soils or a high water table
 - f. Removal of dissolved pollutants limited with under drain use.
 - g. Near or up against basement walls.
- 2. Low or no chloride ice management.
 - 3. Rubber or plastic tipped snow plow blades shall be used.
 - 4. Clean out of pretreatment practices.
 - 5. Landscapes waste (leafs, clippings, branches, seeds, etc.) shall be removed or captured to prevent clogging of the surface.
 - 6. If flushing is the method of cleaning the cross section, the debris that is washed through must be removed.
 - 7. Air wands are one method of cleaning the cross section; however, care should be taken not to blow the debris deeper into the pavement.

PLANS AND SPECIFICATIONS

Plans and specifications shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended use.

The extent of porous and pervious pavement shall be identified on the plans with sometime of cross hatching.

A cross sectional detail showing locations and thickness of the materials needs to be included.

Installation sequence of materials may need to be listed.

A detailed specification should be developed to insure the proper type of porous or pervious pavement is installed.

REFERENCES

IL Urban Manual Technical Committee

Geosyntec Consultants Permeable Pavement Technical Document

Michigan DEQ

urbst890.doc

June 2013

STANDARD DRAWINGS

Pretreatment (IUM-xxx) – *to be developed*

OPERATION AND MAINTENANCE

- 1. No sanding or cinder use with this practice.



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January 10, 2017

To Whom it may concern,

It has come to my attention that there are some concerns regarding the permeable pavers installed at the Paulan Residence in Burr Ridge, at 15W241 81st Street. I will address those concerns in this letter, and if there are any further questions, please feel free to reach out to me.

Our Town Hall paver can be installed utilizing 4 different laying patterns, with one not being any more permeable than the other. The paver's permeability is determined by the spacer lugs that are molded into the paver during manufacture; we do not rely on tile spacers or an insert to create void space. The spacer lugs on the Town Hall paver, and any of our permeable pavers, cannot be altered without negatively impacting the permeability, integrity, and aesthetic properties of the project. An unmolested or unaltered Town Hall paver will provide the user with an equal and predetermined void between each paver, no matter which laying pattern is used. For residential and commercial vehicular applications, the most common and most secure laying pattern is the herringbone. The herringbone provides the most positive interlock, and therefore will reduce the potential for lateral shifting of the paver surface in high traffic/high torque areas. Areas that are most susceptible to this are curves, circles, and side-load garages. So, to review, the laying pattern of the Town Hall pavers will not affect the permeability. The one factor that can affect permeability is the type of joint filler used in between the pavers. Optimal results will be achieved when a granular, granite chip is swept in between the joints of the permeable pavers, as the chips allow water to permeate the joint as opposed to sheet draining the water off of the paver surface. In the case where a polymeric sand was used between the joints, the sand can be removed with a power washer, and replaced with the granite chip, again achieving maximum permeability. I hope this serves to clear up any concerns, but if there are any further questions, I can be reached via the contact information below.

A handwritten signature in black ink, appearing to read "Justin J. Roney", is written over a horizontal line.

Justin J. Roney
Territory Manager
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