APPROVED 4/20/16

VILLAGE OF DOWNERS GROVE
ARCHITECTURAL DESIGN REVIEW BOARD
VILLAGE HALL - COMMITTEE ROOM
801 BURLINGTON AVENUE

FEBRUARY 17, 2016, 7:00 P.M.

Chairman Pro tem Davenport called the February 17, 2016 meeting of the Architectural Design Review Board to order at 7:10 p.m. and asked for a roll call:

PRESENT: Chairman Pro tem Davenport; Mr. Casey, Mrs. Englander, Mr. Riemer

ABSENT: Chairman Matthies, Mrs. Acks, Mr. Larson

STAFF: Senior Planner Rebecca Leitschuh

VISITORS: John Wilbraham, 5313 Benton Ave., Downers Grove; Paul Bertram, 5304 Benton Ave., Downers Grove; Jim and Joan McDermott, 5316 Benton Ave., Downers Grove; Elizabeth Berger, 5305 Washington, Downers Grove; Rich Kulovany for Friends of the Edwards House, 6825 Camden, Downers Grove; Mark Bragen, 1232 Gilbert Ave., Downers Grove; Ken Lerner for Pierce Downer Heritage Alliance, 4933 Whiffen Pl., Downers Grove

APPROVAL OF JANUARY 20, 2016 MINUTES

Staff noted that an address correction needed to be made.

MOTION BY MRS. ENGLANDER, SECONDED BY MR. RIEMER TO APPROVE THE JANUARY 20, 2016 MINUTES, AS AMENDED. MOTION CARRIED BY VOICE VOTE OF 4-0.

PUBLIC HEARING

Ms. Leitschuh announced this application was the first landmark designation application since the ordinance was revised. She stated that two sets of slides were before the commissioners for their review and discussion (one prepared by Staff, and one by the applicant).

A. 16-ADR-0001: A petition seeking a Historic Landmark Designation for the property commonly known as 5320 Benton Avenue, Downers Grove, IL (PIN 09-08-408-034). The property is located on the west side of Benton Avenue, approximately 75 feet north of Summit Street. David and Amy Gassen, Petitioner and Owner. Case file documents, public notices, maps and photographs for this case were reviewed by Ms. Leitschuh. Turning to a slide depicting the four-square home, Ms. Leitschuh called attention to the fact that the board was only to consider the façade they could see from the street right-of-way. Features of the four-square were referenced in greater detail (including deep eaves, central attic dormer, front porch – although only partial, grouped windows, horizontal banding, etc.), as were the two specific Standards for Approval for consideration: Section 12.302.A (whether the structure is

over 50 years of age) and whether the structure meets one or more of the seven (7) criteria for landmark designation. In this case, staff stated it met criteria #3 (representative of distinguishing characteristics of an architectural style). Staff recommended approval of the landmark designation.

Applicants, David and Amy Gassen, were present. Ms. Gassen thanked staff for their assistance in the landmark application process and briefly walked through her own background on historic preservation and its importance not only to her own neighborhood but to the Village of Downers Grove.

Mr. David Gassen discussed the reasoning behind the purchase of their Four-Square home and the historic research they did on their 1924 home. A bit of historic village demographics during this time period, were referenced, as were the familiar architectural structures constructed around the village. Ms. Gassen described the historical characteristics of the American Four-square, which, as turns out, was a post-Victorian style that was an architectural reaction against the ornate Victorian style. The Four-Square was boasted for its simplicity, maximization of square footage on small lots, and its versatility to apply various styles to its shape, i.e., Craftsman style, Colonial Revival style, etc. Various examples of Four-Square homes within the village followed, noting the Gassen's home followed the Prairie style.

After viewing a photo of her home Ms. Gassen pointed out how the above architectural characteristics of the American Four-Square applied to her own home. She shared that some of the home's original features still existed in the home and she and her husband were in the process of renovating those features. Photos of the home's interior followed. In discussing the addition again, Mr. Gassen explained the addition was added with the intention of keeping the original structure intact while setting the addition back from the corners of the home and paying respect to the original aesthetics of the home. Original doors, windows, and hardware were either reused within the home or saved and stored in the garage for future use. Facades of the home were also featured.

Lastly, Ms. Gassen explained that the reason she and her husband were seeking landmark designation was not only because they liked the Four-Square style but also to continue to maintain the history and character that continues to exist in their neighborhood and throughout the village. Landmarking was also a "nice way to honor an old home that has lasted for so long" and seeing so many Four-Squares was a testament to the effectiveness of their solid construction and efficient design. She hoped others would follow.

Commissioner Casey stated he was surprised when he drove down Benton Avenue to see the amount of teardowns occurring and their massive size as compared to the owner's home. He believed many could learn from what the owners went through; Mr. Davenport concurred.

For the record, Planner Leitschuh interjected and stated that landmarking a home did not restrict an owner from altering the interior of his or her home.

Chairman Pro tem Davenport proceeded to invite the public to speak.

Joan McDermott, 5316 Benton Ave., a next-door neighbor, stated she was proud to be living next-door to a potentially landmarked home. She and her husband also previously renovated old homes and understood the restoration work that went into such homes.

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Hearing no further comment, the public hearing was closed by the chairman pro tem.

MR. CASEY MADE A MOTION THAT THE ADRB APPROVE THE LANDMARK DESIGNATION BASED ON THE TWO CRITERIA THAT IT MEETS, BASED ON THE APPLICATION.

MR. REIMER SECONDED THE MOTION. ROLL CALL:

AYE: MR. CASEY, MR. REIMER, MS. ENGLANDER, MR. DAVENPORT
NAY: NONE

MOTION CARRIED. VOTE: 4-0

OLD BUSINESS

A. Update on Implementation Strategies. Ms. Leitschuh described a draft, interactive web-site that was being worked on by I.T. staff which incorporates various historical survey maps and parcels of the village. The information will eventually be a web tool accessible by the public once the draft web site is reviewed. Much information will be available when looking at an individual parcel. Examples followed. Leitschuh also provided additional updates which included new FAQs on the website, information about the COA application, and historic district paperwork. Mailings of available resources were also mailed to those significant properties identified in the board's recent survey. On March 14th, the Home Town Times will include an article about the Drew House and, at the board's upcoming April meeting there will be another landmark designation discussion.

As a last comment, Ms. Leitschuh announced that the application deadline for the Certified Local Government grant is February 29, 2016 and staff will be focusing on public outreach with four types of brochures/pamphlets pertaining to: 1) recognition of Sears Catalog homes; 2) a downtown walking tour; 3) general architectural styles in Downers Grove; and 4) a general brochure. Ms. Leitschuh said this new information will be made available to the public via the village's web site, newspapers articles, etc.

Chairman Pro tem Davenport commended the mayor, council, the Ad hoc Committee and staff for accomplishing so much in such a short amount of time. He thanked everyone for their support. Board members concurred.

PUBLIC COMMENT

Mr. Ken Lerner, 4933 Whiffen Place, thanked Stan Popovich for reaching out to the Pierce Downers Heritage Alliance for their support regarding the grant application. The Alliance did send a letter supporting the grant application for the brochures and looked forward to assisting staff with anything they needed. He asked when the website features would be available since he wanted to highlight it on the Alliance's website so that the public could link to it.

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Mr. Rich Kulovany, 6825 Camden, on behalf of the Friends of the Edwards House ("FEH"), also thanked Mr. Popovich for reaching out to the FEH, who will also be sending a letter in support of the grant. He thanked the board for its hard work.

ADJOURNMENT

MR. RIEMER MOVED TO ADJOURN THE MEETING. MR. CASEY SECONDED THE MOTION. THE MEETING WAS ADJOURNED AT 8:00 P.M.

MOTION CARRIED UNANIMOUSLY BY VOICE VOTE OF 4-0.

/s/ Celeste K. Weilandt
Celeste K. Weilandt
(As transcribed by MP-3 audio)

VILLAGE OF DOWNERS GROVE
Stormwater and Flood Plain Oversight Committee Meeting
November 12, 2015 7:00 p.m.

Downers Grove Public Works Facility
5101 Walnut Avenue, Downers Grove, Illinois

I. CALL to ORDER

Chair Gorman called the meeting to order at 7:00 p.m. A roll call followed and a quorum was established.

II. ROLL CALL

Members Present:	Chair Gorman, Mr. Civito, Mr. Scacco, Mr. Schoenberg, Mr. Wicklander
Members Absent:	Mr. Crilly, Mr. Ruyle
Staff Present:	Karen Daulton Lange, Village Engineer / Stormwater Administrator
Public Present:	None

III. APPROVAL of October 8, 2015 Minutes

After noting a scrivener's error, Mr. Wicklander made a motion, seconded by Mr. Civito to approve the October 8, 2015 minutes as corrected. Motion carried by voice vote of 5-0.

IV. PUBLIC COMMENTS

None.

V. NEW BUSINESS

A. Lot Coverage Discussion

Chair Gorman opened the discussion by in the Stormwater Master Plan that the Village may wish to consider maximum percent impervious for lots. VODG zoning code currently uses setbacks, but does not address impervious coverage. He referenced a 2007 study that was performed for the Village of Downers Grove on Teardowns and an article was written about it in *Stormwater Magazine*. A copy of the article was provided, which addressed teardowns and the impact of impervious surfaces. Unfortunately, there is not a hard copy of the article and the magazine only was able to provide the article without the graphs and figures. See Attachment 1.

The study looked at a typical 338-acre developed watershed; for each increase of 10% in impervious area of residential lots in the watershed, there is approximate increase of 7% in stormwater runoff (peak flows).

Chair Gorman explained although the Village has PCBMPs, they are designed to only capture the first 1.25" of water, and the 100-year rain event is about 7-1/2". Over time this adds up to a significant impact. He handed out a comparison list of open space requirements for various zoning districts of surrounding communities. See Attachment 2.

Staff clarified that the Village has a Building Coverage requirement, which basically includes detached garages if lot is over 60' wide, sheds, and decks above 18"; but not driveways, patios, swimming pools, and other impervious areas.

Mr. Schoenberg gave a brief history of lot coverage. It used to be called 'Intensity of Use' and was a bulk management tool, along with height, setback, floor/area ratio, etc., rather than stormwater management. It then became more of an aesthetic tool, and now mostly used for stormwater. He gave the example of minimizing lot coverage would dictate 'snout' garages, where the garage is in front of the home, which most towns don't desire aesthetically. So instead of dictating design with lot coverage, the codes included more comprehensive tools in order to promote a desirable streetscape. Of consideration is what do we want the code to do, what is counted. For example, someone could install permeable pavers throughout their front yard; it would not be counted as lot coverage but it may not be what is desired.

He further explained that the County Ordinance in the time the Stormwater Master Plan was written in 2007 was much weaker than it is today. Now we have stronger stormwater management, including PCBMPs. The VODG actually has a more restrictive PCBMP threshold; whereas the County has 2,500 SF of net new impervious, the Village has 700 SF, which allows for the review of more projects, and more storage is being installed. A question to ask is if we need the tool and if so, what are we trying to achieve with this tool?

Mr. Scacco inquired as to what percentage of properties in the Village have been redeveloped, and Chair Gorman stated that would be something the GIS department may be able to compile. Chair Gorman noted that lot coverage reductions would have long range impact on flooding.

Mr. Wicklander asked what percentage of the houses that have been developed in the past few years and Chair Gorman thought that GIS may be able to compile current residential lot coverages in tiers such as 30%-40%, 40%-50% and so on. Mr. Schoenberg noted that it would be interesting to compare what building coverage was then and what it is now, if that information can be compiled; perhaps Census data could be of help. Mr. Civito expressed concern that putting coverage limits on lots should only be for new homes, not existing. There was general concurrence that analysis of data is needed before proceeding with any recommendations.

Staff stated that since the new PCBMP requirements took effect the Village tracks new impervious coverage on the permits, and that information may be able to be extracted. About 75% more stormwater reviews are taking place since the PCBMP threshold was lowered from 2,500 SF to 700 SF. In response to a question from Mr. Scacco, the proposed

stormwater projects identified in the 2014 Stormwater Project Analysis are to bring identified areas up to a minimum level of service for flood protection, so that for 95% of the storms, stormwater is handled effectively. The Plan Commission recently updated the Zoning Code. Staff will inquire what information GIS can extract, and perhaps the Community Development Director can speak on how that Zoning Code was derived in order to give the Committee perspective on all the aspects that go into lot requirements.

Mr. Schoenberg noted that he has seen in his practice as an engineer that the amount of impervious area is often reduced on plans in order to stay under the County threshold for PCBMPs. There was mention that other practices such as narrower driveways or permeable pavement may also reduce impervious coverage.

Mr. Civito cautioned that the threshold for impervious coverage may deter growing families from making an addition or improvements to their home, which is also a concern that should be considered. It was noted that there was a PCBMP Guidelines booklet that staff prepared to help homeowners.

VI. STAFF REPORT

See Attachment.

VII. PUBLIC COMMENTS

No further public comment.

VIII. OLD BUSINESS

A. 4924 Linscott

Last year a variance was granted to this address for the FPE of the garage. The builder, Joel Anderson constructed the home and received a temporary occupancy this spring. As-built plans have not been received yet, but staff received an email from Mr. Anderson's engineer asking to provide compensatory storage under the home. Originally compensatory storage was not planned for this site, but apparently the driveway was constructed too high, creating fill in the LPDA which would now need storage. Staff's opinion is that compensatory storage under a home is not a preferred solution since it wouldn't be storage if it's already flow-through for flooding, pumping would be needed, and concerns about potential mold. Staff's opinion is that the driveway should be removed and replaced at the proper elevation. As a courtesy, Staff would like to get the Committee's thoughts to relay to the Developer so he can decide if he should pursue an appeal. Mr. Civito reminded the Committee that he had asked the Developer to install a permeable driveway and was refused. Mr. Scacco asked if there was room for storage in the yard and Staff responded that we have not received as-built drawings, but the entire yard was in an LPDA. Chair Gorman reminded the Committee that he had recused himself from the Variance vote. Based on the information provided thus far, and lack of as-built plans, there was general consensus from others that storage under the home was not a good idea. Staff will relay the comments to the engineer.

B. Larson Eye Center – 4958 Forest

Mr. Scacco asked what happened to the signage that this Committee had requested when the variance was granted at this location. Staff responded that she did research this last year when it was brought up and found that when the Council had approved the variance, they did not include the signage recommendation. Staff wrote a letter politely requesting the signage to no avail.

C. BMPs

Mr. Wicklander stated that at a previous meeting the question arose as to how other areas of the country are addressing BMPs. He shared that he had perused the Pennsylvania Stormwater BMP Manual, December 30, 2006, and would send the link to the Committee.

IV. ADJOURN

Mr. Scacco made a motion, seconded by Mr. Civito to adjourn the meeting at 8:03 p.m.
Motion carried by voice vote of 5-0.

Attachment 1

ARTICLE IN STORMWATER ON-LINE MAGAZINE, MARCH 16, 2012

Teardowns

Controlling stormwater impacts

Friday, March 16, 2012

By David Barber, Greg Kacvinsky, Melcy Curth Pond, Michelle Lewis

Comments

Along with high growth rates in the outer reaches of metropolitan areas, there is a growing housing market as high-income families move back to inner-ring suburbs and the central cities. To meet the housing needs of these groups, older structures, often located on small parcels (less than 10,000 square feet), are demolished and replaced by much larger houses that typically occupy the vast majority of the parcel area. Houses in inner-ring suburbs are prime for these activities because of the lack of undeveloped land in those established communities. Access to mass transit, such as rail transport, makes these areas ideal for redevelopment, as urban highway systems have become more congested and commuters prefer alternatives to auto transport.

This practice of demolishing and replacing structures is known as *teardowns*, *knockdowns*, *bash and build*, *residential redevelopment*,*rebuilds*, *infill development*, or *scrape-offs*, depending on the location. The term used by municipal officials and residents to describe the practice provides a clear indication of how well the process proceeds in a community. The term *teardowns* has a negative connotation, focusing on the destructive nature of the process. The term *rebuilds*, on the other hand, is a positive, optimistic expression.

Proponents of “bash and build” claim that property values increase because of the practice, the community benefits from new and better housing, and only a small percentage of the housing stock is affected.

Opponents claim that the practice changes the character of the community, homes with architectural and historic value are lost, and the larger new homes result in flooding, loss of open space, and removal of mature trees.

Across the country, communities are dealing with ever-increasing numbers of site developments involving teardowns. The statistics are eye-opening:

- Between 2000 and 2004, Dallas processed over 1,400 permits for demolition and rebuilding.
- Chicago suburbs have experienced rebuild permits ranging up to 9% of the building permits issued.
- Urbana, home of the University of Illinois, tallied 12.9% of its 2006 permits as rebuilds.
- Westport, CT’s Web site has an interactive page showing the latest teardown sites, with information regarding sale price and pending permits.

Throughout these and other metropolitan areas, communities are faced with many issues related to this practice, including property rights, resident concerns, increased tax revenues, affordable housing, neighborhood friction, and the inconvenience associated with new construction in established residential neighborhoods. Municipalities have dealt with these issues through revisions to building and zoning ordinances, demolition permitting, building height and width restrictions, and increased permit fees.

However, there are site-specific impacts of rebuild activity that are difficult to address with regulation. Stormwater management is a prime example. Issues such as aging and undersized sewers, topography changes, increased impervious area, and surface-water flow redirection can make this type of redevelopment even more contentious.

Parcel Redevelopment

Redevelopment of individual parcels generally involves regrading the site and increasing the imperviousness of the parcel. These changes impact stormwater runoff rates, velocities, and flow patterns.

Generally, the houses being demolished for rebuilds are small by today's subdivision standards and are located on lots sized appropriately for the footprint. An example is shown in Figure 1.

On the redeveloped lot, the footprint of the house increases dramatically. In addition, accessory structures such as garages, sheds, patios, decks, and driveway extensions are constructed. Often, drainageways along side and rear lot lines are eliminated, and the public stormwater infrastructure is often undersized for existing and future stormwater flows. In some cases, there are no storm sewers to connect to. Figure 2 shows the area covered by structures and pavement on a redeveloped 8,200-square-foot lot.

In addition to changes in the plan view, changes in grade are typical. The new houses are generally built with basements. To minimize excavation costs, the basements are not completely buried, and the grades are changed to meet the new first floor. Figure 3 illustrates this concept.

The Village of Downers Grove, IL (pop. 50,000), is an established western suburban Chicago community experiencing significant redevelopment. Since 2003, the village has recorded the existing and proposed impervious area for residential additions and rebuilds.

These data were analyzed to look for trends in residential rebuild activity in the village. From 2003 through 2006, permit activity remained steady, averaging annually about 124 new single-family home permit applications. Table 1 illustrates the trends in residential building permits and shows that the average percentage increase in impervious area diminished over the four years. This is due, in part, to the early redevelopment of parcels with very small homes (easier to have a big impact on impervious-surface percentage). More recent redevelopment involves lots with larger existing homes (and higher existing impervious area), less open space, and more space limitations for development.

As shown in Figure 4, the physical changes resulting from rebuilds can include larger impervious area, higher finished grade, steeper slopes to meet existing grade at lot lines, and regrading (or elimination) of side- and rear-yard swales. Impacts on stormwater can include:

- A reduction in the time of concentration of runoff
- An increase in the volume of runoff from the site
- An increase in flow velocities (across paved surfaces instead of grassed areas)
- Changes to or elimination of overland flow paths
- Changes to or elimination of drainageways along side and rear lot lines
- New discharges from sump pumps, often to poorly graded surface drainageways

Figure 1. Typical 8,200-square-foot lots

Figure 2. Redeveloped 8,200-square-foot lots

To quantify the aggregate impact of the increased imperviousness of residential rebuilds on stormwater runoff, a study was performed for the Village of Downers Grove. A 338-acre typical suburban watershed with primarily residential land use was analyzed to compare existing flow rates in a receiving stream compared to the flow rates when the average impervious area on a residential lot increases from 10% to 50%. This watershed was selected because it is nearly 100% developed, is predominantly residential, contains a mixture of lot sizes, is drained by

storm sewers and open channels, and has no additional upstream flows impacting the hydrology or hydraulics of the study area.

To perform the analysis, parcels were categorized by land use and size; the average imperviousness for each category, the total existing imperviousness, and the increase in imperviousness by various percentages for each category were determined; existing peak flow rates were calculated using the hydrological model HEC-HMS; and the increase in peak flows for discreet changes in impervious cover were determined.

To estimate the existing percent imperviousness in the study watershed, parcel data and aerial photography were used. Parcels were divided into seven categories, roughly based on zoning requirements. Data about these categories, including number of lots and impervious and pervious areas, are shown in Figure 5.

Five scenarios were modeled to estimate the potential impact of an increase of average percent imperviousness in the basin. To estimate the future percent imperviousness, the average impervious area per lot was increased by 10% through 50% for the four categories of residential parcels (only those parcels exceeding 7,500 square feet). It was assumed that nonresidential parcels would not change. Table 2 summarizes the percent impervious for each of the five scenarios.

To estimate the existing runoff from the study watershed, the HEC-HMS model was used. The watershed was divided into nine sub-basins, based on contour information and storm sewer atlases. Time of concentration was estimated using the TR-55 method. The SCS Unit Hydrograph/Curve Number method was used to estimate flows, with an average percent impervious of 33.1%. A curve number of 69 was used for all pervious areas. A curve number of 98 was used for impervious areas, thus calculating a weighted curve number for each sub-basin. The 10-year recurrence interval storm was used to make comparisons between existing and future peak flows. The HEC-HMS model was run for the one-, two-, three-, six-, 12-, 18-, and 24-hour-duration storms to determine the impacts of different types of storms on peak runoff.

To estimate the proposed runoff from each of the five scenarios (increased residential impervious area of 10% to 50%), the HEC-HMS model was run with the same parameters except percent impervious and time of concentration. For each scenario, the weighted curve number was changed to reflect the increase in percent impervious and times of concentration were reduced slightly to account for an anticipated lower sheet flow component.

As shown in Table 2, the results demonstrate that, on average, for each 10% increase in impervious area of residential lots in the basin, the average percent impervious throughout the basin is predicted to increase by 6.7% and stormwater runoff (peak flows) will increase by 7.0%.

Using the results of the analysis, the impact of residential redevelopment on peak flows can be anticipated. Recent parcel redevelopment has resulted in an average increase in impervious area of 54%. Assuming that 50% of the lots redevelop with an average increase of 50%, the average basin percentage impervious area would be 38%, which translates into an increase in peak flow of about 16%. Another scenario could be that 20% of the lots are redeveloped with a 50% increase in impervious area, resulting in an increase in peak flows of about 6.3%. Various scenarios are shown in Table 2. Figure 6 shows the differences in the hydrographs when developing 50% of the lots with an average increase of 100% impervious area.

Dealing With the Impacts of Rebuilds on Stormwater

Based on the results of the analysis, the Village of Downers Grove is including an evaluation of the potential increased impervious area resulting from future rebuilds in the comprehensive watershed planning efforts currently under way. It is anticipated that recommendations for stormwater improvements will address this issue on a watershed basis.

It is obvious that the process of teardown and rebuild can negatively impact a municipality's stormwater system, especially individual residents who are directly impacted. To gain an understanding of the stormwater issues and how various municipalities are dealing with them, information was gathered from a select group of engineering staff from municipalities impacted by the teardown phenomena.

Responses to the following questions were requested from various municipal engineers, planners, and public works directors:

- What terminology is used to describe the process involving purchase and demolition of a house followed by construction of a larger new house in the same location?
- In your community, what percentage of issued building permits is for teardown/rebuild activities?
- What mechanisms do you use to control teardown/rebuild activities? Do these mechanisms control stormwater on a site-by-site basis?
- What are the major stormwater issues you experience on teardown/rebuild sites?
- What tools and/or policies would be useful for your community in managing stormwater on teardown/rebuild sites?

Municipal staff responsible for permit reviews use a variety of methods to attempt to minimize the adverse stormwater impacts of rebuilds. These methods include (paraphrased from survey responses):

- Municipal staff verifies that drainage patterns are improved or maintained.
- Downspouts and sump pumps are connected directly to the storm sewer to minimize surface runoff.
- Grading, drainage, and tree protection are approved prior to building permit.
- Individual site grading plans and runoff calculations are reviewed.
- Impact fees are assessed to replace and/or install storm sewers and storage facilities.
- Controls are placed on amount of fill or height of new foundation (relative to adjacent existing structures).
- The site plan is reviewed with accurate village-wide topography, storm sewer mapping, and flooding/drainage complaint records.
- Dry wells are required with volume and infiltration capacity to accept increased runoff.

The results of the survey provide insight into the problem and outline the creative approaches taken by municipal staff to minimize the stormwater impacts of teardowns.

The HEC-HMS model provides a rough estimate of what the impact of residential development will be; it is possible that the actual impact will be more than estimated. Residential development, whether in the form of additions or teardowns, impacts the land in ways other than from increased impervious cover:

- Changes in topography can alter existing drainage paths, causing increased flows onto neighboring properties.
- Times of concentration can be reduced due to a shorter flow path over pervious surfaces or from yard drains being directly connected to the storm sewer. Modeling the reduced times of concentration in the HEC-HMS analysis would have yielded greater increases in peak flows resulting from teardown/rebuild activities.
- Deeper basements constructed with imported granular material will provide groundwater with quick access to the stormwater conveyance system through sump pump connections.

The key to limiting the higher rates and volumes of stormwater runoff is to take a proactive stance to limit the impact of redevelopment on runoff characteristics. This is most effectively accomplished through a zoning ordinance, a stormwater ordinance, and active enforcement of the two. Ordinance language can include requirements such as the following:

- Maximum percent impervious on lots
- Strict setback requirements
- Maximum yard slopes
- Restrictions on altering topography
- Site plan submittal requirements, including a stormwater management plan, prepared and sealed by a registered professional engineer
- Maintenance of adequate overflow routes

It is also imperative that a thorough plan review be completed and site inspection be performed to ensure that the construction meets the new requirements. Special permit fees can be assessed that specifically address teardown/rebuild activity. These new fees may be adjusted by municipalities to accomplish the following goals:

- Pay for increased staff time (review and site inspection) to administer the teardown/rebuild program.
- In cases where teardown/rebuild activity is difficult to control, and if the municipality wants to preserve the character of the community, the fees could be used to slow the rate of redevelopment, creating an economic disincentive to do so.
- Pay for the maintenance and/or replacement of existing stormwater infrastructure that is unable to manage stormwater runoff from redeveloping areas.
- It is tempting for municipalities to use the teardown/rebuild phenomena as a way to generate higher tax revenues, as the reconstructed homes will trigger a higher property valuation. However, these changes place a significant burden on the stormwater system, often creating new drainage problems that affect older properties in the vicinity of the redeveloping areas. Furthermore, as teardown/rebuild activity takes over a community, the socioeconomic composition of a community is forever changed, permanently changing the character of the community.
- Given that most communities welcome the practice of redevelopment as an environmentally friendly alternative to urban sprawl, the practice will likely thrive throughout the country. At the municipal level, it will be important to ensure the following:
- Develop and enforce specific requirements to protect existing drainage infrastructure (zoning and engineering requirements).
- Work with contractors, architects, and their engineers to develop best management practices for single-family residential redevelopment, striving to minimize the impact of redevelopment on stormwater runoff (including incentives for low-impact development practices).

- Impose appropriate development fees (i.e., permit fees, impact fees) to address the impact of redevelopment on the municipality's infrastructure and to fund new enforcement programs.
- Develop subwatershed plans to predict the impact of redevelopment (per local standards) on peak flow rates and develop a capital improvement plan to replace key stormwater components to convey (and/or detain) the increased peak flow rates and volumes.

Author's Bio: *Michelle Lewis, P.E., is with Clark Dietz Inc. in Chicago, IL.*
Author's Bio: *David Barber, P.E., is director of Public Works for the Village of Downers Grove, IL*
Author's Bio: *Melcy Curth Pond, P.E., is with Clark Dietz Inc. in Chicago, IL.*
Author's Bio: *Greg Kacvinsky, P.E., is with Clark Dietz Inc., in Champaign, IL.*

Attachment 2

Municipality	**Open Space (Pervious Area) Requirements .**
Downers Gr.	R1/R2/R3/R4/R5/R5A/R6=0%, B1/B2/B3/M1/M2=10% OR=20%, ORM=15%
Darien	R1=65%, R2=60%, R3/A1/B1/B3/M1=50%, B2/OSD=40%
Lisle	R1/R2=66%, R3=60%, R4=50%, CU(colleges)/O=0%, B1/B2=none or 66% if residential, B3/I1=0%, OR=40%
Lombard	R0=67%, R1/R2=50% R3=50% for 1-2 units, 35% for attached single family R4=50% for 1-2 units, 35% for multi-family & 40% for multi-family R6=50% for 1-2 units, 35% for attached single family & 15% for multi-family B1/B2/B3/B4/B4A/I=10%, B5/B5A=0% CR=35% or 50% or 75% depending on use, O=35%
Oak Brook	R1/R2/R3/R4/ORA1/ORA2/O3/O4/=0%, R5=30%, R5 housing density bonus for open space ORA3=50%, CR=unspecified, PD=more than typical
Westmont	R1/R2/R3=20%, R4/R5=0%
Woodridge	R1=65%, R2=60%, R3/A1/A2/B1/B2/B3/M1=50%, OSD=40%

Attachment 3

Staff Report
November 12, 2015

A. CDBG-DR

Last month Staff submitted an application to the Community Development Block Grant – Disaster Recovery grant program administrated by DuPage County to purchase a home and a vacant lot 5631 Webster. We are waiting to hear if our application was accepted.

B. NPDES inspection

On October 23rd the IEPA made an inspection of our PW facility for compliance with our NPDES MS4 permit. We have not had an official report back, but the visit went well.

C. NHMP Survey & Annual Meeting

Staff submitted the survey response to DuPage County for the Natural Hazard Mitigation Plan and will be attending their upcoming annual meeting.

D. Preliminary Flood Plain Maps

DuPage County staff issued a memo to the Stormwater Management Committee that due to the large number of comments received on the preliminary floodplain maps that a Revised Preliminary floodplain map release is being recommended by ISWS and FEMA. As a result, the ISWS has stopped the initiation of the 90 day technical appeal period.