


A Green Infrastructure Plan for the Richton Park Western Development Corridor

Presented by Chicago Metropolitan Agency for Planning
(CMAP), Conservation Design Forum (CDF), and
Geosyntec Consultants





Outline

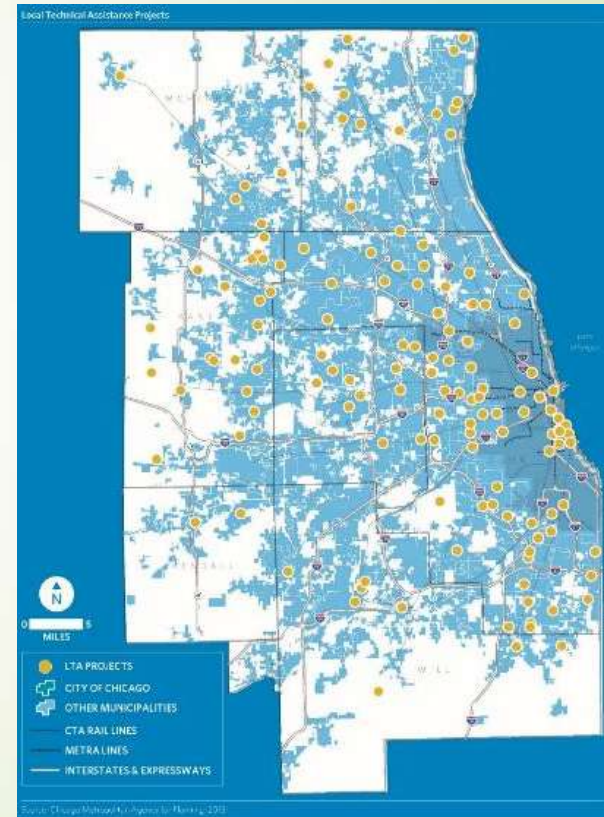
- Project Introduction and Background
 - Existing Conditions Mapping and Analysis
 - Analyzing the Existing Floodplain and Potential Floodplain Revision
 - Developing an Integrated Green Infrastructure Plan for the Village
 - Phase II – Implementing Green Infrastructure Plan
 - Project Takeaways
- 



Project Introduction and Background

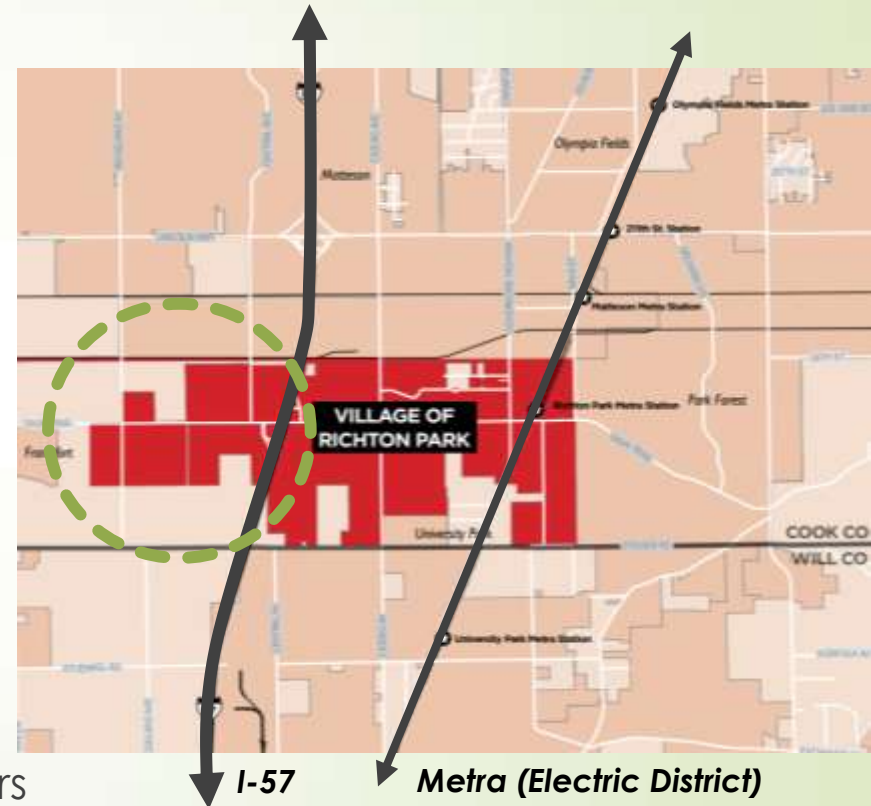
CMAP Local Technical Assistance (LTA) Program

- ▶ Collaborate with regional partners to:
 - ▶ Provide planning support to local communities
 - ▶ Implement regional plan recommendations
- ▶ Over 160 projects on a range of planning issues and a variety of plans



Village of Richton Park

- ▶ Southwest Cook County
- ▶ Population (2010) = 13,646
- ▶ Western Development Corridor
 - ▶ I-57 Interchange at Sauk Trail
 - ▶ New Walmart
 - ▶ Agricultural land
 - ▶ Hickory Creek headwaters



Richton Park LTA Project

- ▶ Village applied to program in 2015
- ▶ Contracted with Conservation Design Forum and Geosyntec Consultants
- ▶ Conducted separate retail market analysis
- ▶ Project goal: Maximize market-appropriate development potential while protecting integrity of Hickory Creek corridor





Existing Conditions Mapping and Analysis

Existing Conditions Hydrology



Floodway












100-year
Floodplain

500-year
Floodplain

- Hickory Creek
- Unnamed Tributary
- Drainage Area Boundary
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland

Existing Ecological Integrity

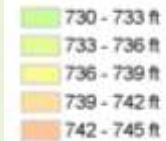
Legend

 Agriculture	 FEMA Floodplain
 Detention Basin	 FEMA Floodway
 Developed and ROW	 Hickory Creek
 Landfill	 Unknown Tributary
 Streams and Buffers	 Parcel Boundary
 Wetland	

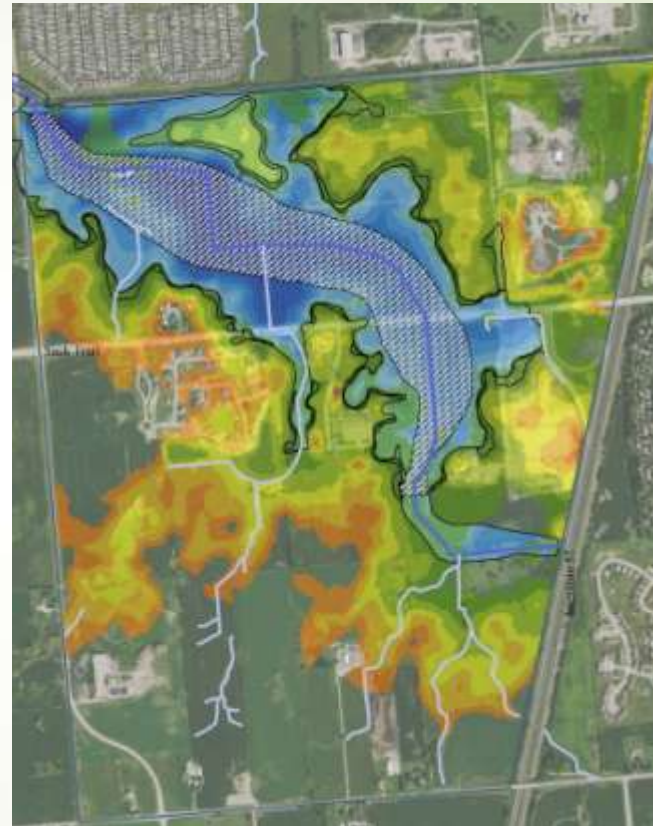


Existing Floodplain and Compensatory Storage Depth

Floodplain Alteration - BFE 731 ft



Flood Depth



Proposed Development Scenarios




Legend

- Proposed Development
- Floodplain Compensatory Storage
- 100 Year Floodplain Encroachment
- Walmart_Comp
- Future Roads



Floodplain Analysis Procedure

- ▶ Review and Compare FEMA Regulatory Model with Existing Conditions
 - ▶ Develop an Existing Conditions Hydraulic Model
 - ▶ Revise Existing Conditions Hydraulic Model with Updated Flows
- 

FEMA Regulatory Model with Existing Conditions

- ▶ FIS Report Flow Rates
 - ▶ 720 cfs at Hickory Creek Headwater
 - ▶ 949 cfs upstream of the Railway Crossing
- ▶ FEMA Base Flood Elevation – 731
- ▶ Current Site conditions
 - ▶ Drainage Area 1.9 mi²
 - ▶ Nearly 1,100 acre-feet of storage
 - ▶ 100-year, 24-hour storm Runoff
 - ▶ 580 acre-feet for 7.58 in

Stage Storage Downstream Sauk Trail -based on 1 foot topography	
Elevation (ft)	Storage (ac-ft)
715	0*
716	0*
717	0*
718	1
719	1
720	3
721	13
722	39
723	89
724	157
725	242
726	343
727	460
728	595
729	749
730	922
731	1117

*Negligable Storage

FEMA Regulatory Model with Existing Conditions

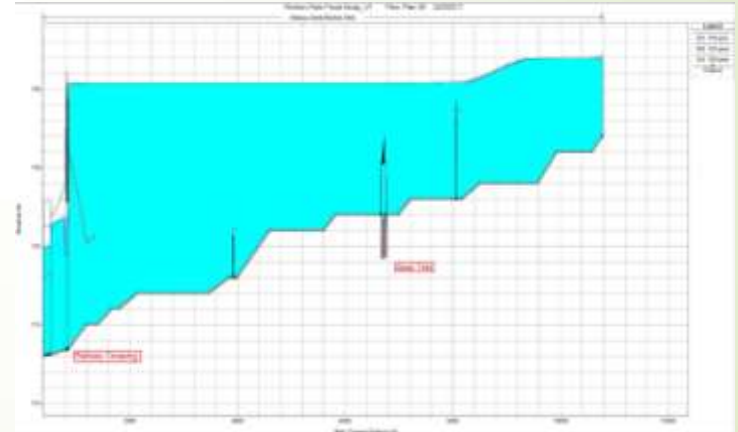
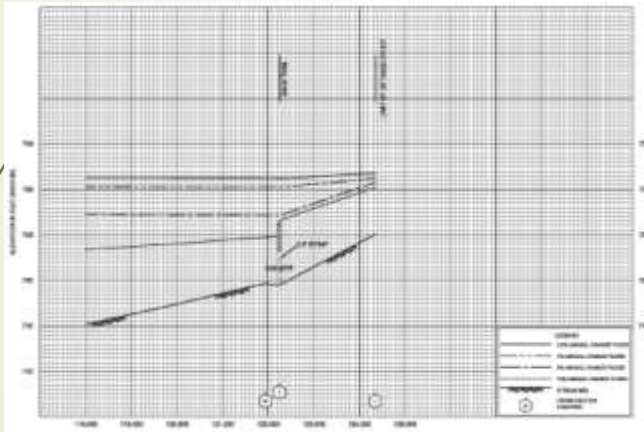
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The floodplain storage below the existing BFE is nearly twice the 100-year runoff volume

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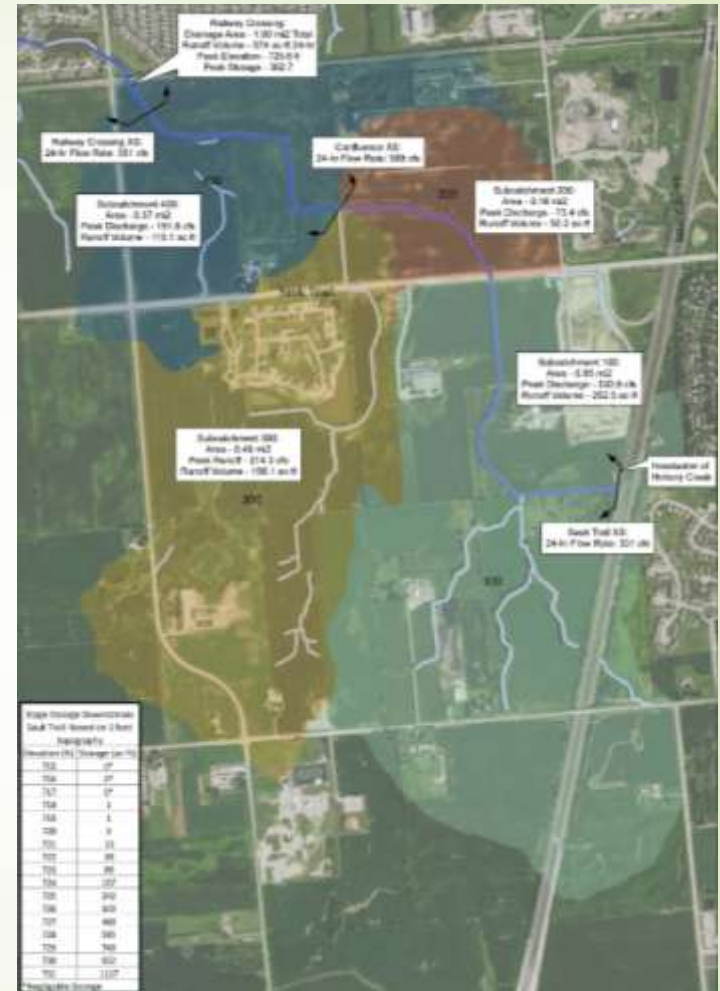
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Replicate Existing Conditions Hydraulic Model

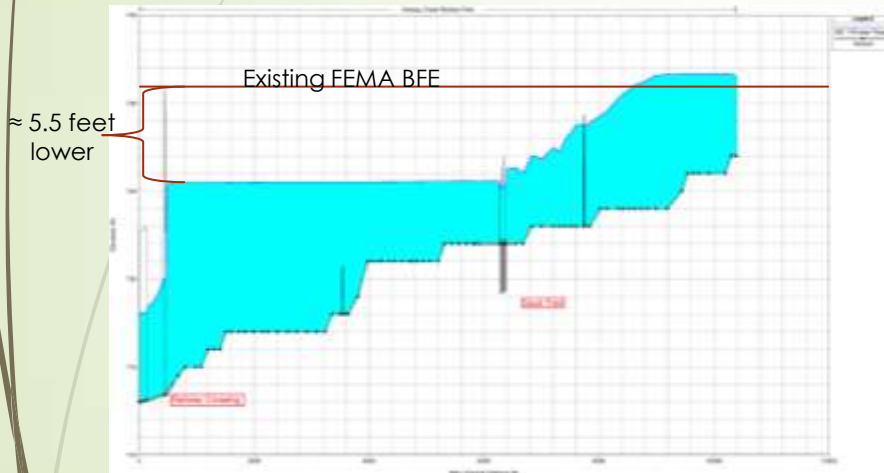


Existing Hydrology

- HEC-HMS Flow Rates
 - 331 cfs at Hickory Creek Headwater
 - 599 cfs at the confluence of the unnamed tributary and Hickory Creek
 - 351 cfs upstream of the Railway Crossing
- HEC-HMS
 - Total Runoff - 574 ac-ft
 - Maximum Elevation - 725.6 ft
 - Peak Attenuation - 302.7 ac-ft



Revised Base Flood Elevation and Floodplain Boundary



- Base Flood Elevation
- ▨ Revised_Floodway
- ▭ Revised_Floodplain
- ▭ FEMA Floodplain



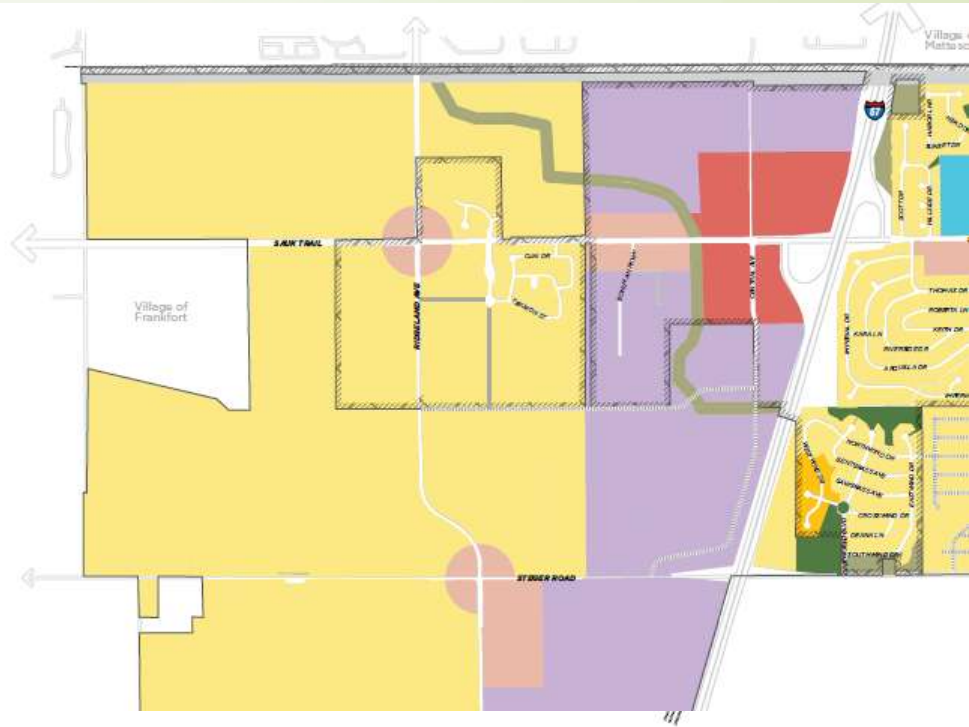
Developing an Integrated Green Infrastructure Plan for the Village

Richton Park Natural Features

- Hickory Creek
- Tributary Streams and Buffers
- Wetlands
- Hydric Soils



Richton Park Comprehensive Plan

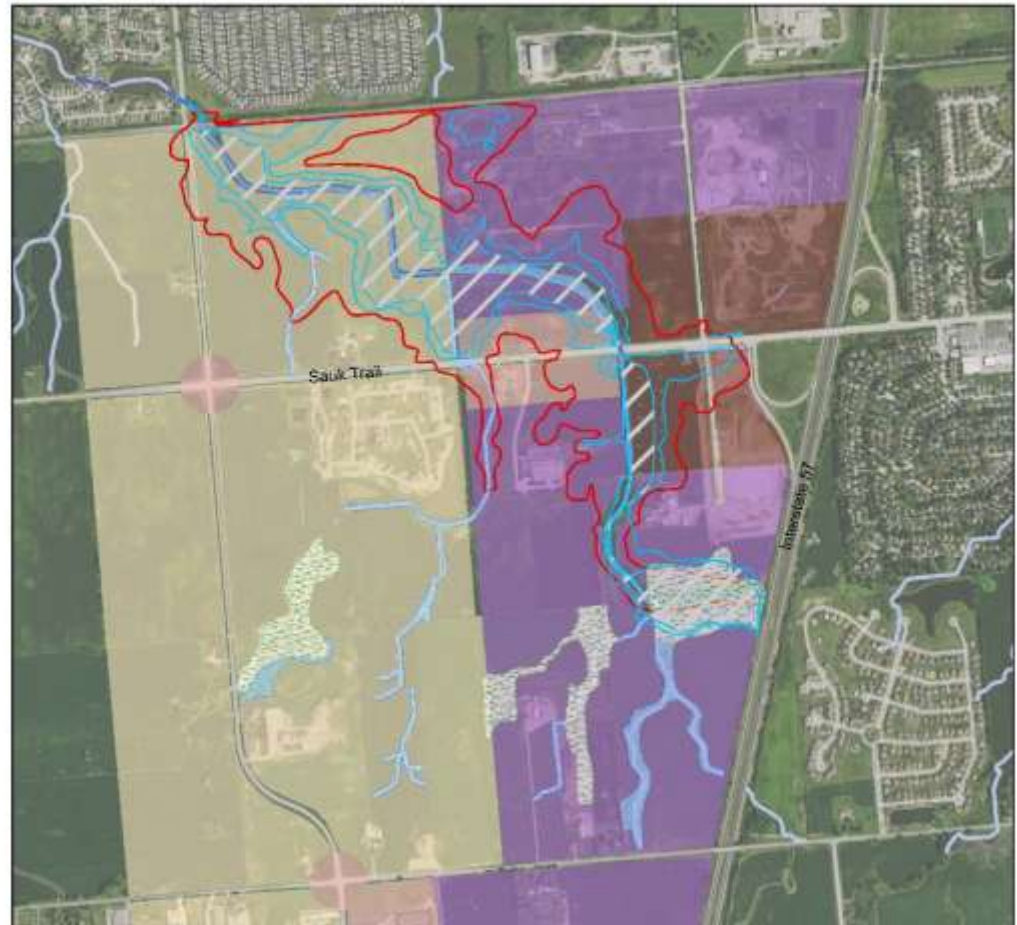


LAND USE PLAN

- | | | |
|------------------------|-----------------------|------------------------|
| Detached Single Family | Town Center/Mixed-Use | Transportation/Utility |
| Attached Single Family | Industrial/Office | Village Boundary |
| Multi-Family | Public/Semi-Public | Planning Boundary |
| Local Commercial | Park | Town Centre |
| Regional Commercial | Natural Areas | New Streets |

Richton Park Comprehensive Plan

- Comprehensive Plan
- Natural Features
- Floodplain



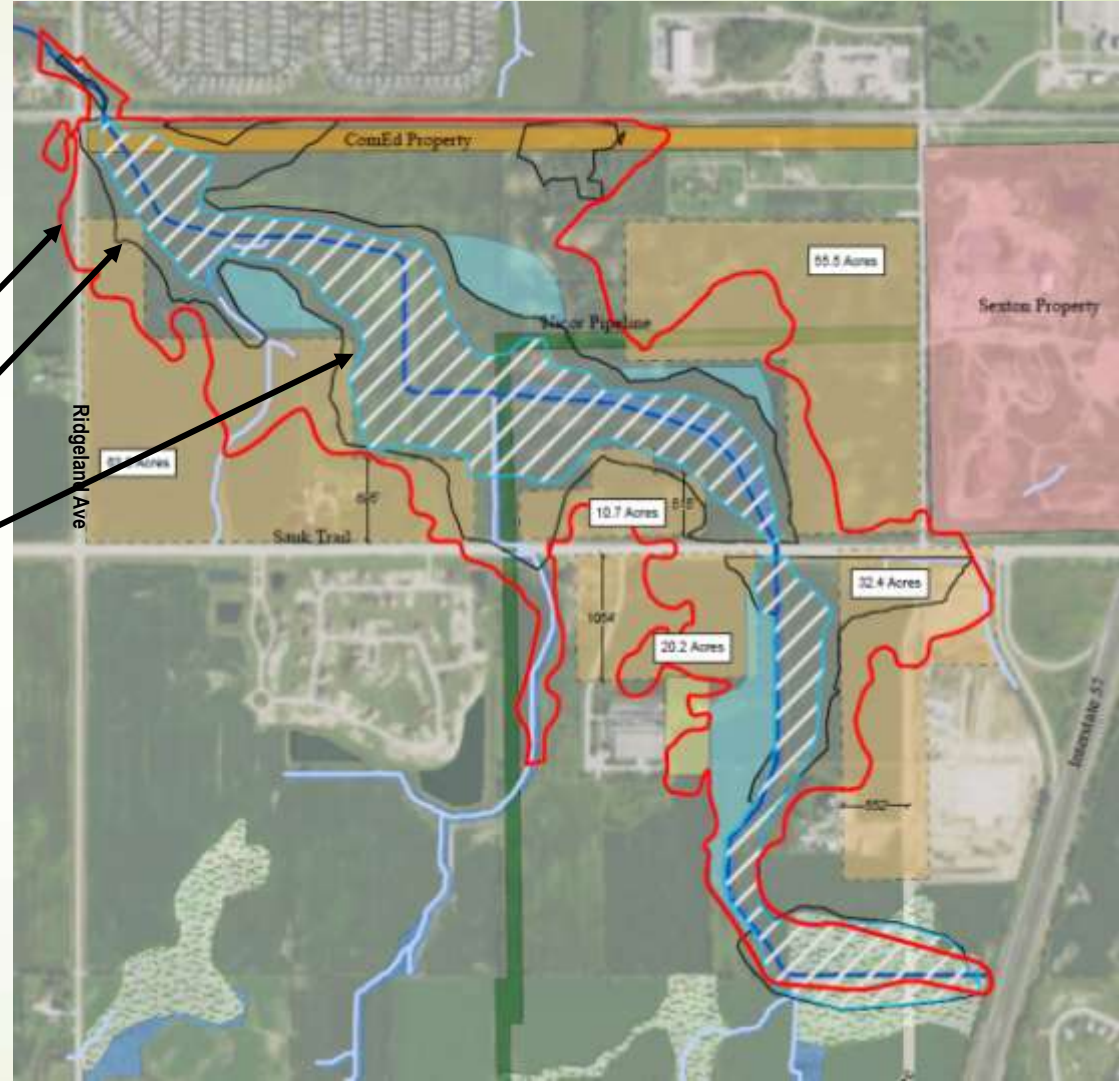
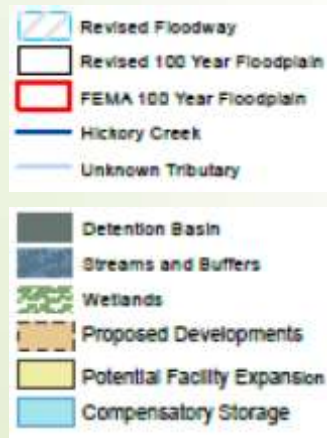
Developable Land

182 developable acres

FEMA 100-yr
Floodplain

Revised
100-yr
Floodplain

Revised
Floodway



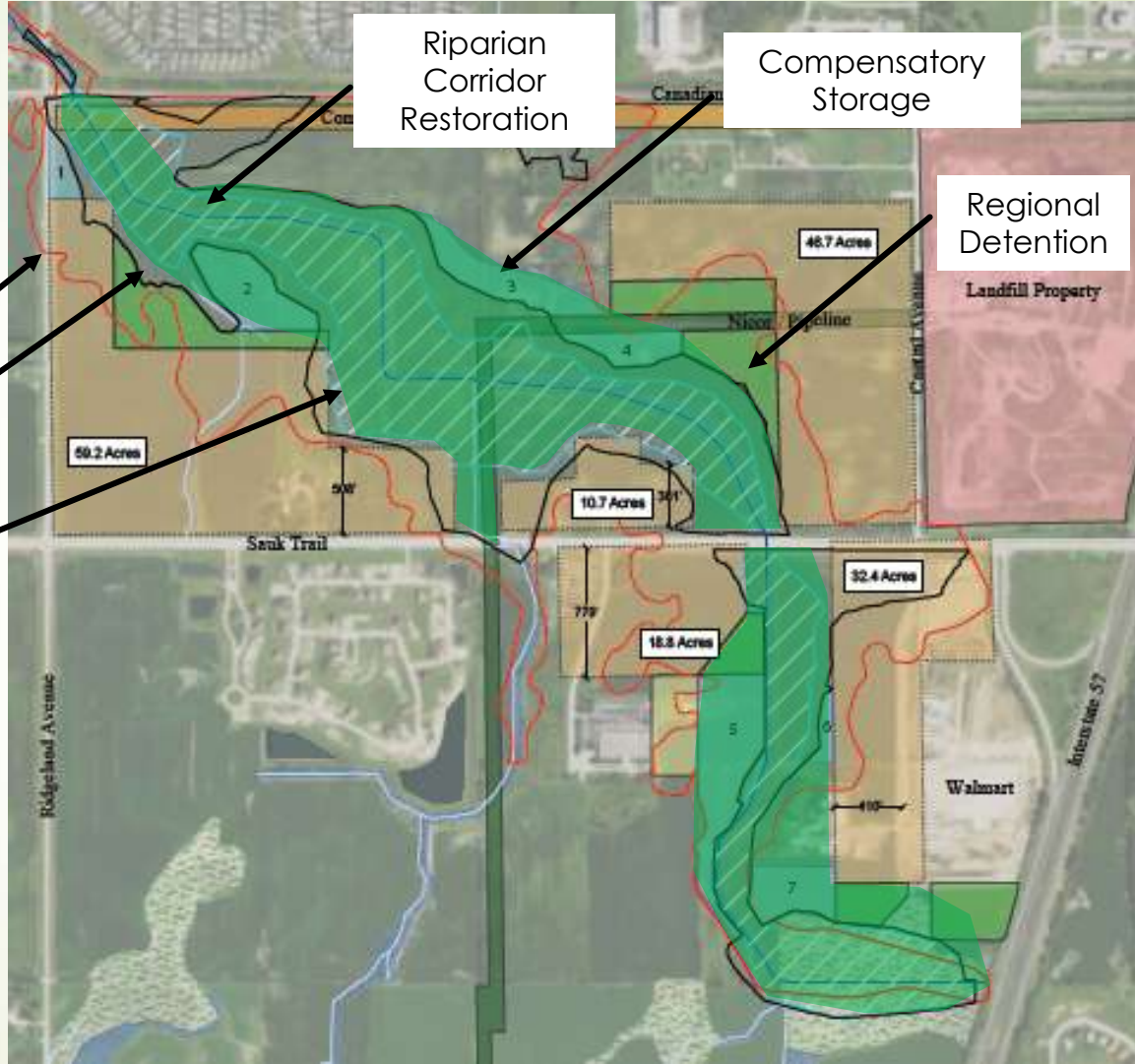
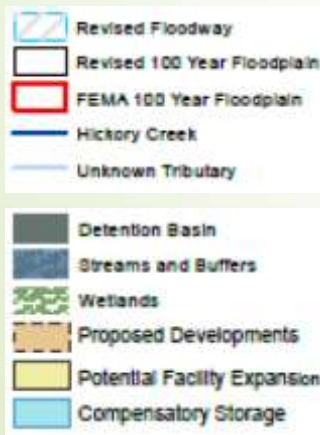
Integrated Plan

182 developable acres

FEMA 100-yr Floodplain

Revised 100-yr Floodplain

Revised Floodway





VILLAGE OF RICHTON PARK, ILLINOIS

Retail Market Analysis for the I-57 Corridor

November 2016



VISION | ECONOMICS | STRATEGY | FINANCE | IMPLEMENTATION

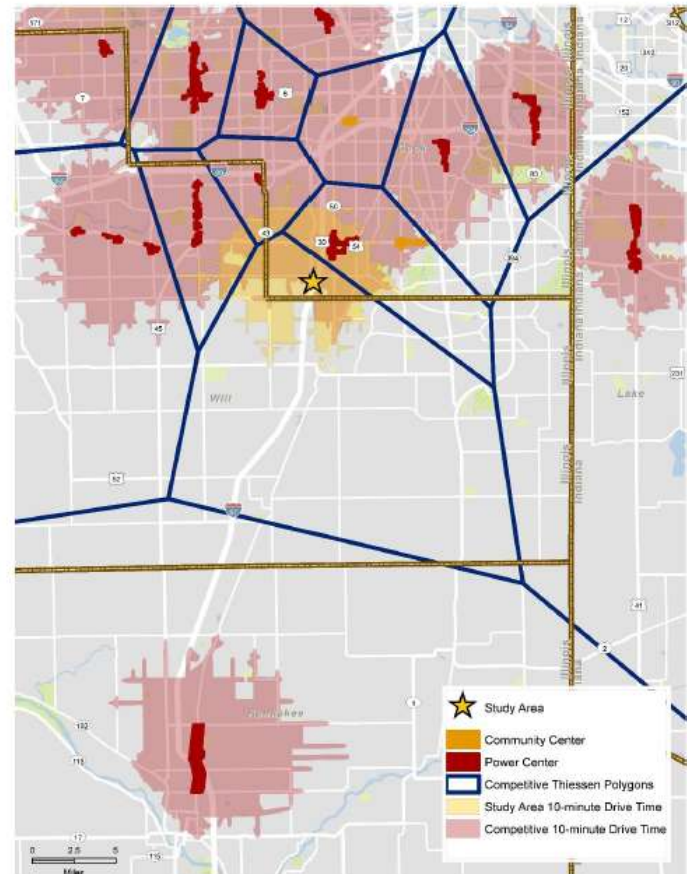
TRADE AREA ANALYSIS

- The Trade Area was estimated based on:
 - ▶ Competitive supply and the key existing power center clusters^[1];
 - ▶ Transportation network and typical 10-minute drive times for power centers; and
 - ▶ Lines of equidistance between the centroid of clusters ("thiessen polygons")^[2].
- This approach accounts for the typical travel-time along the existing road network for larger-scale suburban retail centers and the spatial distribution of competitive retail supply available to consumers.
- Due to the proximity of the Matteson and Olympia Fields clusters, we have assumed that the Richton Park Study Area will compete directly with these clusters to capture retail demand within the trade area. Thus, the northern edge of the Trade Area is adjusted to utilize the Matteson retail cluster's thiessen polygon lines.
- There are limited retail clusters located to the south of Richton Park which provides an opportunity for Richton Park, Matteson, Flossmoor and Olympia Fields to effectively split the southern market with Bourbonnais (for typical non-mall retailers)^[3].

[1] Olympia Fields is excluded as a competitive cluster as it is not a power center (it is being considered as a competitive cluster within the trade area).

[2] A consumer on a dark blue line between two retail clusters is equidistant from both nodes.

[3] Example non-mall retailers include big-box stores and in-line retail selling grocery general merchandise, furniture, or building materials.



Source: CoStar; ESRI; SB Friedman

STUDY AREA RETAIL POTENTIAL

TOTAL ESTIMATED STUDY AREA RETAIL DEMAND AND CAPTURE:

- Total Trade Area demand is estimated between \$226.1 to \$283.1 million.
- Richton Park will likely capture more of their “fair share” (25% since there are four clusters) of development due to:
 - ▶ The availability of over 120 acres of greenfield land, compared to infill development opportunities in established retail clusters;
 - ▶ The presence of a big box anchor on a high-traffic corridor; and
 - ▶ Interchange location with the opportunity to intercept and attract consumers from the south.
- The Study Area is anticipated to capture 40% to 60% of Trade Area market potential depending on success of competing retail locations within the Trade Area.
- Based on 7% vacancy allowance and 10% non-retail space, there is an **opportunity for 280,000 to 520,000 SF of retail/commercial in the Study Area through 2025.**

CONVERSION TO ACREAGE:

- Using a typical FAR of 0.20, approximately **30 to 60 net acres** are needed for 280,000 to 520,000 SF of retail development through 2025.
- Based on a 70% net to gross ratio, this results in **46 to 85 supportable gross acres** through 2025. The net to gross factor accounts for a loss factor associated with new roads and stormwater.

Near Term Development Concepts

- Consistent With SB Friedman Study
- 85 gross acres of development
- 700,000 sf retail space
- 16 outlots

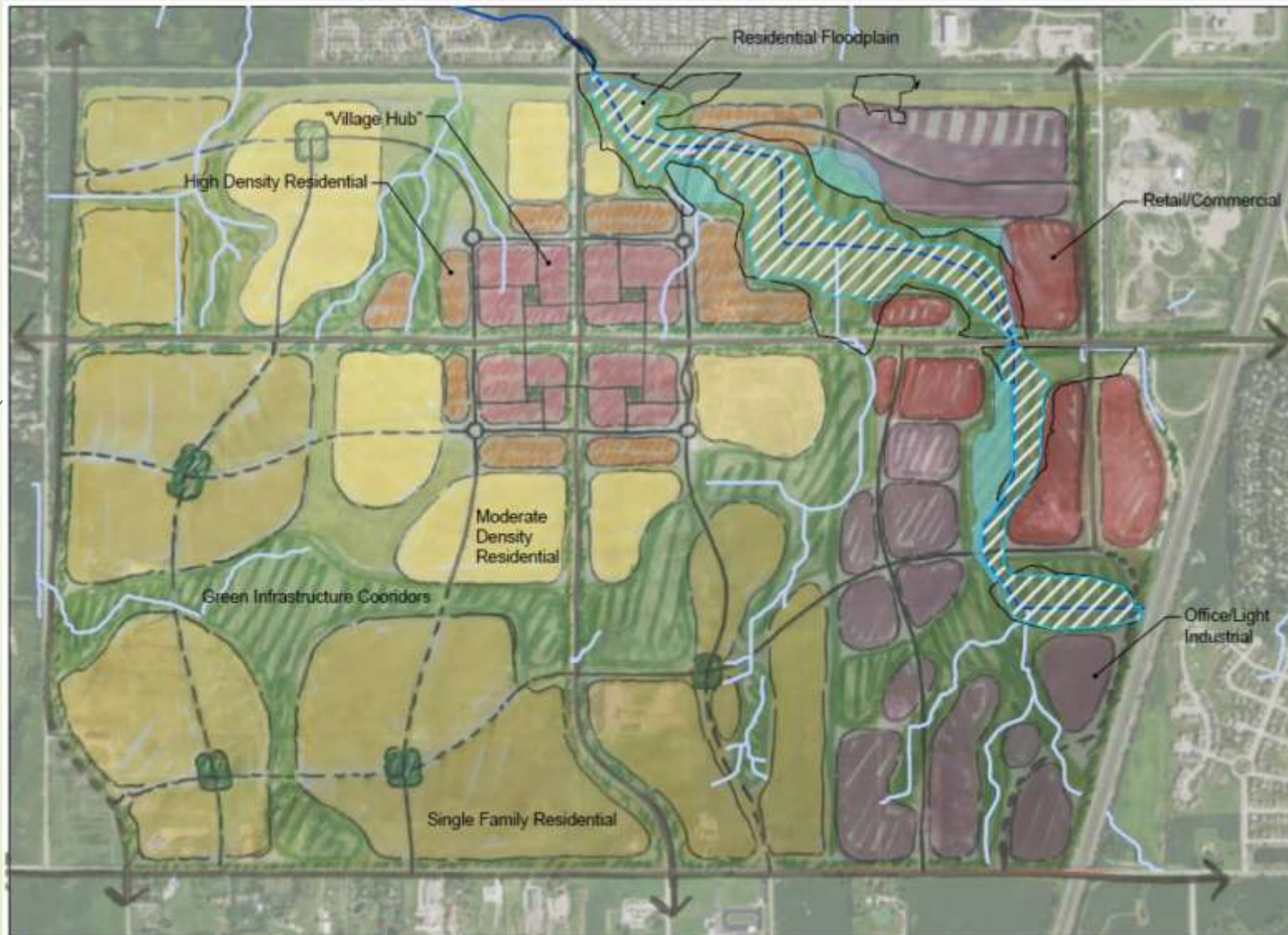




Stormwater Master Plan Guiding Principles


- Protect the existing floodway from development activities
- Limit floodplain modifications to those necessary to accommodate location sensitive development along Sauk Trail
- Protect and restore ecological integrity of riparian corridors and wetlands
- Utilize sub-regional drainage and detention strategies to manage large flood events
- Utilize Green Infrastructure practices within development areas to protect water quality and natural hydrology
- Incorporate conservation design principles into future development plans
- Expand park and open space offerings through future development plans, including connected recreational trails and wildlife corridors
- Design future development with a mix of uses
- Provide for non-motorized access to and within the Western Development Corridor

Long Term Development Concept



Legend





Phase II – Implementing the Green Infrastructure Plan



12 Recommendations

- 
- Update Floodplain Mapping
 - Adopt Green Infrastructure Overlay District
 - Develop Regional Compensatory Storage Plan
 - Develop Regional Detention Plan
 - Develop integrated Trail Plan
 - Develop Stormwater Green Infrastructure Guidance
 - Develop Sustainable Site Planning Guidance
 - Adopt Site Plan Review Process
 - Develop Funding Strategy
 - Adopt Natural Resource Protection Standards
 - Minimize Impervious Surfaces
 - Identify and Implement Other Sustainable Design Elements



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12 Recommendations

- ▶ **Develop Stormwater Green Infrastructure Guidance**
 - ▶ **Develop Sustainable Site Planning Guidance**
- 



Project Takeaways

- Economic development and natural area restoration can be mutually supportive.
 - Its important to ground truth economic development plans with market studies.
 - Updated floodplain modeling can sometimes reduce flood heights.
 - Coordination of LTA and Village funds allowed for comprehensive planning to meet diverse goals.
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Thank you

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