CITY OF
WEST CHICAGO

WHERE HISTORY & PROGRESS MEET

DEVELOPMENT COMMITTEE

Monday, October 8, 2018
7:00 P.M. - Council Chambers

AGENDA

1. Call to Order, Roll Call, and Establishment of a Quorum
2. Approval of Minutes
   A. September 10, 2018
3. Public Participation
4. Items for Consent
5. Items for Discussion
   A. Central Main Redevelopment Plan / CBBEL Stormwater Review
   B. Forming America – 1200 N. Prince Crossing Road - Bi-Annual Progress Report
6. Unfinished Business
7. New Business
8. Reports from Staff
   A. Project and Economic Development Updates
9. Adjournment

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Draft

MINUTES

DEVELOPMENT COMMITTEE

September 10, 2018, 7:00 P.M.

1. Call to Order, Roll Call, and Establishment of a Quorum.

Alderman Stout called the meeting to order at 7:00 P.M.

Roll call found Aldermen James Beifuss, Melissa Birch Ferguson, Michael Ferguson, Bonnie Gagliardi, Jayme Sheahan and Rebecca Stout present. Matt Garling arrived just after roll had been called.

Also in attendance was Community Development Director, Tom Dabareiner.

2. Approval of Minutes.

A. August 13, 2018.

Alderman Ferguson moved and Alderman Sheahan seconded a motion to approve the minutes. Voting Aye: Beifuss, Birch Ferguson, Ferguson, Gagliardi, Garling, Sheahan and Stout. Voting Nay: 0.

3. Public Participation. None.

4. Items for Consent.

Items B was pulled from the consent agenda for discussion at the request of the Alderman Beifuss.

A. Ball Horticultural – 811 W. Brown Street - Rezoning.

C. Laramie Residence – 29W235 Blair Street – Pre-Annexation Agreement.

Alderman Birch Ferguson moved and Alderman Beifuss seconded the motion to approve Items A and C for Consent. Voting Aye: Aldermen Beifuss, Birch Ferguson, Ferguson, Gagliardi, Garling, Sheahan and Stout. Voting Nay: 0.

B. DMCS LLC – 220 Kress Road – Special Use & Concept Plan

Mr. Dabareiner provided an item summary. The petitioner is requesting approval of a special use to install a solar power facility on a 16-acre property. The facility will consist of multiple rows of solar panels, which will be pole mounted several feet above the ground and will automatically pivot during the day in sequence with the angle of the sun. The entire property will be enclosed with fencing. While the special use is straight forward from staff's perspective, the Intergovernmental Agreement (IGA) with the DuPage Airport Authority (DAA) requires the conceptual site plan meet the approval of the City Council with regards to: 1) zoning and 2) minimum design standards. City staff acknowledges it is compliant. The PC/ZBA approved unanimously the special use at their last meeting.

Alderman Beifuss indicated it is a good idea and he agrees with the analysis of a special use and supports the concept plan. He asked if the power generated from here would be potentially sufficient for the residences of West Chicago. Mr. Dabareiner replied that it would not be sufficient and added that the applicant is looking for three major users to start for financing purposes. One of those potential users could be the City.

Alderman Beifuss moved and Alderman Gagliardi seconded the motion to approve Item B for Consent. Voting Aye: Aldermen Beifuss, Birch Ferguson, Ferguson, Gagliardi, Garling, Sheahan and Stout. Voting Nay: 0.

5. Items for Discussion.

A. McAuley School – 1820 W. Roosevelt Road.

Diane Ferguson addressed the Committee members. She stated she had recently met with West Chicago Elementary School District 33 to discuss saving the McAuley School. While no decision was made at that meeting, she felt she was warmly received and she expressed a desire to get the interested parties together to continue discussions near the end of the month. She also mentioned hearing support and encouragement from members of the Historical Museum at a recent event. Going forward, it is her understanding that the ultimate decision will be left to the District 33 School Board and the City Council.

Ms. Ferguson encouraged the members to get involved and take a look at the blog for old, one room schools. She stated she told School District 33 she does not want to be part of

the generation that lets this school die. She said the contract from 1991 to maintain the school was not honored by the District because they were inadequately funded by the State and were only able to provide for the students. The contract states they need to maintain and keep the school open for historical education purposes, but they cannot move it or sell it, and nor can it be used for commercial purposes.

She mentioned a funding option like a GoFundMe page, and stated one donation was already received to remove a tree which could damage the roof if it were to fall. She commented they have an offer from a landscaper to clear the property and from a structural engineer who would be willing to waive his assessment fee. She also talked about the idea of creating a living history museum to be visited on school field trips. School trips would pay $200 or $300 for a visit, and if two visits were held each day, it would be self-sustaining. They also have a grant writer on board to help.

She expressed needing to have access to remove the tree, and then going forward with an assessment from a structural engineer to see if it is still possible to save the school. She asked for a meeting with anyone who is interested to meet to discuss. She stated that while she was unclear about the legal issues, she believes School District 33 could give it or sell it to the City for one dollar and the City could then donate it to the Historical Museum. She thanked the members for their time.

Alderman Beifuss stated that the important point is to get the conversation started. He mentioned attending an event there held about 10 years ago where he spoke with former students who wanted to see it saved, and he would like to see it saved, too. He also recalled some past discussions about where it could be moved to. He shared the names of several local organizations as well as ideas with Ms. Ferguson about where she might look for support and/or donations. He asked her if District 33 had reacted positively to the idea, and she replied they had. Alderman Beifuss also pointed out that consulting services may be available with the State of Illinois's National Register. In terms of the City's role, they would need a better understanding of costs and what would be involved. A brief discussion followed between Ms. Ferguson and Alderman Beifuss about a possible, structural engineering analysis, TIF District funding options, and additional resources.

Alderman Garling stated he likes the idea, but expressed caution about having the City funding this project. He stated the school district needs to provide the funding necessary as the building has been neglected. Ms. Ferguson said School District 33 had informed her they would not be able to provide any funding. She added that her premise is that the West Chicago taxpayers would not have to pay a dime as it would all be one by donations and fundraising.

Alderman Stout indicated that given the need to wait until the school year progresses further, this was as far as this discussion with the Development Committee could go for

now until all of the right people can meet to discuss. Ms. Ferguson asked if a future discussion would be brought back to this Committee or the full Council and Alderman Stout responded it would be with the Development Committee.

6. **Unfinished Business.** None.

7. **New Business.** None.

8. **Reports from Staff.**

   A. Project and Economic Development Updates.

   Tom Dabareiner informed the members about some of the topics to be discussed at their next meeting, which include RAI Concrete wishing to expand their outdoor storage at their location at 1827 Blackhawk, DuPage Airport Authority rezoning the Hoffman property, and an auto repair facility pursuing a special use at 1850 W Roosevelt Road.

9. **Adjournment.**

   Alderman Ferguson moved and Alderman Gagliardi seconded the motion to adjourn the Development Committee meeting at 7:30 P.M. The Committee members unanimously agreed and the motion carried.

Respectfully submitted,
Jane Burke

CITY OF WEST CHICAGO

DEVELOPMENT COMMITTEE
AGENDA ITEM SUMMARY

ITEM TITLE:

Central-Main Street Redevelopment Plan – Stormwater Review

AGENDA ITEM NUMBER: 5.A.

FILE NUMBER:

COMMITTEE AGENDA DATE: October 8, 2018

COUNCIL AGENDA DATE:

STAFF REVIEW: Tom Dabareiner, AICP **SIGNATURE**

APPROVED BY CITY ADMINISTRATOR: **SIGNATURE**

ITEM SUMMARY:

At its December 12, 2016 meeting, the Development Committee recommended approval of a resolution to contract with Farr Associates to prepare the update to the Central Main Street Redevelopment Plan. That Plan was completed earlier this year.

Several questions remained about the stormwater portion of the Plan. Staff hired Christopher B. Burke Engineering, Ltd. (CBBEL) to review the Plan and to provide some additional detail. A copy of their memo is attached and an engineer from CBBEL will be present to try to answer any questions you may have.

In brief, their efforts generally confirmed the stormwater calculations found in the Plan. However, block to block, the recommendations sometimes vary from the plan, as follows:

Block 1 – use the potential storage volume to help offset other blocks
Block 2 – generally agrees with the Plan, but cautions on the loss of usability of the park if used for detention
Block 3 – agrees with the Plan
Block 4 – recommends permeable pavers and underground storage; but use of the southwest corner is unlikely
Block 5 – requires use of excess storage developed off-site

The report also provides information for potential off-site stormwater facilities. It notes the need for an overall stormwater master plan that satisfies DuPage County to allow the project to proceed in phases. Finally, it includes cost estimates, which were not part of the Farr Associates effort.

No additional work is part of this contract and staff believes it succeeds in helping us make more informed decisions as we move forward with the Plan.

ACTIONS PROPOSED:

Discussion only

COMMITTEE RECOMMENDATION:

MEMORANDUM

September 14, 2018

TO: Tom Dabareiner, AICP – Community Development Director

FROM: Thomas T. Burke, PhD, PE
Luke J. Sherry, PE, CFM

SUBJECT: Central-Main Street Redevelopment Plan – City of West Chicago
(CBBEL Project No. 18-0376)

This memorandum presents the results of the Christopher B. Burke Engineering, Ltd. (CBBEL) review of the Central-Main Street Redevelopment Plan (Plan) for the City of West Chicago (City), DuPage County, Illinois. The Plan was completed by Farr & Associates for the City in March 2018 and includes various recommendations to assist with the redevelopment of this portion of the downtown area of the City. CBBEL's review focused on the stormwater calculations, guidance, and recommended stormwater management practices contained in the Plan.

Review of Central-Main Street Redevelopment Plan

The stormwater calculations and guidance presented in the Plan were reviewed with respect to our knowledge of the DuPage County Countywide Stormwater and Flood Plain Ordinance (Ordinance) and our past experience with permitting projects in DuPage County.

As described in the Plan, stormwater management volume is required for developments that exceed certain thresholds of net new impervious area for proposed developments. Proposed development that creates 2,500 ft^2 or more of net new impervious area, as compared to existing conditions, must provide 1.25 inches of post-construction best management practice (PCBMP) storage volume onsite. The PCBMP storage requirements are typically provided in the form of green infrastructure practices such as permeable pavement, bioretention areas, green roofs, etc. It is important to note that while the net new impervious area is the threshold for PCBMP requirements, the required PCBMP storage volume is based on the new impervious area of the development. Proposed development that creates 25,000 ft^2 or more of net new impervious area, as compared to existing conditions, must provide stormwater detention for the new development (total disturbed area).

As shown in the Plan, the redevelopment area generally consists of the area located north of Main Street, south of High Street, east of Washington Street, and west of Wilson Avenue. The project corridor, which was been divided into five blocks (Blocks 1 – 5) in the Plan, is shown on Exhibit 1. The approximately 8.2-acre project corridor was subdivided and developed prior to 1992 (the adoption date of the Ordinance) and no stormwater detention facilities exist in this location. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for DuPage County and Incorporated Areas, Panel 0402 of 1006, with an effective date of December 16, 2004, there is no regulatory floodplain

located in this area. The FEMA FIRM is included as Exhibit 2. It should be noted that while there is no regulatory floodplain mapped through the redevelopment area, there is Zone A (unstudied) floodplain associated with the Unnamed Tributary to Kress Creek shown in the location of a potential offsite detention facility (Public Works site) that was identified in the Plan.

As shown on Exhibit 3, there are significant variations in the topography through the project corridor. Blocks 1-4 generally drain to the south and to the west, and this area drains to the main trunk sewer that flows westward along Washington Street, which ultimately drains to the Unnamed Tributary to Kress Creek near Town Road. Block 5 generally drains eastward and drains to the West Branch of the DuPage River through a storm sewer with an outfall near Forest Avenue. Although there are two separate subwatersheds/sewersheds within the development area, it is located entirely within the same major watershed (West Branch of the DuPage River) which is an important Ordinance requirement for providing offsite detention and PCBMP volume.

Redevelopment Area

Using current aerial photography and the proposed impervious areas for Blocks 1-5 contained in the Plan, CBBEL determined the net new impervious and corresponding stormwater management requirements for the redevelopment. A summary of the stormwater calculations is provided in Table 1.

CBBEL's calculated values are generally consistent with those contained in the Plan, with the main difference being that Block 3 is under the threshold for stormwater detention (25,000 ft^2 of net new impervious area) by approximately 600 ft^2. Since Block 3 is extremely close to the stormwater detention threshold, any changes to the proposed site plan should be mindful of any changes in proposed impervious areas.

Because Block 1 actually decreases the amount of impervious area onsite, no stormwater management storage volume would be required for this development. Blocks 2, 3, and 5 would require PCBMP storage volume, and Block 4 would require both PCBMP and stormwater detention volume.

Table 1
Summary of Stormwater Management Requirements

Block ID	Area (ac)	Total Area (ft^2)	Existing Impervious Area[1] (ft^2)	Proposed Impervious Area[2] (ft^2)	Net New Impervious Area (ft^2)	PCBMP Volume Required (ac-ft)	Detention Volume Required[3] (ac-ft)
Block 1	1.10	48,031	42,050	37,794	-4,256	0	0
Block 2	0.79	34,246	5,056	11,566	6,510	0.03	0
Block 3	1.78	77,374	35,674	60,081	24,407	0.14	0
Block 4	2.45	106,643	37,537	80,623	43,086	0.19	1.15
Block 5	2.09	90,988	57,709	65,980	8,271	0.16	0
TOTAL	**8.20**	**357,282**	**178,027**	**256,044**	**78,017**	**0.52**	**1.15**

[1]Existing impervious area calculated using current aerial photography
[2]Proposed impervious area taken from *Central-Main Street Redevelopment Plan Update*
[3]Detention volume determined using DuPage County Detention Nomograph

Stormwater Management Approaches

It is assumed that the redevelopment of each block will be undertaken at different times and will likely involve different applicants. As such, each block will be treated as its own development site at the time of permit application. Since meeting the stormwater management requirements onsite may not be feasible for each block, a combination of onsite and offsite storage measures will most likely be required to satisfy the permitting requirements for the entire redevelopment plan.

The most straightforward approach to stormwater management is to stay below the PCBMP and stormwater detention thresholds of the Ordinance by reducing the impervious area of the proposed development. This can be achieved by installing permeable pavers or porous asphalt/concrete instead of traditional pavement and converting conventional rooftops to green roofs. Due to the excessive cost and maintenance requirements associated with green roofs, it is not recommended that this measure be pursued as a technique to meet the stormwater management requirements for this study area, but it remains an option.

The Ordinance (§15-65) allows PCBMP requirements for a development to be provided offsite as long as it is located within the same major watershed. Since all of the downtown area is located within the West Branch DuPage River Watershed, the use of offsite facilities to meet the PCBMP requirements is an acceptable approach.

Offsite stormwater detention facilities are allowed under the Ordinance (§15-76), but the development must provide 100-year conveyance from the development site to the offsite detention facility. This conveyance provision results in the need for storm sewer and/or overland flow route improvements between the development site and the offsite facility that translate to a significant project cost.

Although not explicitly stated in the Ordinance, based on our past experience with permitting in DuPage County, the concept of "detention trading" has been an acceptable approach for meeting the release rate requirements for areas that are infeasible to detain. By detaining an area that would be hydrologically equivalent to a development site, assuming that no stormwater detention is currently provided, the release rate requirements of the Ordinance (0.10 cfs/acre) can be satisfied when accounting for both the development and traded areas. This same concept can be applied, albeit on a larger scale, to the various development blocks to meet the Ordinance requirements.

Block 1

Block 1 consists of the approximately 1.10-acre property located south of High Street, between Galena Street and Washington Street. The proposed land use of Block 1 consists of an apartment complex with associated parking and landscape areas. Because Block 1 actually decreases the amount of impervious area onsite, no stormwater management storage volume would be required for this development.

Plan Recommendation: Although PCBMP and stormwater detention thresholds are not triggered for this development site, the Plan recommends that storage be provided where

practicable to offset the stormwater requirements for other blocks within the redevelopment. Based on the proposed land plan, stormwater detention can be provided in storage vaults underneath the proposed parking lot and the landscaped parkways areas along High Street and Galena Street can be converted to bioretention areas that provide additional PCBMP volume.

CBBEL Recommendation: CBBEL recommends that the areas identified in the plan as potential bioretention facilities be implemented as originally contemplated, as the site plan lends itself well to providing this storage in a cost-effective manner. Based on our review of the utility information for this area, there are currently no watermain, sanitary, or storm sewers located in these parkway areas, and therefore major utility relocations would not be necessary to accommodate these facilities.

Although not required as part of the development of Block 1, the PCBMP storage volume can be used to offset the stormwater management requirements of the other blocks. When PCBMP storage volume is provided in this manner, the volume can also be counted toward any detention volume that is also required. Therefore, the bioretention facility storage volume provided on Block 1 may count toward both the PCBMP requirements (Blocks 2, 3, 4, and 5) and the stormwater detention requirements (Block 4) of the other redevelopment.

Using the bioretention areas identified in the Plan and information on the existing storm sewer system in this location, a total storage volume of approximately 5,900 ft^3 (0.14 acre-feet) of storage volume can be provided. The Plan also identified the potential of vault storage underneath the proposed parking lot area. While this is a feasible option, underground vault storage is expensive (approximately $450,000/acre-foot) and therefore other options should be considered first. Based on the flat topography of the site, it appears that portions of the parking lot can be converted to permeable pavement. Using the footprint that was designated for underground vault storage, approximately 3,700 ft^3 of additional storage volume could be provided in the aggregate layer of permeable pavement in this location.

Block 2

Block 2 consists of the approximately 0.8-acre area located south of High Street, between Galena Street and High Street, and is proposed to consist of a townhome development along with the addition of a pocket park. As shown in Table 1, approximately 1,205 ft^3 (0.03 acre-feet) of PCBMP storage volume would be required for this development.

Plan Recommendation: As identified in the Plan, the proposed open space area would lend itself well to providing stormwater storage volume, both in the form of bioretention facilities and stormwater detention volume. To satisfy the PCBMP storage requirements, the landscaped parkways along Center Street and High Street, along with a portion of the pocket park, could be converted to bioretention areas that provide PCBMP storage volume.

CBBEL Recommendation: CBBEL recommends that the areas identified in the plan as potential bioretention facilities be implemented as originally contemplated, as the site plan lends itself well to providing this storage in a cost-effective manner. Based on the utility

atlases provided by the City, there are currently no watermain, sanitary, or storm sewers located in the parkways areas of High Street and Center Street, so major utility relocations would not be necessary to accommodate these facilities.

Using the bioretention locations identified in the plan and the existing utility information for this area, approximately 10,000 ft^3 of storage volume can be provided in this manner. Since Block 2 only requires 1,205 ft^3 of PCBMP volume, the excess volume could be credited toward the requirements of the other blocks.

While the pocket park could be easily depressed to provide additional surface storage that can be used for other purposes, there is concern over the usability of this open space area if it used to detain everyday flow.

Block 3

Block 3 consists of the approximately 1.8-acre area located between Main Street and High Street and between Chicago Street and Center Street. According to the Plan, the Block 3 development will consist of apartments, townhomes, and a corner plaza near the intersection of Main Street and Center Street.

As shown in Table 1, approximately 0.14 acre-feet (6,258 ft^3) of PCBMP storage volume would be required for this development. The proposed development is within 600 ft^2 of triggering the stormwater detention requirements, therefore it is recommended that this be revisited if there are changes to the proposed site plan. The conversion of asphalt/concrete areas of the site to permeable pavement would be a mechanism to reduce the amount of net new impervious area and keep the site under the detention threshold.

Plan Recommendation: The Plan identified several landscaped areas that can be used as bioretention facilities to satisfy the required PCBMP volume. These landscaped areas include the parkways along High Street, Center Street, and Chicago Street and also the landscape island in the center courtyard area. The Plan also identified the proposed plaza area (intersection of Main Street and Center Street) as a possible location to provide an underground detention vault.

CBBEL Recommendation: Based on our review of the utility atlases for this area, there are no watermain, sanitary sewer, or storm sewers that would be in conflict of constructing bioretention areas in the parkways in these locations. Therefore, we concur with the Plan and recommend that these facilities be pursued as a cost-effective option. Using the bioretention locations identified in the plan and the existing utility information for this area, approximately 6,300 ft^3 of storage volume can be provided in this manner, which is slightly more than the required PCBMP volume for Block 3.

Since our calculations determined that Block 3 was slightly under the net new impervious rea threshold for detention, no stormwater detention is required for this development. The Plan identified the proposed plaza as a location for potential underground detention, and because

the adjacent Block 4 development does require stormwater detention, this is a logical location for the required stormwater detention.

CBBEL recommends that the areas identified in the plan as potential bioretention facilities be implemented as originally contemplated, as the site plan lends itself well to providing this storage in a cost-effective manner. Based on the utility atlases provided by the City, there are currently no watermain, sanitary, or storm sewers located in the parkways areas of High Street and Center Street, so major utility relocations would not be necessary to accommodate these facilities.

Block 4

Block 4 consists of the approximately 2.5-acre area located at the northeast corner of Main Street and Chicago Street. According to the Plan, the Block 4 development will consist of multi-family apartments/condominiums, townhomes, and associated parking. The existing church parking lot located north of the development will remain in place.

As shown in Table 1, the Block 4 redevelopment would require both PCBMP (0.19 acre-feet) and stormwater detention volume (1.15 acre-feet). Because any provided PCBMP storage volume is credited toward the required detention volume, only an additional 0.96 acre-feet of stormwater detention volume would be necessary in addition to the PCBMP volume.

The Plan identifies the landscapes areas of the parking lot and the parkway as possible stormwater facility locations. These areas can be converted to bioretention facilities to provide the required PCBMP volume. Additionally, an access driveway from Main Street was identified as a possible location for an underground stormwater detention vault.

Plan Recommendation: The Plan identified several landscaped areas that can used as bioretention facilities to satisfy the required PCBMP volume. These landscaped areas include the parkways along Chicago Street and also the landscape island in the center courtyard area. The Plan also identified the proposed plaza area (intersection of Main Street and Center Street) as a possible location to provide an underground detention vault.

CBBEL Recommendation: Based on our review of the utility atlases in this area, there is an existing water main and sanitary sewer located along the northern part of Main Street and the northern parkway area. It is unlikely that infiltration practices can be constructed at the southwest corner of the site while maintaining the recommended offsets from these utilities. The eastern parkway of Chicago Street, as well as the landscaped areas of the courtyard, are good candidates for installing bioretention facilities. Approximately 8,700 ft^3 (0.20 acre-feet) of PCBMP storage volume can be provided in these locations, which would satisfy the PCBMP requirements for the site.

Because the proposed impervious area exceeds the net new impervious area threshold for detention by approximately 18,000 ft^2, converting the parking areas to permeable pavement in itself would not drop the proposed development below the 25,000 ft^2 threshold. But based on site topography and the proposed site plan, the use of permeable pavement can provide

volume that can be credited toward the stormwater detention or can be used as an alternative approach to providing PCBMP volume through bioretention practices.

Since stormwater detention volume is required for Block 4, an underground storage vault can be provided in the parking lot areas of the central courtyard. In addition, it is possible that the underground storage vault can be configured with an open bottom and PCBMP storage volume can be provided in aggregate below the vault. This would eliminate the need for any bioretention/permeable pavement storage volume to satisfy the PCBMP requirements for Block 4. The storage vault/infiltration storage approach is the recommended approach since it would satisfy all stormwater management requirements as a single facility.

Block 5

Block 5 consists of the approximately 2.1-acre parcel located between Main Street and Colford Avenue, located immediately east of Block 4. According to the Plan, the Block 5 development will consist of a terraced apartment/condominium building with frontage along Main Street. The development also includes two multi-level parking garages that contains vegetated roof courtyards. As shown in Table 1, the Block 5 redevelopment would require approximately 0.16 acre-feet (6,873 ft^3) of PCBMP storage volume.

Plan Recommendation: Because the proposed site consists mostly of building/parking garage, there is little open space left for PCBMP purposes. The Plan identified the open space area located along the eastern property boundary as a potential location for providing infiltration volume. Although not visually depicted as part of the Illustrative 3D Scenario, the Plan does acknowledge that site constraints may force the PCBMP storage to be provided offsite.

CBBEL Recommendation: Due to the proximity of the building and underground parking to this area, we do not believe that onsite infiltration practices are feasible for the proposed land plan. We would recommend that the PCBMP requirements for Block 5 be satisfied using excess PCBMP storage from the other blocks or provided offsite by retrofitting the Library or Metra Detention Basins (see below).

Offsite Stormwater Facilities

As described in the Plan and shown on Exhibit 4, there are several potential offsite locations that may be suitable for the creation of PCBMP and/or detention volume. These four sites include: (1) a potential detention facility located adjacent to the future public works facility, (2) the existing detention basin for the library, (3) Turner Court between Washington Street and Center Street, and (4) the existing Metra detention basin. A description of the viability of these sites is presented below.

Public Works Detention Site

The existing grades and location of this site make it a suitable location for detention. As described in the Plan, a connection to the storm sewer along Washington Street can be constructed that would divert flow into the facility. Since the areas of the redevelopment that require detention (Block 4) ultimately drain to this storm sewer, diverting water from the sewer

would be an acceptable alternative to constructing conveyance improvements from Block 4 to the offsite detention facility. A further analysis would need to be completed to determine that any flow diversion would be hydrologically equivalent to a standard onsite detention facility. By planting the detention basin with native wetland vegetation, it could also satisfy the PCBMP requirements for the offsite area.

As shown on the FEMA FIRM (Exhibit 2), this area is shown as Zone A (unstudied) floodplain associated with the Unnamed Tributary to Kress Creek. Although detention in the floodplain is allowed under the Ordinance, a floodplain study would need to be completed to determine the 100-year flood elevation to further evaluate the suitability of this site for regional detention purposes. Additionally, based on a desktop review of this area, it is likely that wetlands exist onsite. A review of historical aerials shows standing water on portions of the site over the years. Due to its proximity to the Unnamed Tributary to Kress Creek, it is likely that any wetlands would be considered jurisdictional wetlands and would fall under the permitting authority of the US Army Corps of Engineers (USACE). A wetland delineation should be performed for this site to assess the limits and quality of any onsite wetlands, which would clarify whether regional detention in this location is permittable. In summary, further evaluation of this site would be required to determine whether it is suitable as a regional detention facility.

The conceptual cost for these basin improvements is estimated at $210,000 and assumes that the detention required for Block 4 will be provided in this area. Because any additional costs that may be required due to floodplain/wetlands are unknown at this time, these costs were not included as part of this study. A detailed breakdown of the costs is included in Appendix 2.

Existing Library Detention Basin

As shown on Exhibit 4, the existing library detention basin is a dry-bottom detention basin with an existing capacity of approximately 0.8 acre-feet. The facility is currently a mowed turf basin with a 2% bottom slope. The conversion of this basin to a flat native vegetated wetland-bottom basin would create an additional 0.2 acre-feet of detention storage and would also provide water quality benefits that are an acceptable measure for meeting the PCBMP requirements.

Based on the plans for the library development, approximately 1.8 acres of impervious area currently drains to this detention facility. This impervious area translates to the equivalent of 8,167 ft^3 of PCBMP storage volume.

The conceptual cost for these basin improvements is estimated at $105,000. A detailed breakdown of the costs is included in Appendix 2.

Turner Court

The Plan Identified Turner Court, between Washington Street and Center Street, as a candidate for conversion to a permeable pavement system. This stretch of Turner Court, which also includes on-street parking, consists of approximately 750 linear feet of roadway.

A review of the utility atlases supports this, as there is no sanitary sewer located in this stretch and there is a limited amount of watermain. Additionally, the existing topography of the roadway also makes this a suitable candidate for this type of conversion.

Based on the existing topography and existing elevations of the storm sewer system, approximately 0.6 acre-feet of potential storage volume can be provided in this manner. This volume consists of the void space of the aggregate layer (6-ft depth) and assumes that this entire stretch of roadway (including on-street parking) would be converted to permeable pavement. The conversion of the existing storm sewer on Turner Court to a perforated pipe would allow this storage to be accessed for upstream drainage areas, and therefore could be traded to meet the PCBMP and stormwater detention requirements of the redevelopment area.

The conceptual cost for these improvements is estimated at $570,000. A detailed breakdown of the costs is included in Appendix 2.

Existing Metra Detention Basin

Similar to the library detention facility, the existing Metra detention basin is a dry-bottom detention basin with mowed turf that can be retrofitted to provide additional storage volume and water quality benefits. Converting the bottom to a flat native vegetated wetland-bottom basin would create an additional 0.16 acre-feet of detention storage and would also provide water quality benefits that are an acceptable measure for meeting the PCBMP requirements.

Based on the tributary area for the basin, approximately 2.5 acres of impervious area currently drains to this detention facility. This impervious area translates to the equivalent of 11,344 ft^3 of PCBMP storage volume, which can be used to trade-off the PCBMP storage requirements for the redevelopment area. Additionally, the 0.16 acre-feet of created detention volume can also be used toward the required detention volume for Block 4.

The conceptual cost for these basin improvements is estimated at $117,000. A detailed breakdown of the costs is included in Appendix 2.

Conclusion

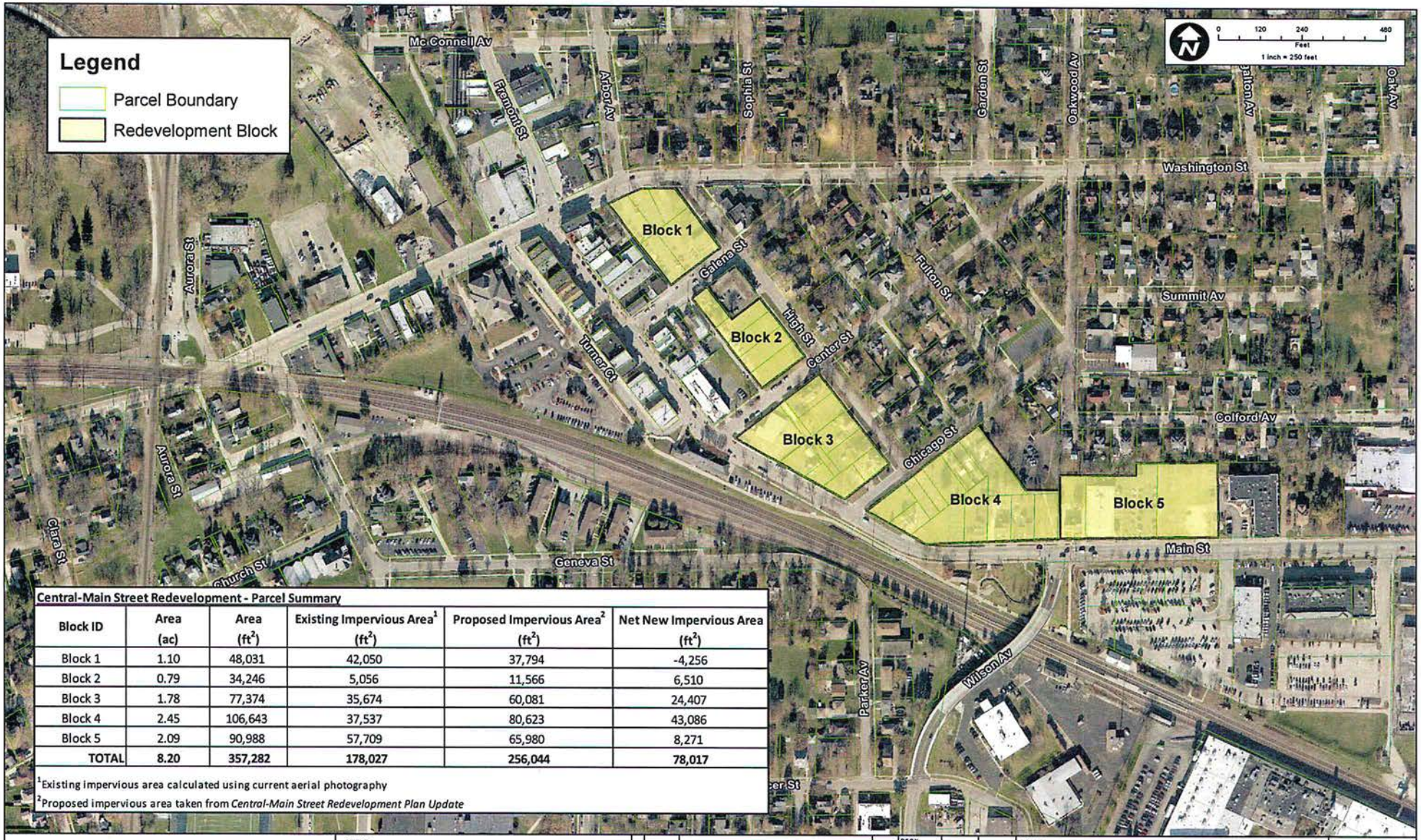
When the Ordinance was updated in 2013, many of the new stormwater management provisions were written with redevelopment projects in mind, and therefore there is some flexibility to meeting the stormwater requirements for downtown redevelopments such as this one.

The order of development is, of course, unknown, so the demands placed on the stormwater system and the solutions required to address them cannot be known. The City should work with the County to develop an acceptable stormwater master plan for the area that assures the necessary elements are in place prior to development occurring on any given block. This may mean having most of the system in place and operational coincident with the first phase of development. Work on that master plan should begin sooner rather than later. Based on

the information reviewed as part of this analysis, there are several options for meeting the stormwater requirements onsite, offsite, or a combination of both.

The conversion of Turner Court to a permeable pavement street does not appear to be a cost-effective approach to meeting the stormwater requirements. It would be more economical to provide stormwater detention in underground storage vaults onsite than it would to provide storage in this manner. The retrofitting of the two existing offsite detention basins (library and Metra sites) provides a cost-effective opportunity to meet a significant portion of the PCBMP and stormwater detention requirements for the redevelopment area. Since these two facilities involve non-City entities, we recommend that coordination with those parties be initiated so that these options may be ruled out if necessary. We also recommend that additional floodplain and wetland studies be conducted for the potential public works detention site, as the results of those analyses may also rule out that site as a viable regional stormwater solution. Performing the due diligence outlined above may narrow down the list of options for meeting the stormwater management requirements.

LJS
N:\WESTCHICAGO\180376\Water\Docs\M1.Central-Main Redevelopment_091418.docx



Central-Main Street Redevelopment - Parcel Summary

Block ID	Area (ac)	Area (ft^2)	Existing Impervious Area[1] (ft^2)	Proposed Impervious Area[2] (ft^2)	Net New Impervious Area (ft^2)
Block 1	1.10	48,031	42,050	37,794	-4,256
Block 2	0.79	34,246	5,056	11,566	6,510
Block 3	1.78	77,374	35,674	60,081	24,407
Block 4	2.45	106,643	37,537	80,623	43,086
Block 5	2.09	90,988	57,709	65,980	8,271
TOTAL	**8.20**	**357,282**	**178,027**	**256,044**	**78,017**

[1] Existing impervious area calculated using current aerial photography

[2] Proposed impervious area taken from *Central-Main Street Redevelopment Plan Update*

CHRISTOPHER B. BURKE ENGINEERING LTD
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

CLIENT: **CITY OF WEST CHICAGO**

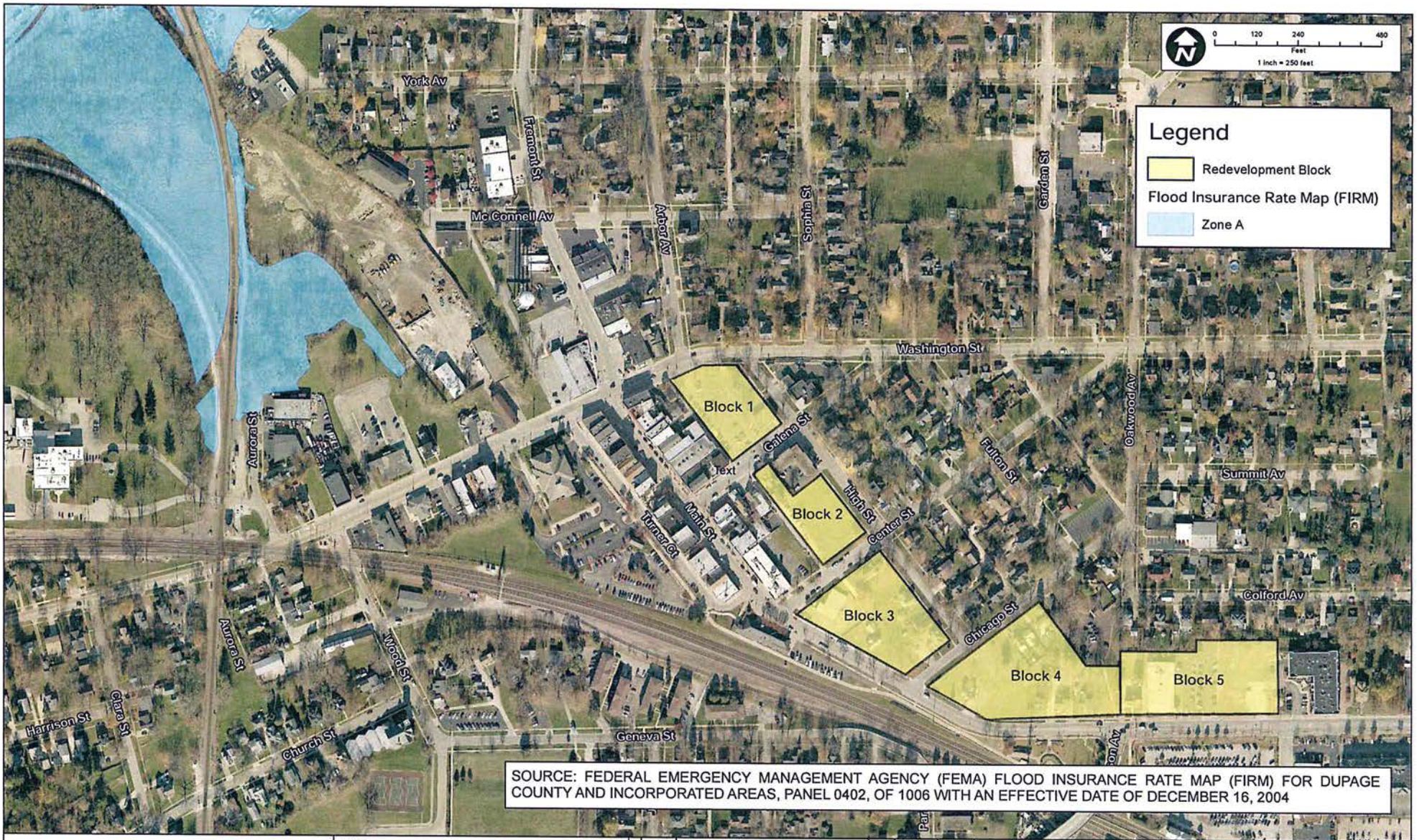
NO	DATE	NATURE OF REVISION	CHKD.

FILE NAME

DSGN.
DWN.
CHKD.
SCALE: 1"=
PLOT DATE:
CAD USER:
MODEL:

TITLE: **CENTRAL-MAIN STREET REDEVELOPMENT PLAN PROJECT LOCATION MAP**

PROJ. NO. 18-0376
DATE:
SHEET 1 OF 1
DRAWING NO. **EXH 1**



SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR DUPAGE COUNTY AND INCORPORATED AREAS, PANEL 0402, OF 1006 WITH AN EFFECTIVE DATE OF DECEMBER 16, 2004

CHRISTOPHER B. BURKE ENGINEERING LTD
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CLIENT: CITY OF WEST CHICAGO

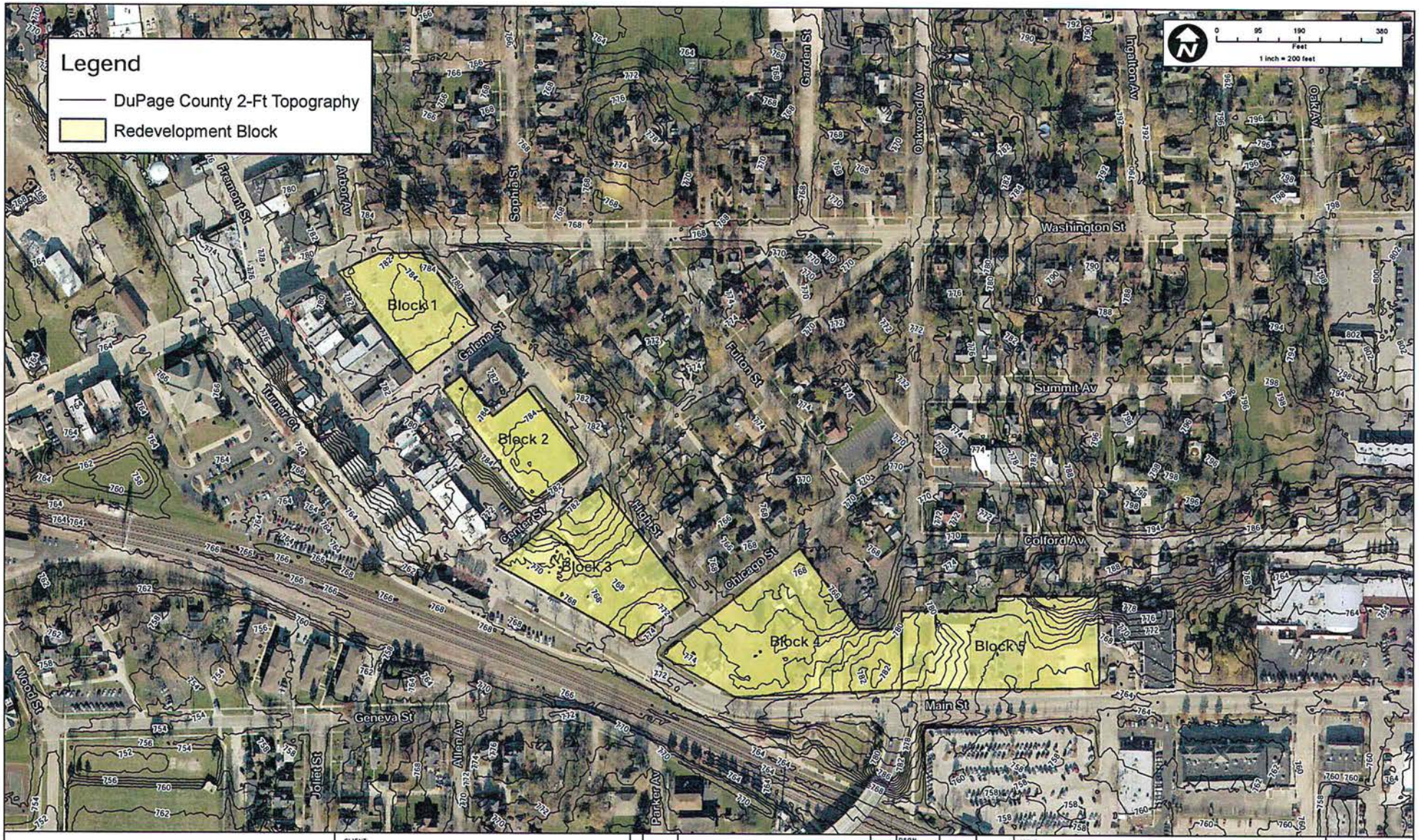
NO	DATE	NATURE OF REVISION

FILE NAME

DSGN.
DWN.
CHKD.
SCALE: 1"=
PLOT DATE:
CAD USER:
CHKD. MODEL:

TITLE: CENTRAL-MAIN STREET REDEVELOPMENT PLAN FLOOD INSURANCE RATE MAP (FIRM)

PROJ. NO. 18-0376
DATE:
SHEET 1 OF 1
DRAWING NO. EXH 2



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Rosemont, Illinois 60018
(847) 823-0500

CLIENT
CITY OF WEST CHICAGO

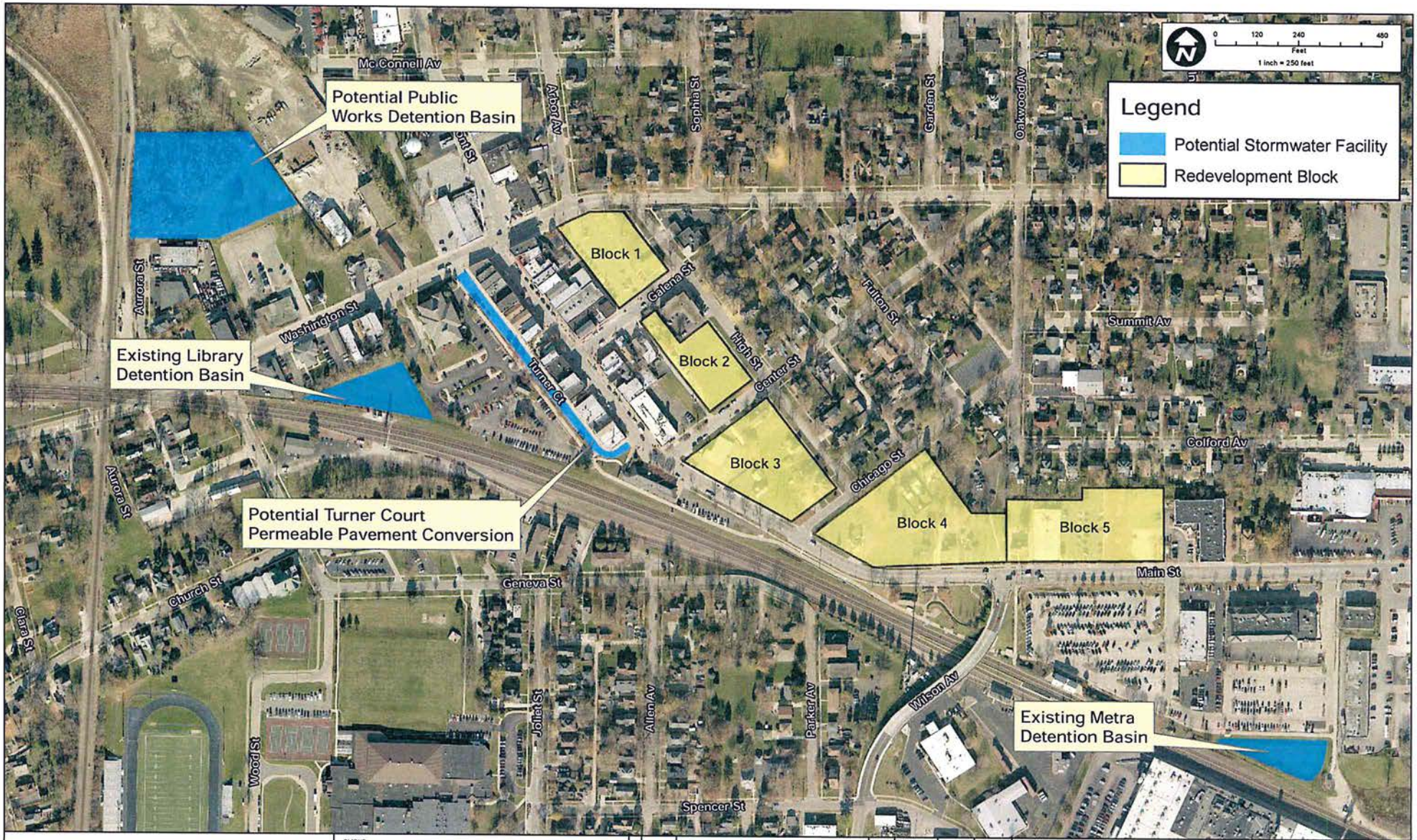
NO	DATE	NATURE OF REVISION	CHKD.

FILE NAME

DSGN.	
DWN.	
CHKD.	
SCALE:	1"=
PLOT DATE:	
CAD USER:	
MODEL:	

TITLE
CENTRAL-MAIN STREET
REDEVELOPMENT PLAN
TOPOGRAPHIC EXHIBIT

PROJ. NO.	16-0376
DATE:	
SHEET	1 OF 1
DRAWING NO.	EXH 3



CHRISTOPHER B. BURKE ENGINEERING LTD
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

CLIENT: CITY OF WEST CHICAGO

NO	DATE	NATURE OF REVISION	CHKD.

FILE NAME

DSGN.
DWN.
CHKD.
SCALE: 1"=
PLOT DATE
CAD USER:
MODEL

TITLE: CENTRAL-MAIN STREET REDEVELOPMENT PLAN
POTENTIAL STORMWATER FACILITY LOCATION MAP

PROJ. NO. 18-0376
DATE:
SHEET 1 OF 1
DRAWING NO. EXH 4

APPENDIX 1

PROPOSED ILLUSTRATIONS FOR BLOCKS 1-5

Block 1

Illustrative 3D Scenario

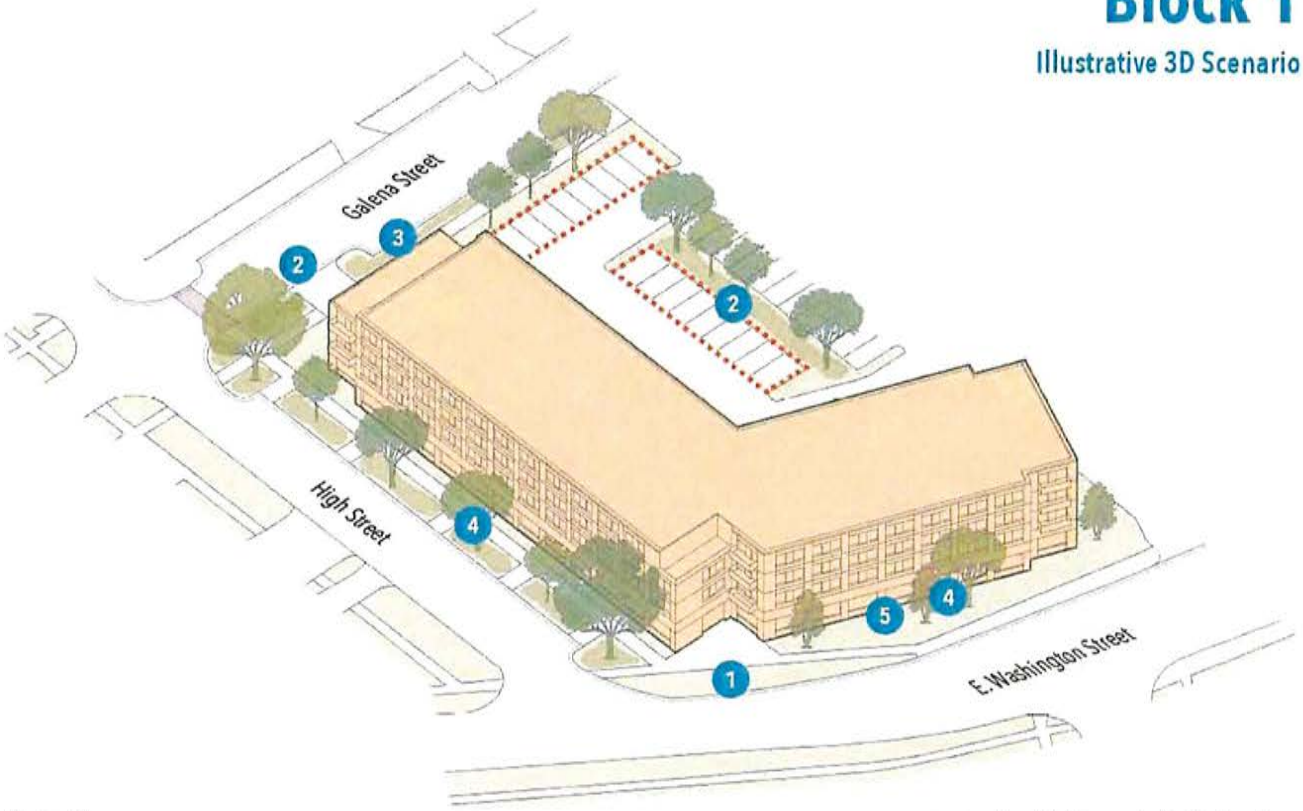


Figure 61

Possible Stormwater Facility Locations

Possible Stormwater Storage Vaults

Block 1: Multi-Family Apartments	
Zoning District	B-1: Central Business District
Block Area	1.10 acres (48,030 square feet)
Unit Count	70 Apartments
Density	63 units / acre
Height	Four-Story max.; Two-Story min.
Stormwater Req.	0 cubic feet

1. Locate entrance at corner of High Street / East Washington Street
2. Locate parking underground and at rear of building off alley
3. Building steps down at Gelena Street to complement scale
4. Maximize frontage on High Street / East Washington Street
5. Incorporate landscape along East Washington Street frontage

Block 1 faces both E. Washington Street and High Street. The primary building facades should address both streets, while Galena Street remains secondary. The alley should be used for parking access to surface or garage parking to avoid additional curb cuts into the block. This redevelopment can become a gateway feature from E. Washington Street turning onto High Street and has significant visibility as the terminus of Arbor Avenue.

Currently, Block 1 is occupied by the Republic Bank of Chicago's drive-thru and surface parking lot. Redevelopment of this site would rely on a relocation of the drive-thru facility and replacement of surface parking to a location out of the Study Area. Drive-thru facilities are rarely appropriate downtown uses.

(see page 55 for block specific stormwater recommendations)

Block 2

Illustrative 3D Scenario

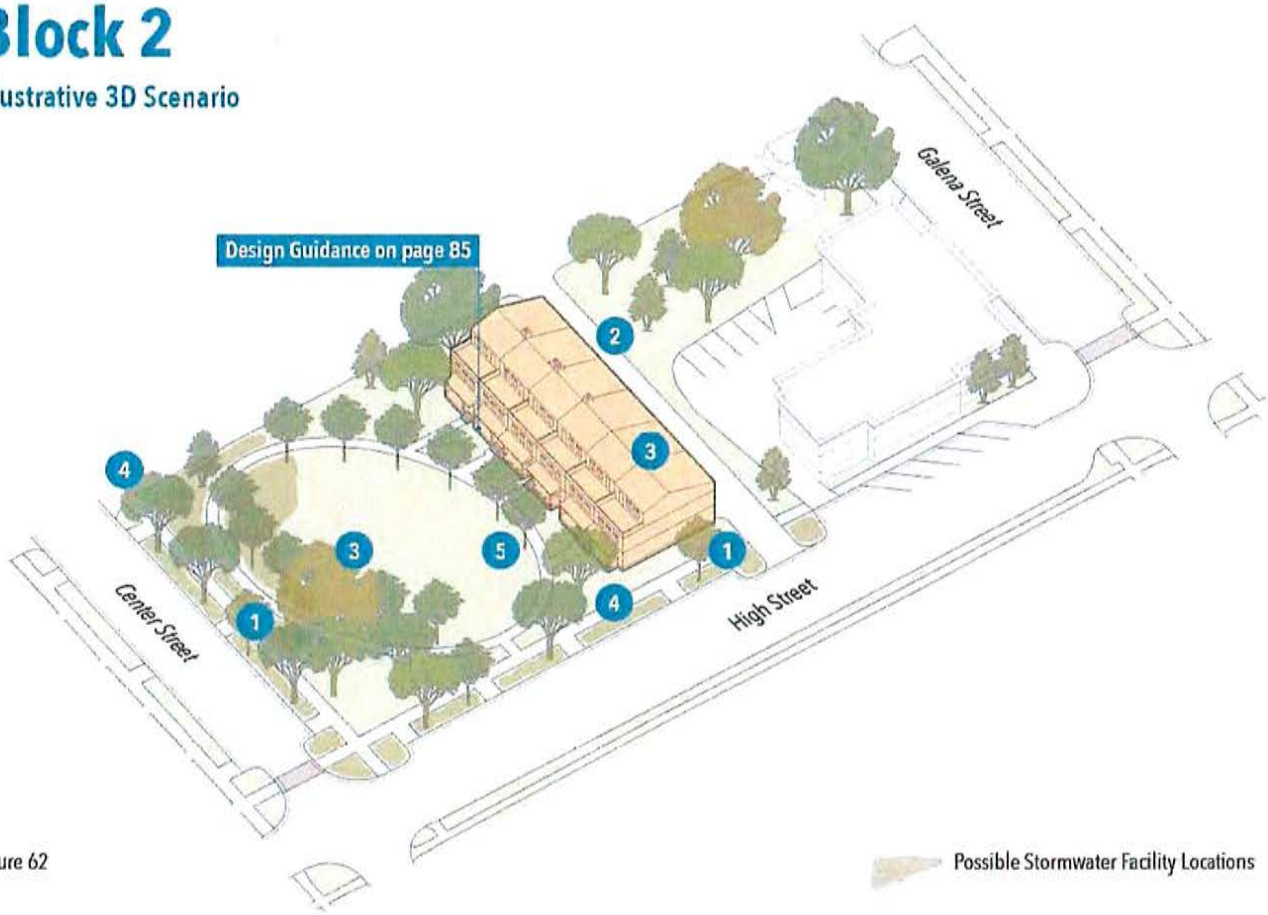


Figure 62

Possible Stormwater Facility Locations

Block 2: Townhomes	
Zoning District	B-1: Central Business District
Block Area	0.79 acres (34,246 square feet)
Unit Count	6 Townhomes
Density	8 units / acre
Height	Three-Story max.; Two-Story min.
Stormwater Req.	1,205 cubic feet

1. Orient frontages towards High Street / Center Street
2. Locate parking at rear of building off alley
3. Buildings should respect scale of historic homes on High Street
4. Utilize existing alley; build additional driveway if necessary
5. Potential for carriage house unit above garage

Block 2 includes the vacant parcels at the corner of Center Street and High Street. This site is central to Downtown and is an excellent location for a small 0.25-0.40 acre pocket park with a tot lot playground. The park should address both Center Street and High Street while maintaining enough room for development parcels on the park's edge. This example shows townhomes fronting the pocket park to put more eyes on the park for a greater perception of safety. An alley off High Street intersects the existing alley perpendicularly, providing access these townhomes.

Currently, Block 2 has no built structures on the City-owned parcels; however, there is a historic coach house along the alley that should be considered for preservation.

(see page 55 for block specific stormwater recommendations; see page 85 for further block specific design guidance)

Block 3

Illustrative 3D Scenario

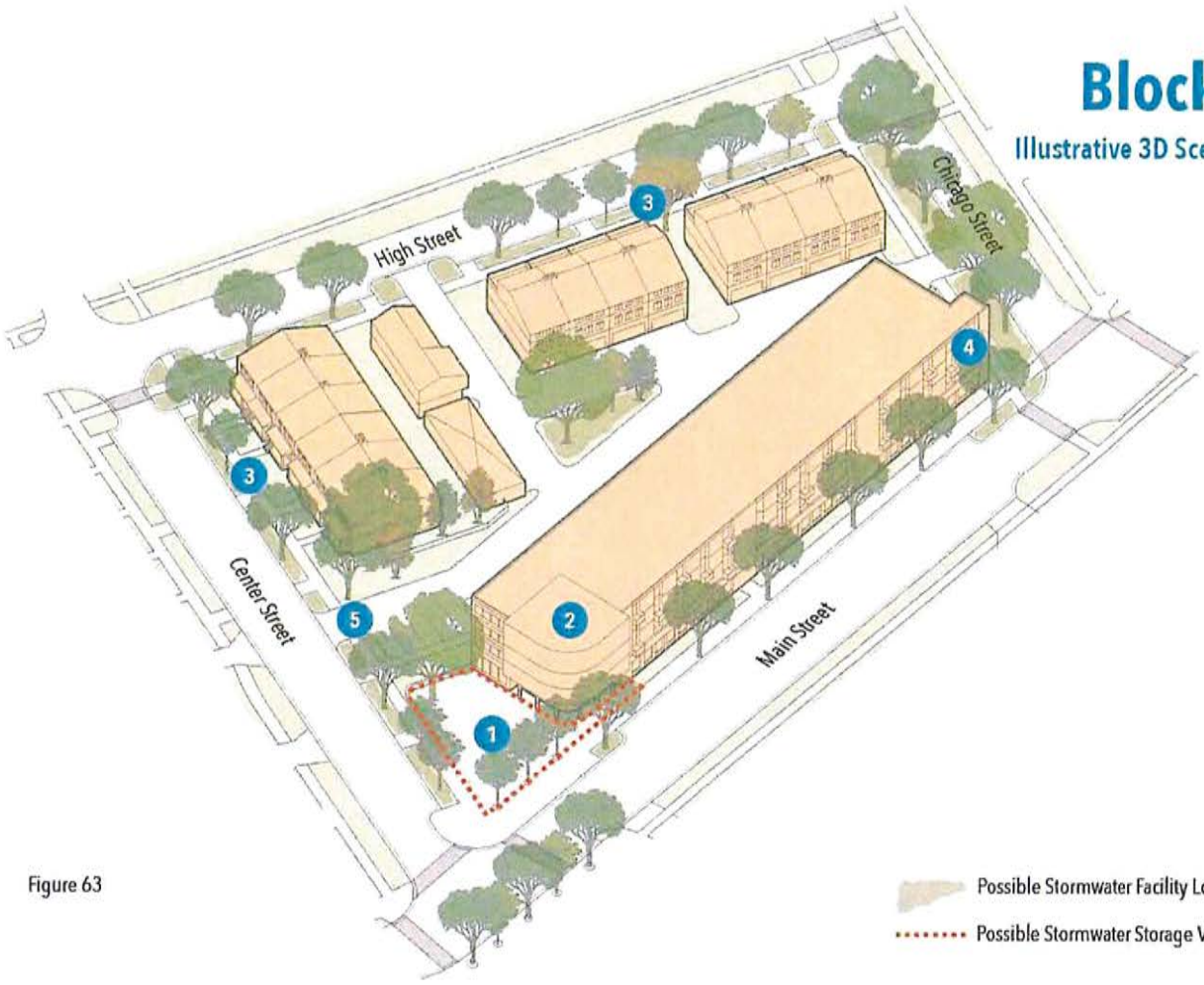


Figure 63

Block 3: Multi-Family Apartments and Townhomes	
Zoning District	B-1: Central Business District
Block Area	1.78 acres (77,374 square feet)
Unit Count	60 Apartments; 14 Townhomes
Density	41 units / acre
Height	Five-Story max.; Two-Story min.
Stormwater Req.	34,354 cubic feet

1. Corner plaza at the intersection of Center Street / Main Street
2. Architectural emphasis at corner plaza
3. Townhomes along Center Street / High Street
4. Emphasize corner at Chicago Street / Main Street
5. Align driveway with alley across Center Street

Block 3 is surrounded by Main Street, Center Street, Chicago Street, and High Street. It is the only full block development site owned by the City. Along Main Street, midrise apartments that front onto the plaza at the corner of Main Street and Center Street establish an anchor at the south end of the two-block Downtown core. The corner of these apartments should also include a visual landmark on the plaza that aids in the procession from Metra station to Downtown core. Townhomes along High Street respect the scale and character of the historic neighborhood.

Currently, Block 3 includes multiple single-family homes and Frank's Automotive Repair, which adds a layer of complexity to the block's redevelopment. The timing of lease expirations must align with developer schedules, so demolition and site clearing can occur prior to redevelopment.

(see page 55 for block specific stormwater recommendations)

Block 4

Illustrative 3D Scenario

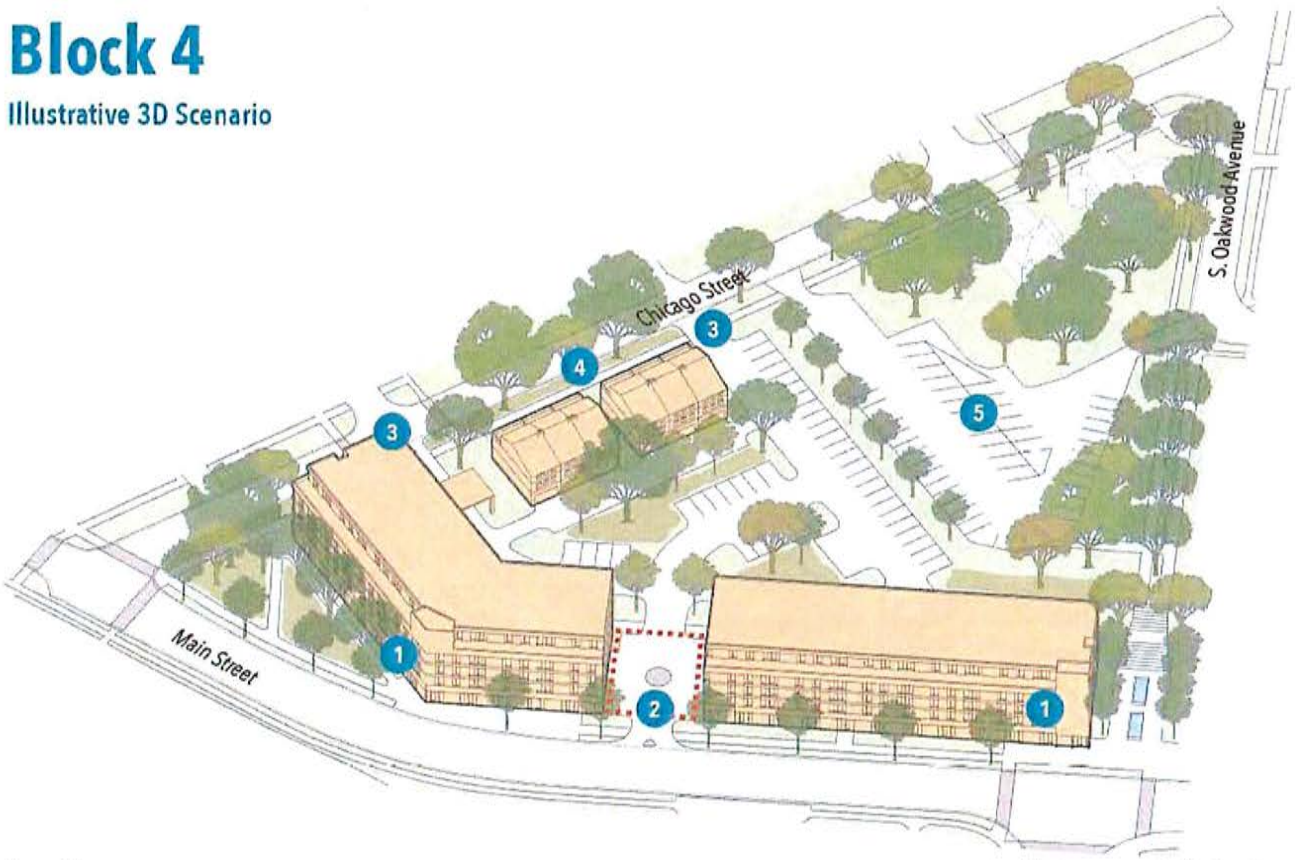


Figure 64

Possible Stormwater Facility Locations

Possible Stormwater Storage Vaults

Block 4: Multi-Family Apartments and Townhomes	
Zoning District	B-1: Central Business District
Block Area	2.45 acres (106,640 square feet)
Unit Count	120 Apartments; 6 Townhomes
Density	51 units / acre
Height	Five-Story max.; Two-Story min.
Stormwater Req.	46,923 cubic feet

1. Architectural emphasis at Wilson Avenue terminus
2. One driveway for parking access allowed along Main Street
3. Align street and alley with driveways
4. Respect historic scale with townhomes along Chicago Street
5. Retain church parking lot

Block 4 faces both Main Street and Chicago Street, as well as S. Oakwood Avenue on the north end of the block. Water's Edge Bible Church owns the irregular shaped parking lot at the center of the block, so the illustrated redevelopment excludes their parcel. Midrise multi-family apartment/condominium buildings along Main Street and townhomes along Chicago Street would complement the scale and character of both edges of the block. The terminus of High Street is aligned with the primary access drive and drop-off for the apartments. One right-in/right-out access point off Main Street may be necessary to access parking.

Currently, Block 4 includes multiple single-family homes. The block is mostly city-owned, but redevelopment may require the acquistion of one more parcel. If the remainder of the block becomes available on the market, it should be purchased for additional redevelopment opportunities.

(see page 55 for block specific stormwater recommendations)

Block 5

Illustrative 3D Scenario

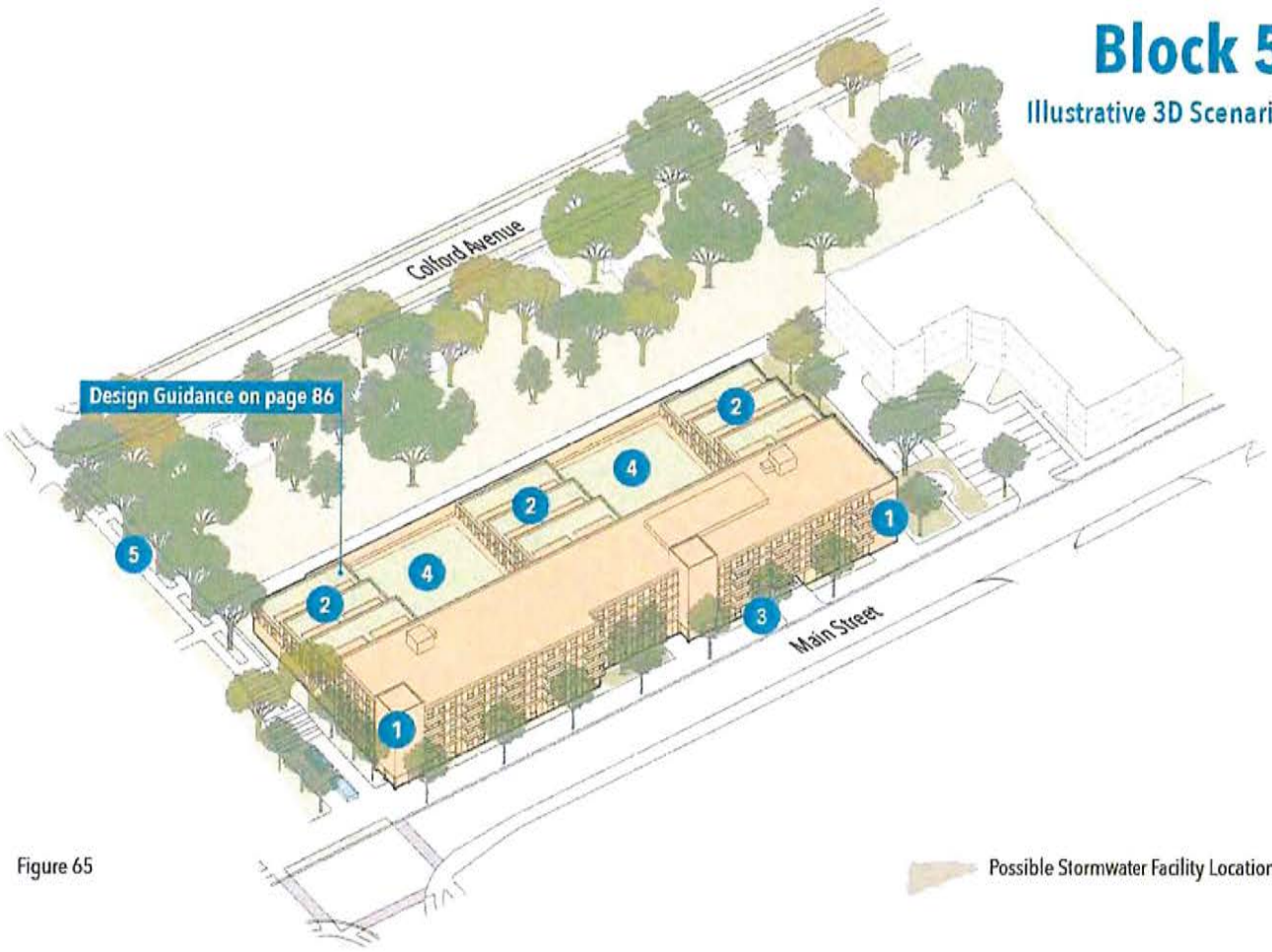


Figure 65

Possible Stormwater Facility Locations

Block 5: Multi-Family Apartments	
Zoning District	B-1: Central Business District
Block Area	2.09 acres (91,033 square feet)
Unit Count	150 Apartments
Density	72 units / acre
Height	Five-Story max. fronting Main Street; height should step down to accommodate winter sunlight into rear yards of adjacent homes
Stormwater Req.	6,873 cubic feet

1. Architectural emphasis at building corners
2. Reduce height adjacent to single-family homes
3. One driveway for parking access allowed along Main Street
4. Garage with vegetated roof courtyard wrapped with building
5. Path connection to Main Street from S. Oakwood Avenue

Block 5 is across from the Metra station along Main Street. This site offers the opportunity to build a truly transit-supporting development with a high unit count. The building should be a maximum of five-stories along Main Street and should step down 80 feet from the Main Street front property line to respect the lower scale of the single-family homes. The illustration shows a two-level parking garage that requires minimal excavation. The building would wrap the parking garage, so the garage does not front Main Street.

Currently, Block 5 includes not only the City Hall building and parking lot, but the neighboring for-sale parcel to the east. Though relocation plans for City Hall are under consideration, no permanent location has been identified to date. One possibility is relocating City Hall to the West Washington Street Plan study area; however, if timely redevelopment is desired, it may be necessary to temporarily relocate City Hall until a permanent home can be identified.

(see page 55 for block specific stormwater recommendations; see page 86 for further block specific design guidance)

APPENDIX 2

ENGINEER'S ESTIMATE OF PROBABLE COST

Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018

City of West Chicago
Library Detention Basin - Conversion to Wet-Bottom Pond
(CBBEL Project No. 180367)

CONCEPTUAL ENGINEER'S OPINION OF PROBABLE COST
DATE: AUGUST 31, 2018

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
STORM SEWER	ALLOWANCE	1	$ 10,000.00	$ 10,000.00
TEMPORARY CONSTRUCTION FENCE	FOOT	1000	$ 4.00	$ 4,000.00
DETENTION EXCAVATION	CU YD	420	$ 35.00	$ 14,700.00
TOPSOIL, FURNISH AND PLACE, 4"	SQ YD	1700	$ 6.00	$ 10,200.00
SEEDING	ACRE	0.35	$ 4,000.00	$ 1,400.00
EROSION CONTROL BLANKET	SQ YD	1700	$ 4.00	$ 6,800.00
SOIL EROSION & SEDIMENT CONTROL	LSUM	1	$ 7,500.00	$ 7,500.00
TRAFFIC CONTROL AND PROTECTION	LSUM	1	$ 5,000.00	$ 5,000.00
MOBILIZATION	LSUM	1	$ 5,000.00	$ 5,000.00
CONSTRUCTION LAYOUT	LSUM	1	$ 5,000.00	$ 5,000.00

CONSTRUCTION SUBTOTAL =	$	69,600.00
CONTINGENCY (20%) =	$	13,920.00
CONSTRUCTION TOTAL =	**$**	**83,520.00**
PERMITTING AND DESIGN ENGINEERING (15%) =	$	12,528.00
CONSTRUCTION OBSERVATION (10%) =	$	8,352.00
TOTAL PROJECT COST =	**$**	**104,400.00**

NOTES AND ASSUMPTIONS:

1. ESTIMATE IS BASED ON A CONCEPT LEVEL PLANNING EXHIBIT FOR A WETLAND-BOTTOM DETENTION BASIN. DETAILED ENGINEERING DRAWINGS ARE NOT AVAILABLE AT THIS TIME.
2. PUBLIC AND PRIVATE UTILITIES LOCATED WITHIN THE PROPOSED BASIN ARE UNKNOWN. COSTS ARE NOT INCLUDED TO ABANDON OR RELOCATE THESE FACILITIES. ADDITIONAL EASEMENTS MAY NEED TO BE SECURED TO RELOCATE THESE UTILITIES.
3. HYDRAULIC ANALYSIS HAS NOT BEEN PERFORMED TO DETERMINE PIPE SIZES, LOCATIONS, DEPTHS AND HOW MUCH STORM SEWER IS REQUIRED TO CONVEY THE NECESSARY STORMWATER TO THE DETENTION AREA.
4. WASTE DISPOSAL CHARACTERIZATION AND SOIL TESTING HAS NOT BEEN PERFORMED. IT IS ASSUMED THAT ALL MATERIAL TO BE DISPOSED OF WILL BE ACCEPTED AT A CLEAN CONSTRUCTION AND DEMOLITION DEBRIS
5. IF EXCAVATED MATERIAL NEEDS TO BE DISPOSED OF AT A LANDFILL, THE APPROXIMATE UNIT PRICE FOR WASTE DISPOSAL INCREASES SIGNIFICANTLY TO ROUGHLY $90 PER CUBIC YARD.
6. ESTIMATE DOES NOT INCLUDE COSTS FOR ANY PROPERTY ACQUISITION OR TEMPORARY OR PERMANENT EASEMENTS.
7. ALL COSTS ARE IN 2018 DOLLARS.

Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018

City of West Chicago
Metra Detention Basin - Conversion to Wet-Bottom Pond
(CBBEL Project No. 180367)

CONCEPTUAL ENGINEER'S OPINION OF PROBABLE COST
DATE: AUGUST 31, 2018

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
STORM SEWER	ALLOWANCE	1	$ 10,000.00	$ 10,000.00
TEMPORARY CONSTRUCTION FENCE	FOOT	900	$ 4.00	$ 3,600.00
DETENTION EXCAVATION	CU YD	330	$ 35.00	$ 11,550.00
TOPSOIL, FURNISH AND PLACE, 4"	SQ YD	2800	$ 6.00	$ 16,800.00
SEEDING	ACRE	0.6	$ 4,000.00	$ 2,400.00
EROSION CONTROL BLANKET	SQ YD	2800	$ 4.00	$ 11,200.00
SOIL EROSION & SEDIMENT CONTROL	LSUM	1	$ 7,500.00	$ 7,500.00
TRAFFIC CONTROL AND PROTECTION	LSUM	1	$ 5,000.00	$ 5,000.00
MOBILIZATION	LSUM	1	$ 5,000.00	$ 5,000.00
CONSTRUCTION LAYOUT	LSUM	1	$ 5,000.00	$ 5,000.00

CONSTRUCTION SUBTOTAL =	$	78,050.00
CONTINGENCY (20%) =	$	15,610.00
CONSTRUCTION TOTAL =	**$**	**93,660.00**
PERMITTING AND DESIGN ENGINEERING (15%) =	$	14,049.00
CONSTRUCTION OBSERVATION (10%) =	$	9,366.00
TOTAL PROJECT COST =	**$**	**117,075.00**

NOTES AND ASSUMPTIONS:

1. ESTIMATE IS BASED ON A CONCEPT LEVEL PLANNING EXHIBIT FOR A WETLAND-BOTTOM DETENTION BASIN. DETAILED ENGINEERING DRAWINGS ARE NOT AVAILABLE AT THIS TIME.
2. PUBLIC AND PRIVATE UTILITIES LOCATED WITHIN THE PROPOSED BASIN ARE UNKNOWN. COSTS ARE NOT INCLUDED TO ABANDON OR RELOCATE THESE FACILITIES. ADDITIONAL EASEMENTS MAY NEED TO BE SECURED TO RELOCATE THESE UTILITIES.
3. HYDRAULIC ANALYSIS HAS NOT BEEN PERFORMED TO DETERMINE PIPE SIZES, LOCATIONS, DEPTHS AND HOW MUCH STORM SEWER IS REQUIRED TO CONVEY THE NECESSARY STORMWATER TO THE DETENTION AREA.
4. WASTE DISPOSAL CHARACTERIZATION AND SOIL TESTING HAS NOT BEEN PERFORMED. IT IS ASSUMED THAT
5. IF EXCAVATED MATERIAL NEEDS TO BE DISPOSED OF AT A LANDFILL, THE APPROXIMATE UNIT PRICE FOR
6. ESTIMATE DOES NOT INCLUDE COSTS FOR ANY PROPERTY ACQUISITION OR TEMPORARY OR PERMANENT
7. ALL COSTS ARE IN 2018 DOLLARS.

Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018

City of West Chicago
Public Works Detention Basin
(CBBEL Project No. 180367)

CONCEPTUAL ENGINEER'S OPINION OF PROBABLE COST
DATE: AUGUST 31, 2018

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
STORM SEWER	ALLOWANCE	1	$ 10,000.00	$ 10,000.00
TEMPORARY CONSTRUCTION FENCE	FOOT	900	$ 4.00	$ 3,600.00
DETENTION EXCAVATION	CU YD	2000	$ 35.00	$ 70,000.00
TOPSOIL, FURNISH AND PLACE, 4"	SQ YD	2800	$ 6.00	$ 16,800.00
SEEDING	ACRE	0.6	$ 4,000.00	$ 2,400.00
EROSION CONTROL BLANKET	SQ YD	2800	$ 4.00	$ 11,200.00
SOIL EROSION & SEDIMENT CONTROL	LSUM	1	$ 5,000.00	$ 5,000.00
TEMPORARY CONSTRUCTION ENTRANCE	SQ YD	140	$ 35.00	$ 4,900.00
TRAFFIC CONTROL AND PROTECTION	LSUM	1	$ 5,000.00	$ 5,000.00
MOBILIZATION	LSUM	1	$ 5,000.00	$ 5,000.00
CONSTRUCTION LAYOUT	LSUM	1	$ 5,000.00	$ 5,000.00

CONSTRUCTION SUBTOTAL =	$ 138,900.00
CONTINGENCY (20%) =	$ 27,780.00
CONSTRUCTION TOTAL =	**$ 166,680.00**
PERMITTING AND DESIGN ENGINEERING (15%) =	$ 25,002.00
CONSTRUCTION OBSERVATION (10%) =	$ 16,668.00
TOTAL PROJECT COST =	**$ 208,350.00**

NOTES AND ASSUMPTIONS:

1. ESTIMATE IS BASED ON A CONCEPT LEVEL PLANNING EXHIBIT FOR A WETLAND-BOTTOM DETENTION BASIN. DETAILED ENGINEERING DRAWINGS ARE NOT AVAILABLE AT THIS TIME.
2. PUBLIC AND PRIVATE UTILITIES LOCATED WITHIN THE PROPOSED BASIN ARE UNKNOWN. COSTS ARE NOT INCLUDED TO ABANDON OR RELOCATE THESE FACILITIES. ADDITIONAL EASEMENTS MAY NEED TO BE SECURED TO RELOCATE THESE UTILITIES.
3. HYDRAULIC ANALYSIS HAS NOT BEEN PERFORMED TO DETERMINE PIPE SIZES, LOCATIONS, DEPTHS AND HOW MUCH STORM SEWER IS REQUIRED TO CONVEY THE NECESSARY STORMWATER TO THE DETENTION AREA.
4. WASTE DISPOSAL CHARACTERIZATION AND SOIL TESTING HAS NOT BEEN PERFORMED. IT IS ASSUMED THAT ALL MATERIAL TO BE DISPOSED OF WILL BE ACCEPTED AT A CLEAN CONSTRUCTION AND DEMOLITION DEBRIS (CCDD) SITE.
5. IF EXCAVATED MATERIAL NEEDS TO BE DISPOSED OF AT A LANDFILL, THE APPROXIMATE UNIT PRICE FOR WASTE DISPOSAL INCREASES SIGNIFICANTLY TO ROUGHLY $90 PER CUBIC YARD.
6. ESTIMATE DOES NOT INCLUDE COSTS FOR ANY PROPERTY ACQUISITION OR TEMPORARY OR PERMANENT EASEMENTS.
7. ADDITIONAL COSTS DUE TO FLOODPLAIN/WETLAND IMPACTS HAVE YET TO BE DETERMINED AND ARE NOT INCLUDED IN THIS ESTIMATE.
8. ALL COSTS ARE IN 2018 DOLLARS.

Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018

City of West Chicago
Turner Court Permeable Pavement
(CBBEL Project No. 180367)

CONCEPTUAL ENGINEER'S OPINION OF PROBABLE COST
DATE: AUGUST 31, 2018

ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	1500	$ 28.00	$ 42,000.00
PAVEMENT REMOVAL	SQ YD	1500	$ 10.00	$ 15,000.00
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	3000	$ 35.00	$ 105,000.00
STORM SEWER ADJUSTMENTS	LSUM	1	$ 5,000.00	$ 5,000.00
PERMEABLE PAVERS	SQ FT	1500	$ 15.00	$ 22,500.00
NON-WOVEN GEOTEXTILE FABRIC	SQ YD	1500	$ 5.00	$ 7,500.00
CA-7 TRENCH BACKFILL	CU YD	3000	$ 40.00	$ 120,000.00
PIPE UNDERDRAINS 4", FABRIC LINED TRENCH	FOOT	750	$ 20.00	$ 15,000.00
PAINT PAVEMENT MARKING - LINE 4"	FOOT	200	$ 4.00	$ 800.00
SOIL EROSION & SEDIMENT CONTROL	LSUM	1	$ 7,500.00	$ 7,500.00
LANDSCAPE RESTORATION	LSUM	1	$ 10,000.00	$ 10,000.00
TRAFFIC CONTROL AND PROTECTION	LSUM	1	$ 10,000.00	$ 10,000.00
MOBILIZATION	LSUM	1	$ 10,000.00	$ 10,000.00
CONSTRUCTION LAYOUT	LSUM	1	$ 10,000.00	$ 10,000.00

CONSTRUCTION SUBTOTAL =	$	380,300.00
CONTINGENCY (20%) =	$	76,060.00
CONSTRUCTION TOTAL =	**$**	**456,360.00**
PERMITTING AND DESIGN ENGINEERING (15%) =	$	68,454.00
CONSTRUCTION OBSERVATION (10%) =	$	45,636.00
TOTAL PROJECT COST =	**$**	**570,450.00**

NOTES AND ASSUMPTIONS:

1. ESTIMATE IS BASED ON A CONCEPT LEVEL PLANNING EXHIBIT FOR A PERMEABLE PAVEMENT STREET. DETAILED ENGINEERING DRAWINGS ARE NOT AVAILABLE AT THIS TIME.
2. PUBLIC AND PRIVATE UTILITIES LOCATED WITHIN THE PROJECT AREA ARE UNKNOWN. COSTS ARE NOT INCLUDED TO ABANDON OR RELOCATE THESE FACILITIES. ADDITIONAL EASEMENTS MAY NEED TO BE SECURED TO RELOCATE THESE UTILITIES.
3. WASTE DISPOSAL CHARACTERIZATION AND SOIL TESTING HAS NOT BEEN PERFORMED. IT IS ASSUMED THAT ALL MATERIAL TO BE DISPOSED OF WILL BE ACCEPTED AT A CLEAN CONSTRUCTION AND DEMOLITION DEBRIS (CCDD) SITE.
4. IF EXCAVATED MATERIAL NEEDS TO BE DISPOSED OF AT A LANDFILL, THE APPROXIMATE UNIT PRICE FOR WASTE DISPOSAL INCREASES SIGNIFICANTLY TO ROUGHLY $90 PER CUBIC YARD.
5. ESTIMATE DOES NOT INCLUDE COSTS FOR ANY PROPERTY ACQUISITION OR TEMPORARY OR PERMANENT EASEMENTS.
6. ALL COSTS ARE IN 2018 DOLLARS.

CITY OF WEST CHICAGO

DEVELOPMENT COMMITTEE
AGENDA ITEM SUMMARY

ITEM TITLE:

Site Improvement Progress Report
1200 N. Prince Crossing Road
Forming America

AGENDA ITEM NUMBER: 5.B.

FILE NUMBER:

COMMITTEE AGENDA DATE: Oct. 8, 2018

COUNCIL AGENDA DATE:

STAFF REVIEW: Tom Dabareiner AICP **SIGNATURE**

APPROVED BY CITY ADMINISTRATOR: Michael Guttman **SIGNATURE**

ITEM SUMMARY:

The owner of Forming America, LTD., James Langkamp, received approval of his original special use permit for an outside storage yard in August of 2007. That special use permit approval entailed several site improvements to be completed by specific dates. Mr. Langkamp did not meet many of those original completion deadlines, mostly relating to paving the existing gravel storage yard, which necessitated a first amendment to the special use permit to adopt new completion deadlines. The first amendment was approved in December of 2011. Mr. Langkamp failed to meet the revised site improvement completion deadlines established in the first amendment to his special use permit, and a second amendment was approved in July of 2014 establishing a revised set of compliance deadlines. Mr. Langkamp failed to meet the revised site improvement completion deadlines established in the second amendment to his special use permit, and a third amendment was approved in August of 2016 establishing another revised set of compliance deadlines. The third amendment ordinance with the revised completion deadlines is attached for your review (Ordinance 16-O-0019). All of the special use ordinances require the owner to provide bi-annual progress reports to the Development Committee. The last progress report was presented to the Development Committee in January.

Mr. Langkamp is currently non-compliant with the most recently approved site improvement completion deadlines. Specifically, paving Zones 7 and 8 are not complete (please refer to the attached color coded Paving & Layout Plan). Zone 7 was required to be completed by October 31, 2017 and Zone 8 was required to be completed by September 30, 2018. Of the 153,824 square feet (3.5 acres) of pavement in Zones 7 and 8, approximately 39,000 square feet (less than 1 acre) was recently modified. This work was completed at the end of September and was inspected by City staff on October 3rd. City staff is of the opinion that the recent work, using a dust control binding agent rather than asphalt or concrete, does not conform to the City's minimum pavement standards and is working with Mr. Langkamp to address the situation.

Mr. Langkamp also owns the 3.5 acre undeveloped parcel immediately to the north of his facility. His intentions are to use this land to spread out the clay stockpile currently situated on the western portion of Zone 8 that was created from the construction of his stormwater detention basin in 2009, so that all of Zone 8 can eventually be paved as required. On September 19, 2018 Mr. Langkamp submitted the permit application for this proposed grading work.

Mr. Langkamp has also expressed a desire to City staff to apply for a fourth amendment to his special use permit to establish new pavement completion deadlines for the remaining non-compliant unpaved portions of Zones 7 and 8 and to request an expansion of his storage yard onto the 3.5 acre parcel.

ACTIONS PROPOSED:

Review of Forming America's current site improvement completion status.

COMMITTEE RECOMMENDATION:

ORDINANCE NO. 16-O-0019

AN ORDINANCE APPROVING A THIRD AMENDMENT TO THE OUTSIDE STORAGE SPECIAL USE FOR 1200 N. PRINCE CROSSING ROAD - FORMING AMERICA, LTD.

WHEREAS, on or about March 16, 2016, James Langkamp of Forming America, LTD. (the "APPLICANT"), filed an application for a third amendment to the previously approved special use permit for an outside storage yard, with respect to the property legally described on Exhibit "A" attached hereto and incorporated herein (the "SUBJECT REALTY"); and,

WHEREAS, the corporate authorities of the City of West Chicago granted the original special use by Ordinance 07-O-0049 on August 20, 2007; and,

WHEREAS, the corporate authorities of the City of West Chicago granted a first amendment to the special use by Ordinance 11-O-0069 on December 19, 2011; and,

WHEREAS, the corporate authorities of the City of West Chicago granted a second amendment to the special use by Ordinance 14-O-0023 on July 21, 2014; and,

WHEREAS, Notice of Public Hearing on said application was published in the Daily Herald on or about March 21, 2016, all as required by the ordinances of the City of West Chicago and the statutes of the State of Illinois; and,

WHEREAS, a Public Hearing was conducted by the Plan Commission/Zoning Board of Appeals of the City of West Chicago, commencing on April 5, 2016, pursuant to said Notice; and,

WHEREAS, at the Public Hearing, the APPLICANT provided testimony in support of its application, and all interested parties had an opportunity to be heard; and,

WHEREAS, the corporate authorities of the City of West Chicago have received the recommendation of the Plan Commission/Zoning Board of Appeals which contains specific findings of fact, pursuant to Recommendation No.16-RC-0007, a copy of which is attached hereto as Exhibit "B" which is, by this reference, incorporated herein.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of West Chicago, DuPage County, Illinois, in regular session assembled, as follows:

Section 1. That a third amendment to the special use permit for an outside storage yard in conformance with Section 5.5 and Section 11.2-4 (T) of the Zoning Ordinance is hereby granted on the SUBJECT REALTY, subject to the following conditions:

1. The APPLICANT shall only utilize those areas of the SUBJECT REALTY for outside storage that have been improved according to the approved Site and Engineering Plans.

2. The buildings and the storage yard on the SUBJECT REALTY shall only be utilized by Forming America, LTD. or its successors.

3. The storage yard shall only contain items that are directly related to the operation of the business occupying the SUBJECT REALTY.

4. No items stored within the storage yard on the SUBJECT REALTY, other than vehicles, shall exceed the height of the storage yard fence such that they are visible from Prince Crossing Road.

5. No outside storage on the SUBJECT REALTY shall block, hinder, restrict, or render unusable any required parking spaces or fire lanes.

6. The landscaping on the SUBJECT REALTY shall be installed and maintained in compliance with the Landscape Plan prepared by Flamingo Landscape, Inc., consisting of one (1) sheet dated July 25, 2007, attached as Exhibit "C" of Ordinance 07-O-0049. All landscaping on the SUBJECT REALTY located within ten (10') feet of the perimeter of any proposed parking lot or storage yard pavement improvements shall be installed within thirty (30) days after the installation of the adjacent parking lot or storage yard pavement improvements.

7. The APPLICANT shall submit revised as-built plans within three (3) months of the completion of each phase of the paving and City staff approval shall be obtained within eight (8) months of the revised submittal.

8. The APPLICANT shall have all outside storage on the SUBJECT REALTY on a paved surface within one (1) year of the completion of the Phase I and II paving.

9. The SUBJECT REALTY shall be developed in substantial compliance with the Paving & Layout Plan prepared by Webster, McGrath & Ahlberg, LTD., dated September 29, 2014, consisting of a final revision date of January 14, 2015 and in compliance with the pavement improvement completion deadlines identified on the 2016 Paving Plan - Yearly Completion Dates chart, copies of which are attached hereto as Exhibit "C", which is, by this reference, incorporated herein.

10. The APPLICANT shall provide bi-annual progress reports in person to the City's Development Committee verifying the status of the SUBJECT REALTY compliance with the 10 conditions and restrictions set forth herein. The APPLICANT shall provide said progress reports until such time that all conditions have been satisfactorily met and the SUBJECT REALTY has been brought into compliance.

11. Within ninety (90) days of the approval of this Ordinance, the APPLICANT shall provide a letter of credit or other financial guarantee acceptable to the City in the amount of no less than one-hundred and fifty thousand dollars and no cents ($100,000.00) for not less than two (2) years, or until all phases of paving are completed and approved by the City for the SUBJECT REALTY, whichever occurs last.

Section 2. That all ordinances and resolutions, or parts thereof, shall, to the extent not expressly modified by the terms and conditions of this Ordinance, remain in full force and effect as therein provided.

Section 3. That this Ordinance shall be in full force and effect ten (10) days from and after its passage, approval and publication in pamphlet form as provided by law.

PASSED this 18th day of April 2016.

Alderman L. Chassee	aye	Alderman J. Beifuss	absent
VACANT – Ward 2		Alderman J. Sheahan	aye
Alderman L. Grodoski	aye	Alderman A. Hallett	aye
Alderman S. Dimas	aye	Alderman M. Ferguson	aye
Alderman J.C. Smith, Jr.	aye	Alderman K. Meissner	absent
Alderman M. Edwalds	aye	Alderman R. Stout	aye
Alderman J.F. Banas	aye	Alderman N. Ligino-Kubinski	aye

APPROVED as to form: Patrick T. Bond
City Attorney

APPROVED this 18th day of April 2016.

Mayor, Ruben Pineda

ATTEST:

Nancy M. Smith
City Clerk, Nancy M. Smith

PUBLISHED: 4/19/16

EXHIBIT "C"

(insert Paving & Layout Plan and the 2016 Paving Plan - Yearly Completion Dates chart here)

2016 Paving Plan - Yearly Completion Dates

Zone	To be completed by	Bi-Annual Progress Reports
Zone 1	October 31, 2016	May 2016 Progress Report
Zone 2		
Zone 3		November 2016 Progress Report
Zone 4		
Zone 5	October 31, 2017	May 2017 Progress Report
Zone 6		November 2017 Progress Report
Zone 7		
Zone 8	September 30, 2018	May 2018 Progress Report
		November 2018 Progress Report

clay stockpile area

recently modified area

POSSIBLE FUTURE WAREHOUSE ~25,000 SF

ZONE M (Manufacturing)

SQUARE FOOTAGE
COMPLETED: 20,012 SF
ZONE 1: 6,164 SF
ZONE 2: 2,914 SF
ZONE 3: 18,958 SF
ZONE 4: 47,377 SF
ZONE 5: 16,166 SF
ZONE 6: 16,169 SF
ZONE 7: 43,308 SF
ZONE 8: 110,516 SF

ZONE 2: 2,914 SF

ZONE 4 47,377 SF REPAIRS

ZONE 3 18,958 SF

ZONE 8 110,516 SF

ZONE 7 43,308 SF

ZONE 6 16,169 SF

ZONE 5 16,166 SF

ZONE 1 6,164 SF

COMPLETED 19,131 SF

EXISTING WETLAND DETENTION BASIN
NWL= 732.00
100yr HWL= 737.21
OVERFLOW= 737.33

CONCRETE STORAGE YARD

NO PARKING OR STORAGE WITHIN FIRE LANES

FUTURE SEPTIC FIELD 9,330 sf

FUTURE COVERED STORAGE ~7,800 SF

BASIN OVERFLOW ELEVATION = 737.33 LENGTH = 25-ft

CONSERVATION EASEMENT

EXISTING WETLANDS PER 2007/2014 DELINEATION

CROSSING ROAD

R=1303.76
M=1303.76
N89°42'25"E
N89°42'17"E
1270.72

R=1317.68
M=1317.39
1284.46
N83°57'12"W
N83°57'05"W

COMMONWEALTH EDISON COMPANY
(CONTROLLED BY DOCUMENT R62-27933)

CHICAGO AND NORTHWESTERN RAILROAD
(GREAT WESTERN TRAIL)

ZONE M (Manufacturing)

EAST LINE OF LOT E IN PUBLIC CROSSING ROAD ASSESSMENT PLAT PER DOCUMENT R82-11726
R = 702.05 N00°05'22"E
M = 702.05 N00°05'48"E

WEST LINE OF THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 34-40-9

EAST LINE OF THE SOUTHEAST QUARTER OF SECTION 34-40-9

BENCHMARK: TOP OF CAST IRON MONUMENT ELEVATION = 741.12 (U.S.C.S.)

NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 34-40-9
CROSS OF P.K. NAIL 1.0' EAST
CAST IRON MONUMENT UNDER ASPHALT AT COVER

S00°21'51"E
S00°21'51"E
M=870.34
R=870.30

PAVEMENT SECTIONS

DRIVEWAY APRONS
6" CONCRETE - 4,000 PSI
6" CA-6 COMPACTED BASE

CONCRETE STORAGE YARD PAVEMENT
8" CONCRETE - 4,000 PSI min
6" CA-6 COMPACTED BASE

BITUMINOUS PARKING LOT PAVEMENT
2.0" BITUMINOUS SURFACE CL 1 OVER TACT COAT
2.0" BITUMINOUS BINDER CL 1 OVER PRIME COAT
10" AGGREGATE BASE (CA-6) TYPE B
COMPACTED SUBGRADE

LAND AREA SUMMARY TABLE:
Gross Site Area = 23.584 Acre
Road Area = 0.658 Acre
Net Site Area = 22.926 Acre
Conservation Easement = 13.14 Acre
Total Disturbed Area = 7.16 Acre
CN = 95
Remaining Disturbed = 4.7 Acre

ZONE M (Manufacturing):
Front Yard Parking Setback = 20'
Side Yard Parking Setback = 15'
Rear Yard Parking Setback = 15'
Front Yard Building Setback = 40'
Side Yard Building Setback = 20'
Rear Yard Building Setback = 20'

PARKING REQUIREMENTS
1 / 1,000sf Warehouse * 15,872sf = 16 spaces
4 / 1,000sf Office * 1,675sf = 7 spaces

PARKING PROVIDED
22 regular spaces + 2 handicap spaces

GRAPHIC SCALE - FEET
0 50 100

FORMING AMERICA
PARKING & STORAGE YARD IMPROVEMENTS

Prepared for:
FORMING AMERICA
1200 Pierce Crowley Road
West Chicago, IL 60185

WEBSTER, MCGRATH & AHLBERG, LTD.
WMA
LAND SURVEYING · CIVIL ENGINEERING · LANDSCAPE ARCHITECTURE
Over 100 Years of Service to Client
191 North Wacker Road, 15 Floor, Chicago 60606
Ph: (312)346-3500 Fax: (312)346-3500
Design Firm License No. 184.003103

NO.	DATE	REVISION DESCRIPTION
1	09.24.2015	Revised per DuPage Comments

DuPage SWO: 34-0409

JOB #: 41423 SURV: DS
DRAWN: RLS RAWING: SHR
SCALE: 1" = 50' DATE: 09-29-2014

SHEET NAME
PAVING & LAYOUT PLAN

SHEET #
C-2

STATE OF ILLINOIS
DATE: PROFESSIONAL ENGINEER

PetroTac®

Specialized Emulsion Suppressant

PetroTac® is a scientifically advanced, environmentally safe emulsion formulated to control fugitive dust. It improves and stabilizes unpaved road surfaces. **PetroTac®** works by bonding dust and aggregate particles together, creating a hard, durable surface that offers excellent longevity and superior load-bearing qualities.

Performance proven and tested by MRI (Midwest Research Institute) and the USEPA ETV program; **PetroTac®** has effectively been utilized in various climates and industries such as steel mills, power plants, truck terminals, intermodal yards, mining sites, railroads, & construction sites.

Please contact your SynTech service representative for more product benefits and advantages!

SynTech Products Corporation; We manufacture solutions!
www.syntechproducts.com

SynTech Products Corporation

520 E. Woodruff
Toledo, Ohio 43604
www.syntechproducts.com

1-800-537-0288
Fax: 419-241-6943
solutions@syntechproducts.com

PetroTac®
Typical Application Process

SynTech Products Corporation

PetroTac® is a non-toxic, non-hazardous, environmentally sensitive dust suppressant. PetroTac should be applied through spray equipment capable of handling petroleum based emulsions. A pressurized spray bar & rate controlled application equipment is suggested. PetroTac is not designed to be applied through fan nozzles.

Surface Preparation

Area to be treated should be graded & crowned to influence proper drainage. Add additional aggregate as necessary. Large potholes should be filled. Loose fill material should be rolled and compacted. Excess silt/ powder graded off or multiple applications may be needed. Proper surface preparation will greatly enhance product performance.

Dilution

PetroTac is diluted with water and applied to roadways. Dilution rates will range from 1 part water to 1 part PetroTac Concentrate; to 10 parts water to 1 part PetroTac Concentrate.

Application Rates

Depending on surface conditions and the goals of the application; typical application rates will vary from 0.05—0.25 gallons of concentrated PetroTac. Typical application rates will vary from of 0.10 to 05.0 gallons of solution per square yard.

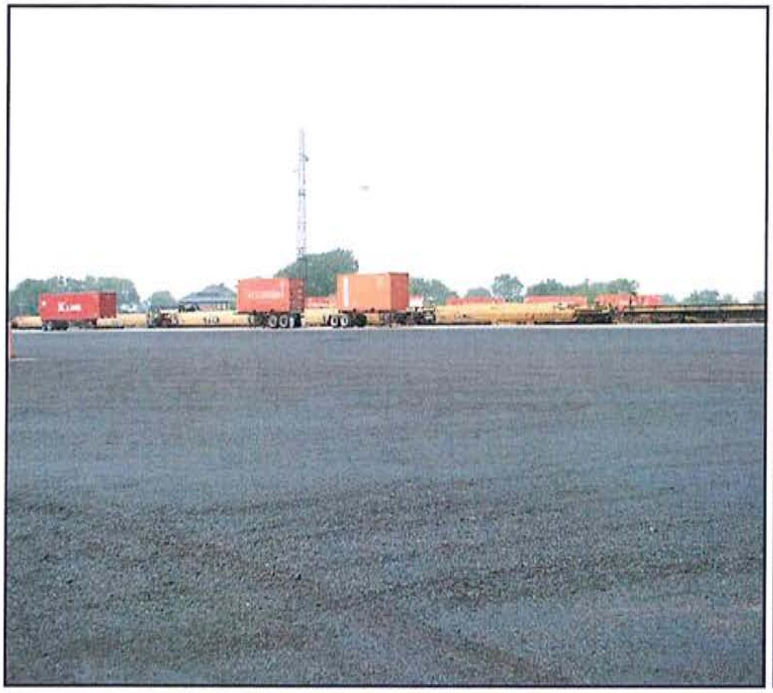
Traffic should be minimized during dry time. Cure time will vary based on application rate, surface condition, & relative humidity. Once dry; PetroTac will create a hard stable surface.

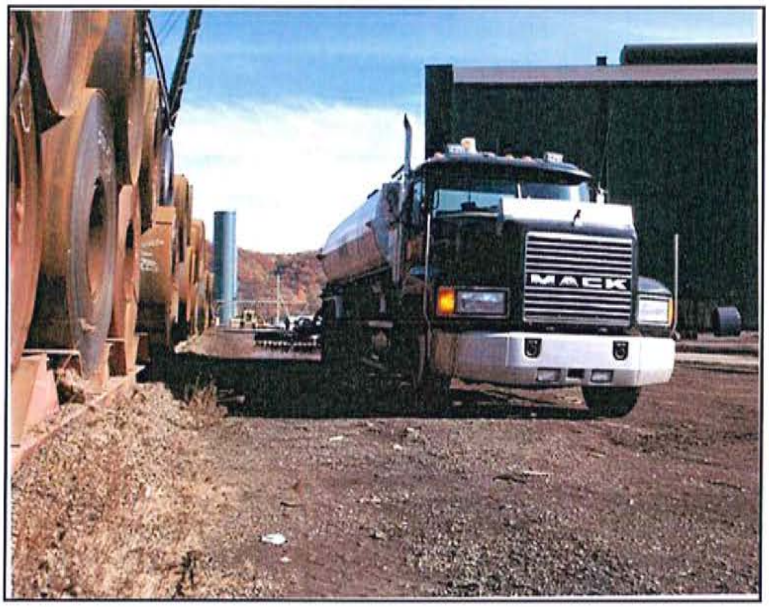
Please see MSDS and literature sheet for further information.

SynTech Products Corporation

520 E. Woodruff
Toledo, Ohio 43604
www.syntechproducts.com

1-800-537-0288
Fax: 419-241-6943
solutions@syntechproducts.com




MACK

EPA/600/R-05/135
January 2006

Environmental Technology Verification

Dust Suppressant Products

SynTech Products Corporation's PetroTac

Prepared by

Midwest Research Institute

RTI International

Under a Cooperative Agreement with
U.S. Environmental Protection Agency

ETV ETV ETV

THE ENVIRONMENTAL TECHNOLOGY VERIFICATION PROGRAM

U.S. Environmental Protection Agency

ETV Joint Verification Statement

TECHNOLOGY TYPE:	**DUST SUPPRESSANT**
APPLICATION:	**CONTROL OF DUST ON UNPAVED ROADS**
TECHNOLOGY NAME:	**PetroTac**
COMPANY:	**SYNTECH PRODUCTS CORPORATION**
ADDRESS:	**520 E. WOODRUFF**
	TOLEDO, OH 43624
	PHONE: 419-241-1215
	800-537-0288
	FAX: 419-241-6943
WEB SITE:	**http://www.syntechproducts.com/**
E-MAIL:	**solutions@syntechproducts.com**

The U.S. Environmental Protection Agency (EPA) has created the Environmental Technology Verification (ETV) Program to facilitate the deployment of innovative or improved environmental technologies through performance verification and dissemination of information. The goal of the ETV Program is to further environmental protection by accelerating the acceptance and use of improved and cost-effective technologies. ETV seeks to achieve this goal by providing high-quality, peer-reviewed data on technology performance to those involved in the design, distribution, financing, permitting, purchase, and use of environmental technologies.

ETV works in partnership with recognized standards and testing organizations; stakeholder groups, which consist of buyers, vendor organizations, permitters, and other interested parties; and with the full participation of individual technology developers. The program evaluates the performance of innovative technologies by developing test plans that are responsive to the needs of stakeholders, conducting field or laboratory tests (as appropriate), collecting and analyzing data, and preparing peer-reviewed reports. All evaluations are conducted in accordance with rigorous quality assurance (QA) protocols to ensure that data of known and adequate quality are generated and that the results are defensible.

The Air Pollution Control Technology (APCT) Verification Center, a center under the ETV Program, is operated by RTI International (RTI) in cooperation with EPA's National Risk Management Research Laboratory. The APCT Center has evaluated the performance of a dust suppressant product for control of dust on an unpaved road.

ETV TEST DESCRIPTION

A field test program was designed by RTI and Midwest Research Institute (MRI) to evaluate the performance of dust suppressant products. Five dust suppressants manufactured or distributed by three firms were tested in this program. The field test for SynTech Products Corporation's PetroTac was conducted at Fort Leonard Wood, Missouri (FLW). A July 2003 test/QA plan for the field testing was developed and approved by EPA. The test/QA plan describes the procedures and methods used for the tests. The July 2003 version of the test/QA plan was based on an October 2002 version and a subsequent test/QA plan addendum (dated February 19, 2003). The goal of each test was to measure the performance of the products relative to uncontrolled sections of road over a 1-year period. Field testing was planned quarterly over a 1-year period; however, some logistical difficulties related to winter weather and then maintenance activities on the roads of interest arose, and the test/QA plan was revised (Rev 3) to address those issues. Testing occurred per the test/QA plan for three roughly 6-month periods. Two of those test periods are summarized below and are considered most representative of product performance; the third testing period occurred after unexpected road maintenance, and those data may be seen in the verification report. The verification report also contains 90 percent confidence limits for the data collected during all of the test periods. Emissions measurements were made for total particulate (TP), particulate matter less than or equal to 10 micrometers (μm) in aerodynamic diameter (PM_{10}), and for particulate matter less than or equal to 2.5 μm in aerodynamic diameter ($PM_{2.5}$).

The host facility for the field test program, FLW, is a U.S. Army base. The test site used unpaved Roads P and PA in training area (TA) 236. Roads P and PA are the main access routes to TA 236 and are traveled by truck convoys, as well as traffic into and out of TA 236. PetroTac was applied to test section C, located on Road PA; test section F, located on Road P, was left untreated as the experimental control. Section 3.1 of the verification report provides a figure showing the test locations. Testing was conducted during October 2002, May 2003, and October 2003.

Table 1 presents test conditions for key parameters that may affect the performance of dust suppressants on unpaved roads.

Table 1. Summary of Test Conditions

Parameter	FLW, October 2003	FLW, May 2003
Initial application rate, l/m^2	3.0	3.0
Follow-up application rate, l/m^2	2.8	0.87
Time between application and testing, days	105	79
Precipitation during test week, cm	2.0	3.7
Precipitation during week before testing, cm	3.2	1.7
Precipitation between application and testing, total, cm	32	24
Soil moisture during test weeks, %—uncontrolled road	0.62–1.5	0.01–1.8
Soil moisture during test weeks, %—controlled road	0.49–0.71	0.38–0.43
Soil silt during test weeks, %—uncontrolled road	1.7–5.4	1.6–4.3
Soil silt during test weeks, %—controlled road	0.88–1.1	0.6–0.9

VERIFIED TECHNOLOGY DESCRIPTION

This verification statement is applicable to *SynTech Products Corporation's PetroTac,* which is an emulsion that bonds with road aggregate and cures to a water resistant surface. The material safety data sheet (MSDS) for PetroTac is retained in the RTI project files and may be requested from the company's Web site at http://www.syntechproducts.com//orderform/orderform.htm [accessed July 2005].

VERIFICATION OF PERFORMANCE

The overall reduction in particulate matter emissions achieved by the PetroTac dust suppressant compared to uncontrolled sections of road is shown in Table 2.

Table 2. Summary of Test Results

Test location and period	Average Control efficiency, %			Noted events
	TP	PM_{10}	$PM_{2.5}$	
FLW, October 2003	74	73	[a]	Rain events the day before test. [b]
FLW, May 2003	94	98	>90	Rain events the morning of test. [c]

[a] No emissions reduction was observed.
[b] All test sections were wet from rain the previous day. The uncontrolled section was heavily potholed and another section was used for the test. MRI used traffic to dry the road before testing.
[c] Rainfall in the morning meant that the uncontrolled section of the road was wet and another section was used for the test.

The APCT Center QA officer has reviewed the test results and quality control data and has concluded that the data quality objectives given in the generic verification protocol and test/QA plan have been attained. EPA and APCT Center QA staff have conducted technical assessments at the test organization and of the data handling. These confirm that the ETV tests were conducted in accordance with the EPA-approved test/QA plan.

This verification statement verifies the effectiveness of *SynTech Products Corporation's PetroTac* to control dust on unpaved roads as described above. Extrapolation outside that range should be done with caution and an understanding of the scientific principles that control the performance of the technologies. This verification focused on emissions. Potential technology users may obtain other types of performance information from the manufacturer.

In accordance with the generic verification protocol, this verification statement is valid, commencing on the date below, indefinitely for application of *SynTech Products Corporation's PetroTac* to control dust on unpaved roads.

Signed by Sally Gutierrez 9/25/2005

Sally Gutierrez, Director
National Risk Management Research Laboratory
Office of Research and Development
United States Environmental Protection Agency

Date

Signed by Andrew Trenholm 9/16/2005

Andrew R. Trenholm, Director
Air Pollution Control Technology Verification Center

Date