

Bassett Creek Valley Floodplain and Water Quality Feasibility Study

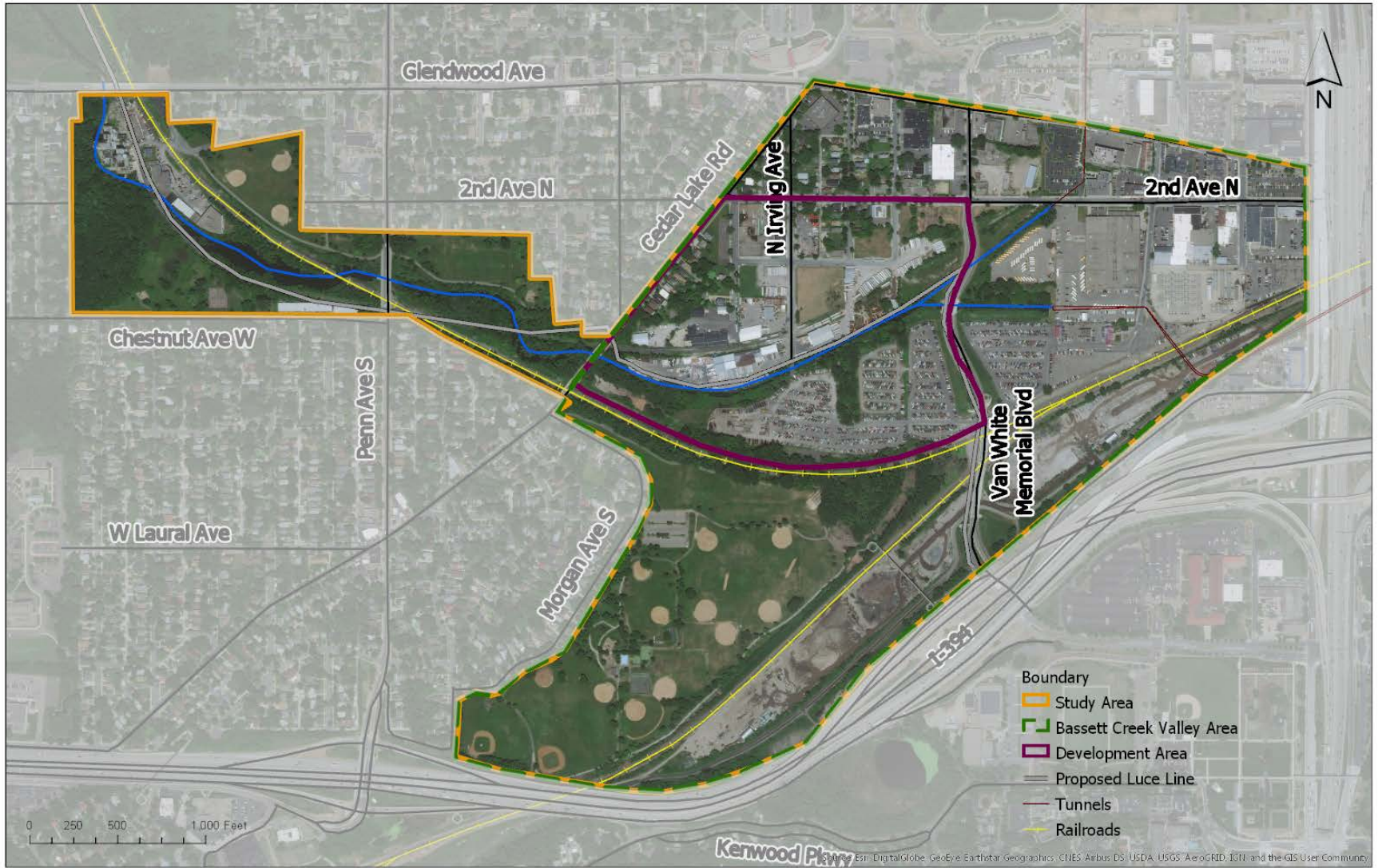
November 20, 2019



GROUNDING IN THE VALLEY

- What's happening?
- What are the issues?
- How were we able to move forward?
- What was the outcome?

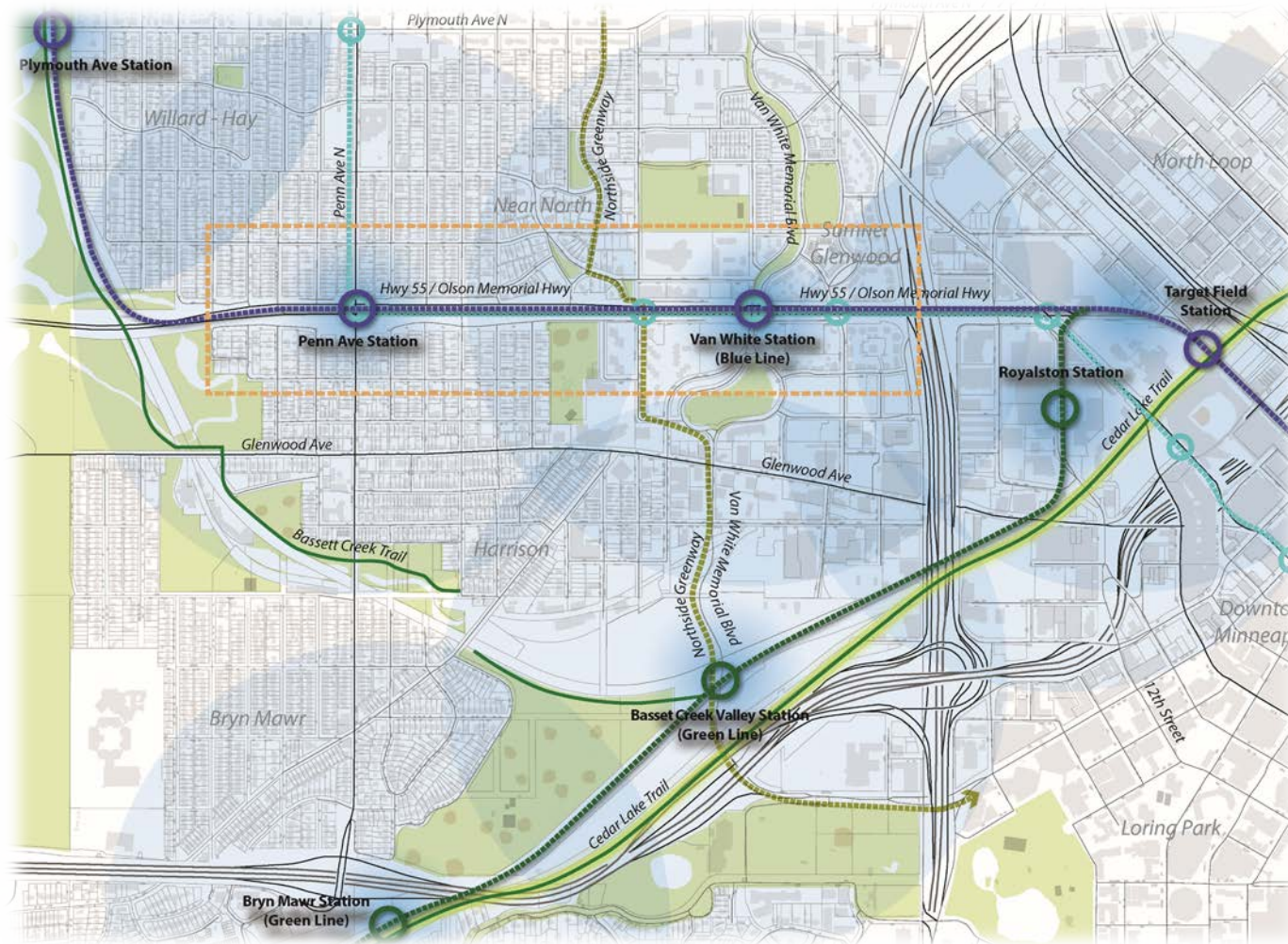
PROJECT AREA



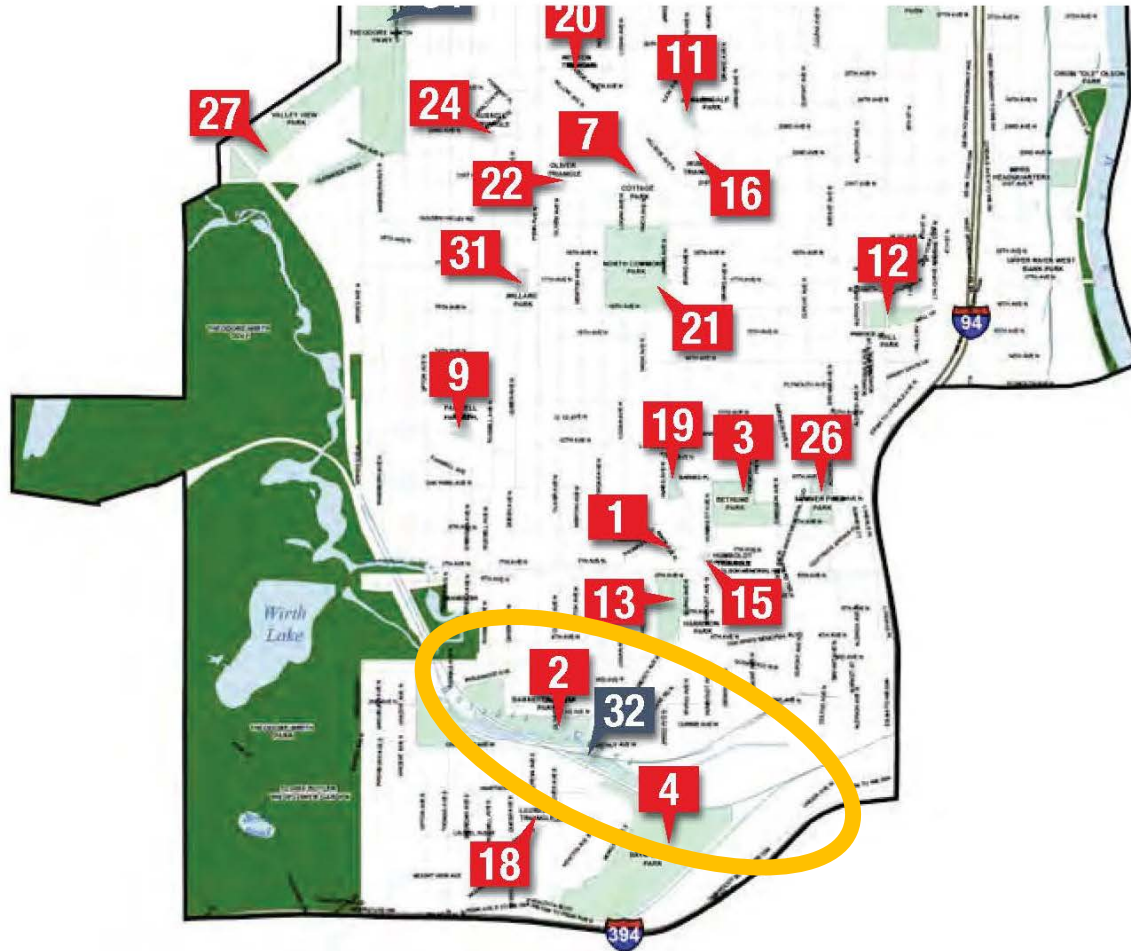
PROJECT DRIVERS – CITY PRIORITY FOR REDEVELOPMENT



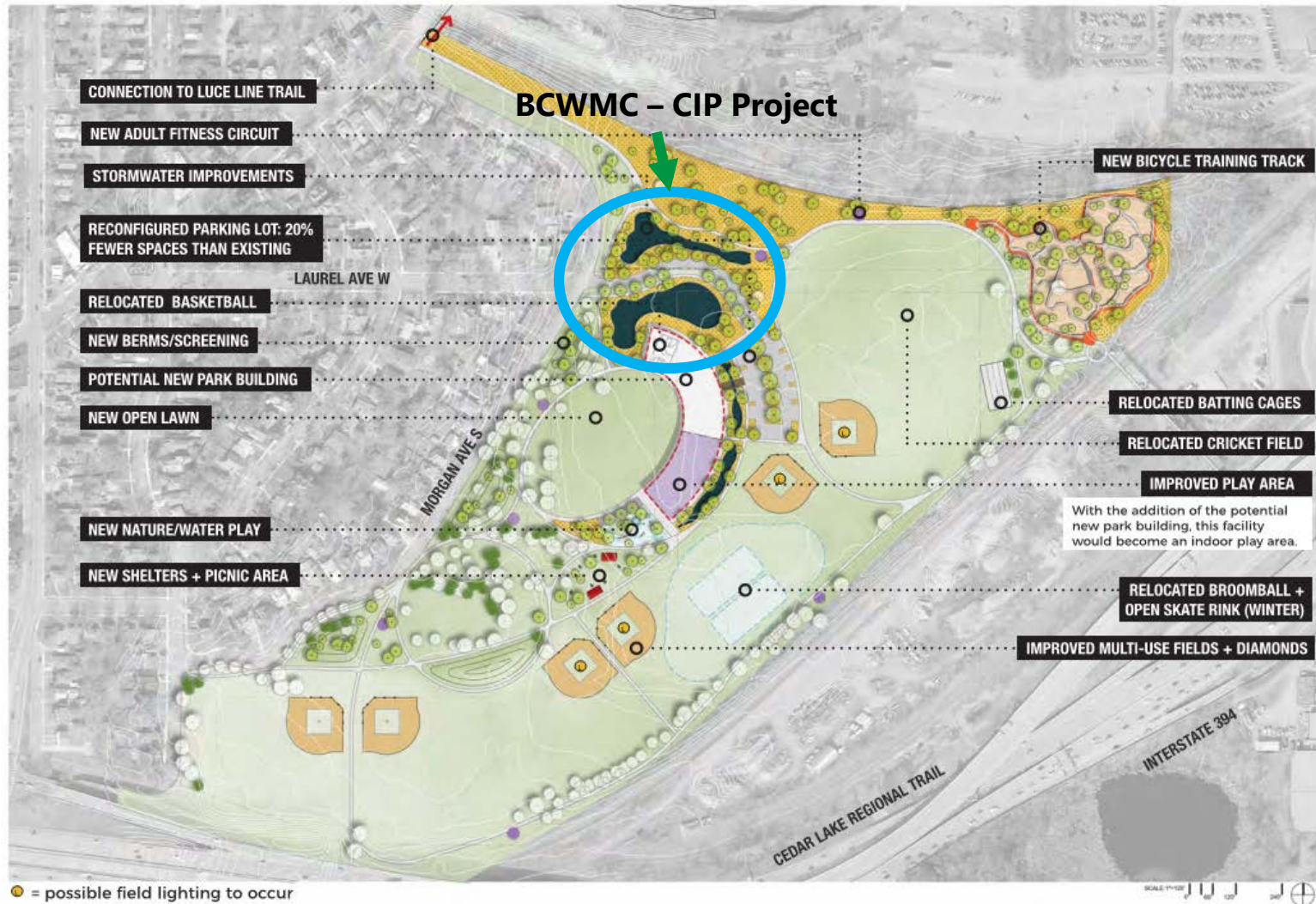
PROJECT DRIVERS – NEW TRANSIT CORRIDORS



PROJECT DRIVERS – MPRB PARK REDEVELOPMENT MASTER PLAN

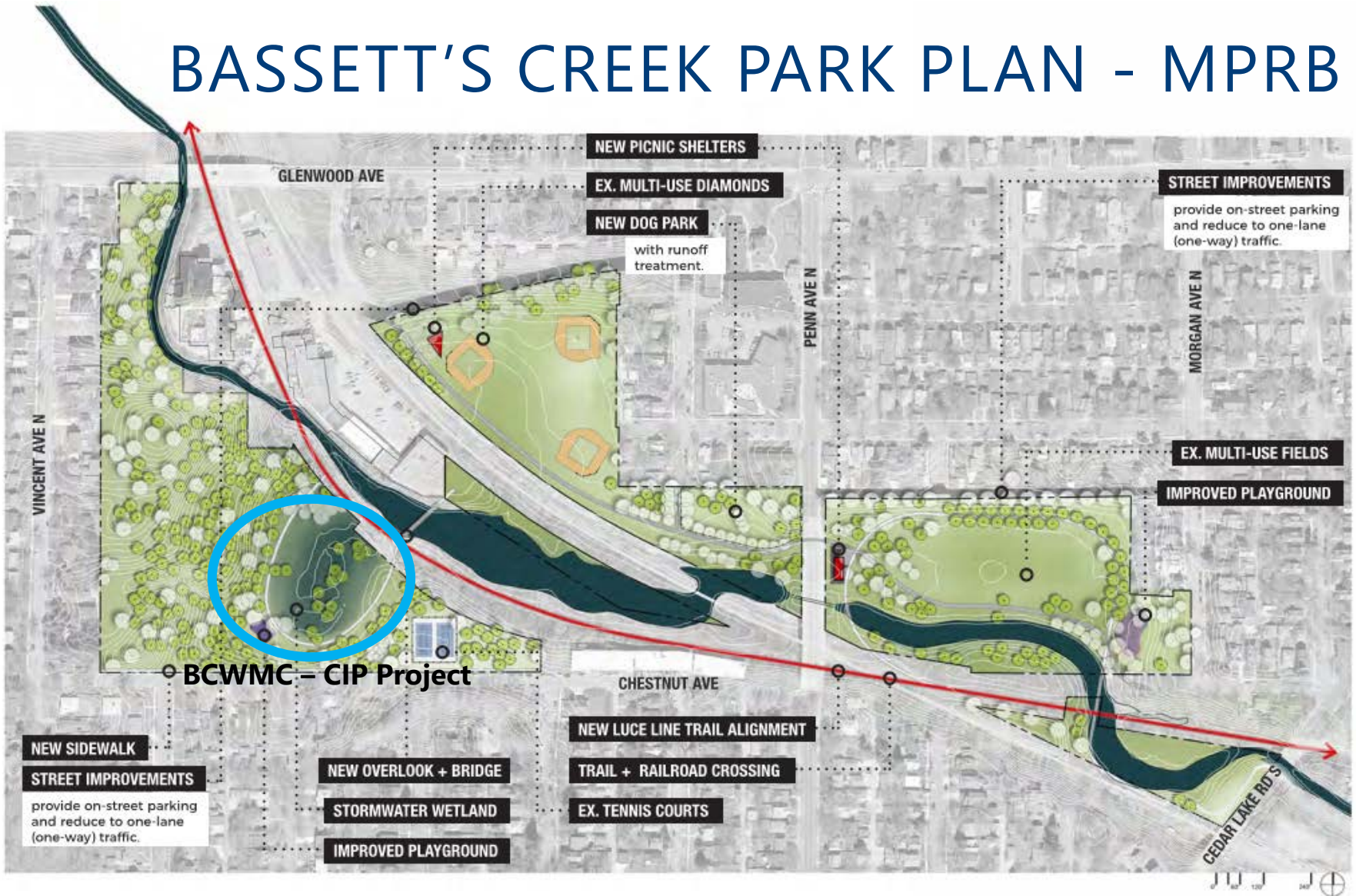


BRYN MAWR MEADOWS PARK PLAN - MPRB



PROPOSED PLAN: BRYN MAWR PARK

BASSETT'S CREEK PARK PLAN - MPRB



PROPOSED PLAN: BASSETT'S CREEK PARK

PROJECT DRIVERS – MPRB REGIONAL TRAIL CONNECTIONS

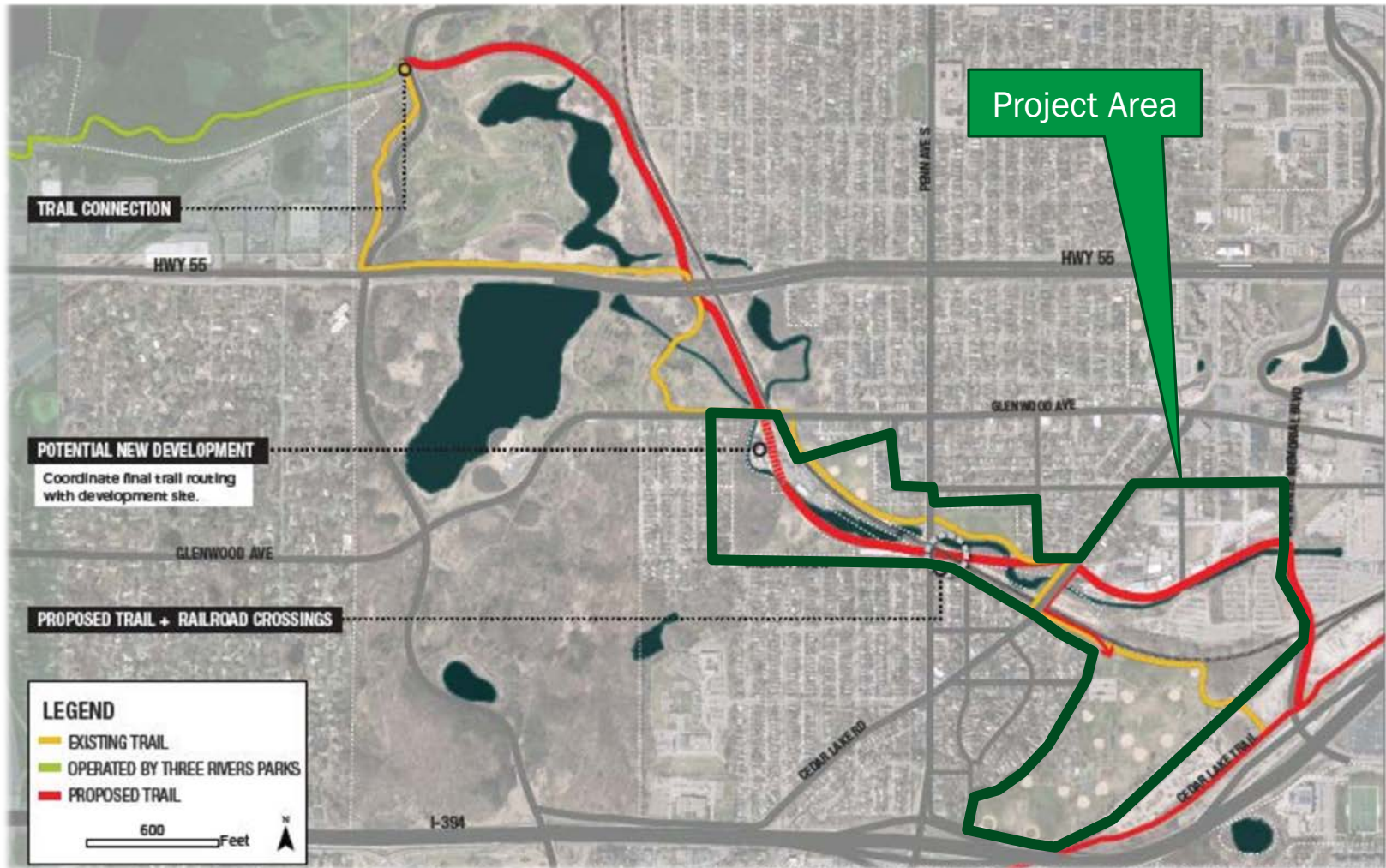
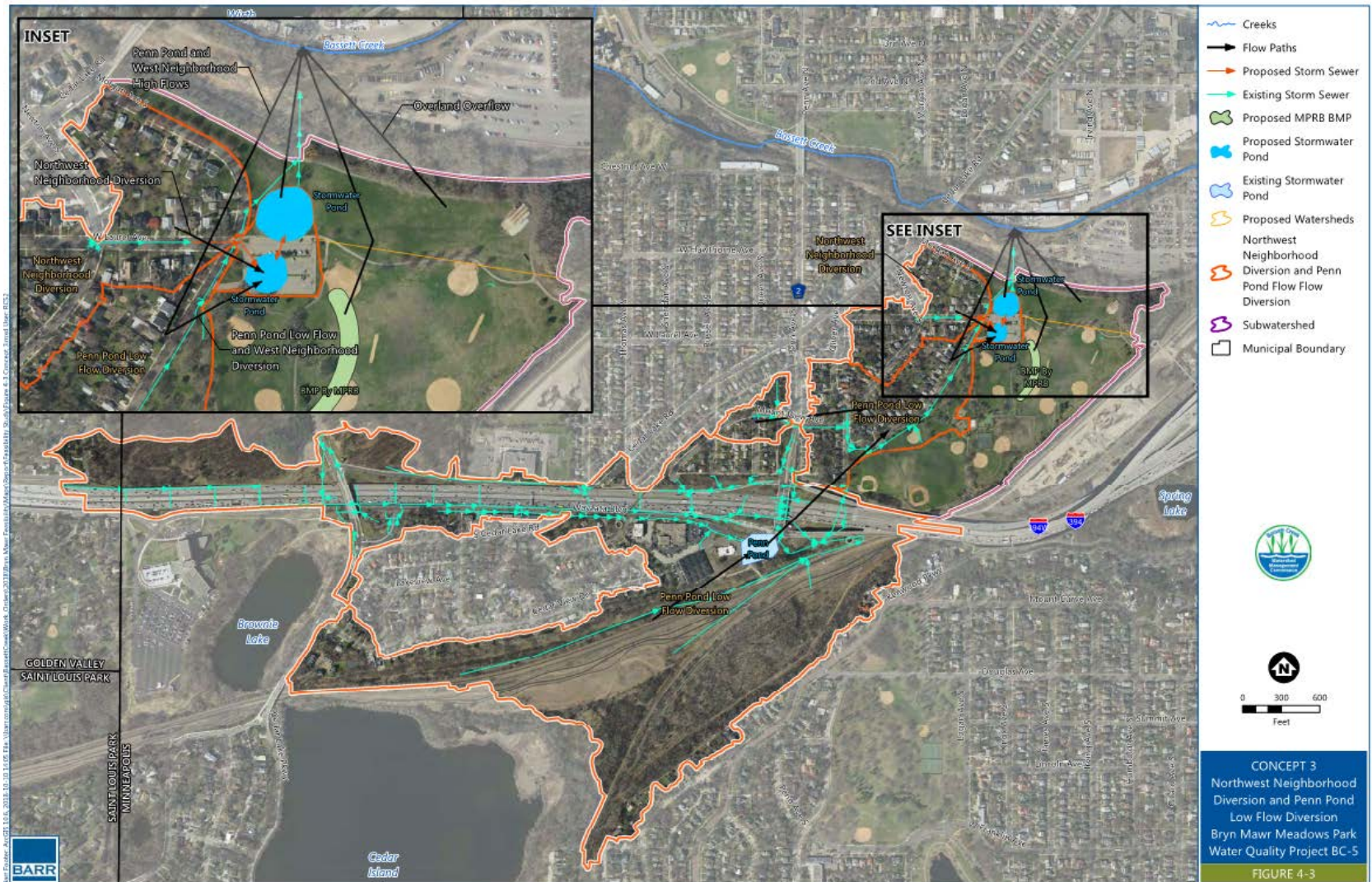


Figure from Minneapolis Park and Recreational Board- Luce Line Master Plan

BRYN MAWR MEADOWS WATER QUALITY FEASIBILITY STUDY - BCWMC



BASSETT CREEK STREAM RESTORATION – BCWMC + CITY OF MINNEAPOLIS



1 PLAN: SITE LAYOUT
 0 250 500
 SCALE IN FEET

GENERAL NOTES:

1. TOPO AND CONTROL GROUND SURVEY CONDUCTED BY BARR ENGINEERING IN 2017 IN HENNEPIN COUNTY FEET PROJECTION.
2. MANGERY, COPYRIGHT PICTOMETRY INTERNATIONAL CORP AND HENNEPIN COUNTY, MINNESOTA, 2015.
3. CONTRACTOR IS RESPONSIBLE TO LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO WORK.
4. ALL EXISTING ROADS, PARKING LOTS, TRAILS, FENCES, SIGNS, OR SIMILAR SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR RESPONSIBLE TO COORDINATE SURVEYS WITH THE CITY AND/OR OWNER TO DOCUMENT PRE-CONSTRUCTION EXISTING CONSTRUCTION ISSUES.
5. CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL BMPs PRIOR TO COMMENCEMENT OF GRADING FOR EACH LOCATION DURING CONSTRUCTION. EROSION CONTROL PLANS ARE PROVIDED INSIDE THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
6. ALL GROUND DISTURBANCE GENERATED FROM GRADING ACTIVITIES SHALL BE STABILIZED AND RESTORED WITH TOPSOIL, SEED 1/COVER CROP AND EROSION CONTROL BLANKET OR STRAW MULCH.
7. CONTRACTOR TO MAINTAIN EXISTING STREAM BOTTOM WIDTH SO NOT TO DECREASE CREEK CROSS SECTIONAL AREA DURING RIPRAP INSTALLATION.
8. CONSTRUCTION LIMITS AS SHOWN ARE APPROXIMATE FINAL CONSTRUCTION LIMITS TO BE COORDINATED WITH THE OWNER AND/OR ENGINEER AND STAKED IN THE FIELD.
9. TEST AND MANAGE DISTURBED SOILS ON SITE AS DESCRIBED IN THE RESPONSE ACTION PLAN.

**90% PLAN SET
 ISSUED FOR REVIEW
 NOT FOR CONSTRUCTION**

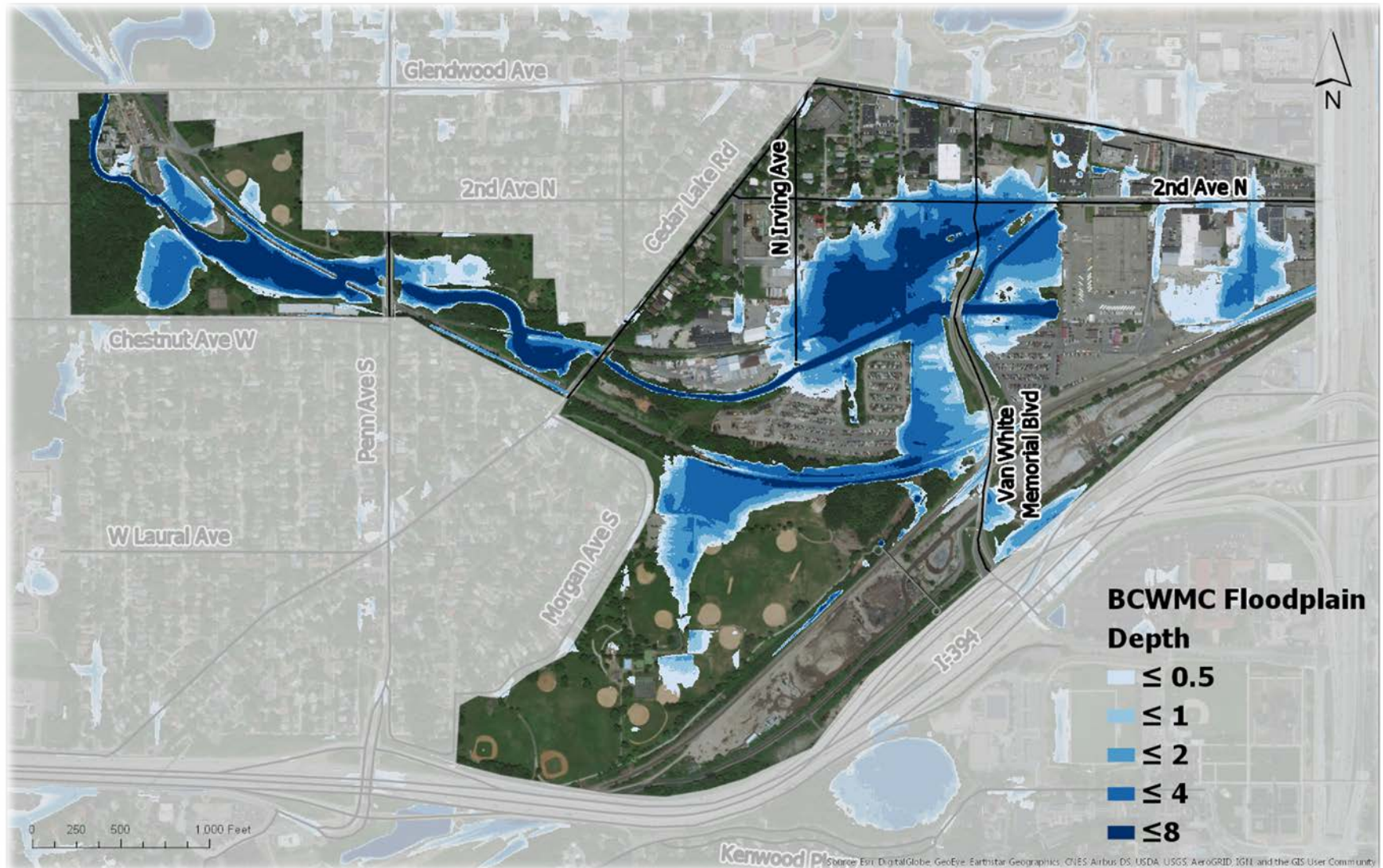
1. HENRY SHERRY AND THE BARR ENGINEERING COMPANY 2. DIRECT SUPERVISION AND TESTS AS A SELF-INSPECTED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PROJECT NAME: BASSSETT CREEK DRAWING NO. 18/05/2017-1579-001		Project Office: BARR ENGINEERING CO. 4300 MARQUETTE DRIVE SUITE 300 MINNEAPOLIS, MN 55435 Ph: 1-800-433-2277 Fax: (612) 432-2261 www.barr.com		Scale: AS SHOWN Date: 10/05/2017 Drawn: JCF Checked: ACH Designed: BARR Approved: JCF	CITY OF MINNEAPOLIS MINNEAPOLIS, MINNESOTA	BASSETT CREEK MAIN STEM STABILIZATION MINNEAPOLIS, MN SITE LAYOUT	BARR PROJECT No. 23/27-1579.00 CLIENT PROJECT No. — DWS No. C-01 REV. No. A
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NO.	BY	CHK	APP	DATE	REVISION DESCRIPTION
1	JCF	JCF	JCF	10/05/2017	ISSUED FOR REVIEW

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SITE CONSTRAINTS - FLOODPLAIN



Data from BCWMC XP-SWMM Model (Aug. 2017)

MOVING FORWARD

- Regional View of Solution
- Focused Common Goals
- Integrated as Site Amenity
- Connections to Community - Trails & Creeks
- Stacked Features

DEVELOPMENT AREA CONCEPT DESIGN - CPED

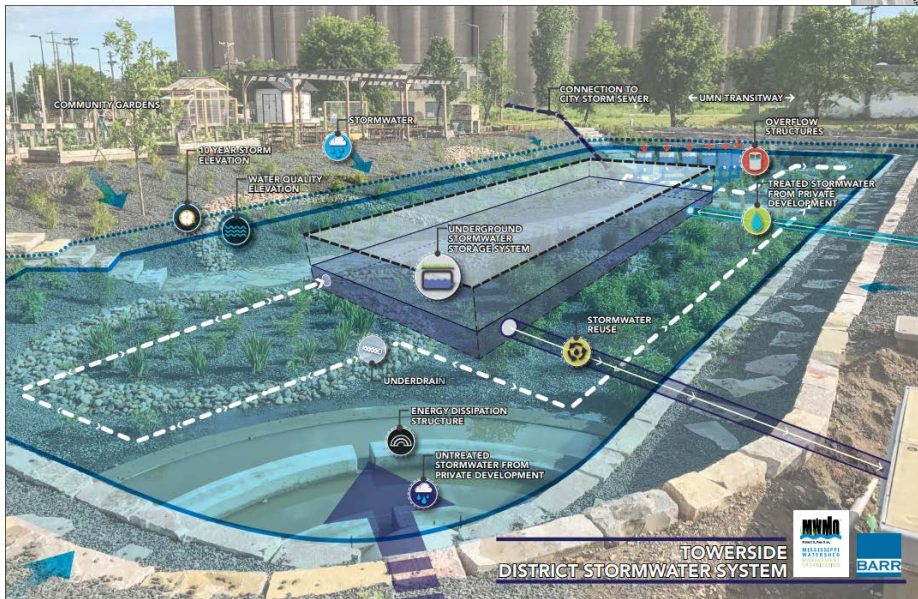


PRECEDENTS – STACKED FEATURES

Crystal, MN

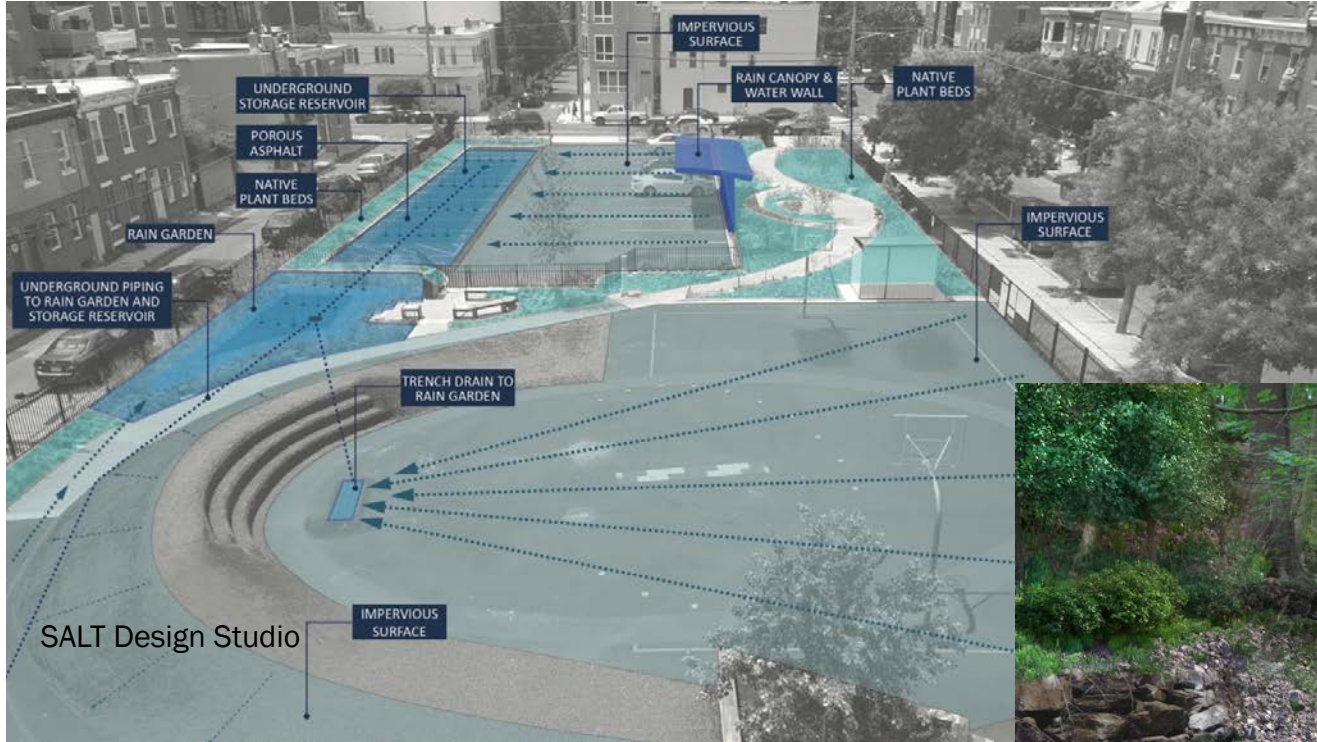


Minneapolis, MN



PRECEDENTS – STACKED FEATURES

Philadelphia – Chester Arthur Schoolyard



Washington, DC – Klingle Creek



PRECEDENTS – AMENITIES



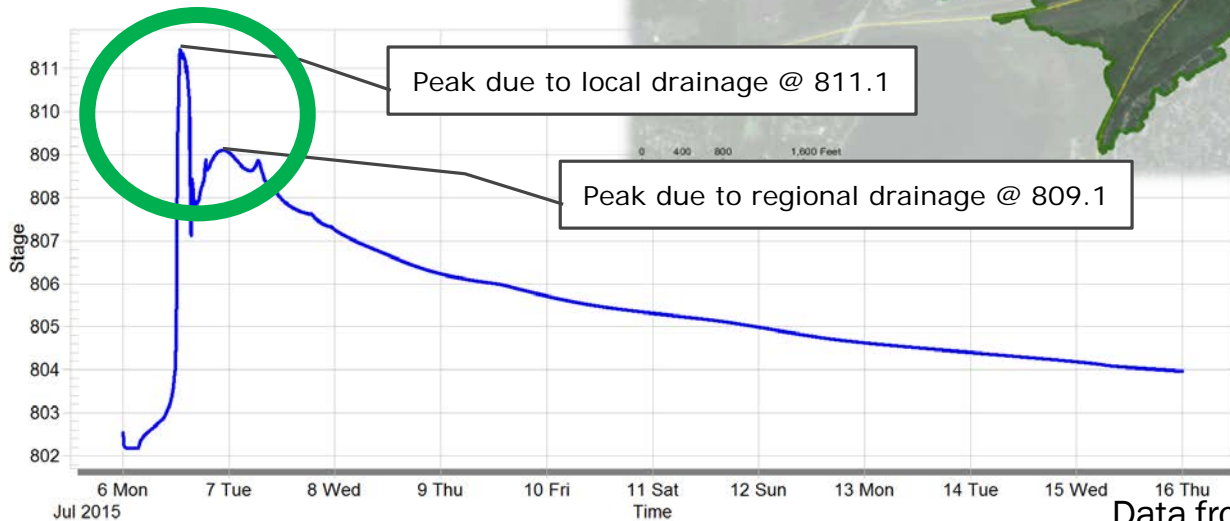
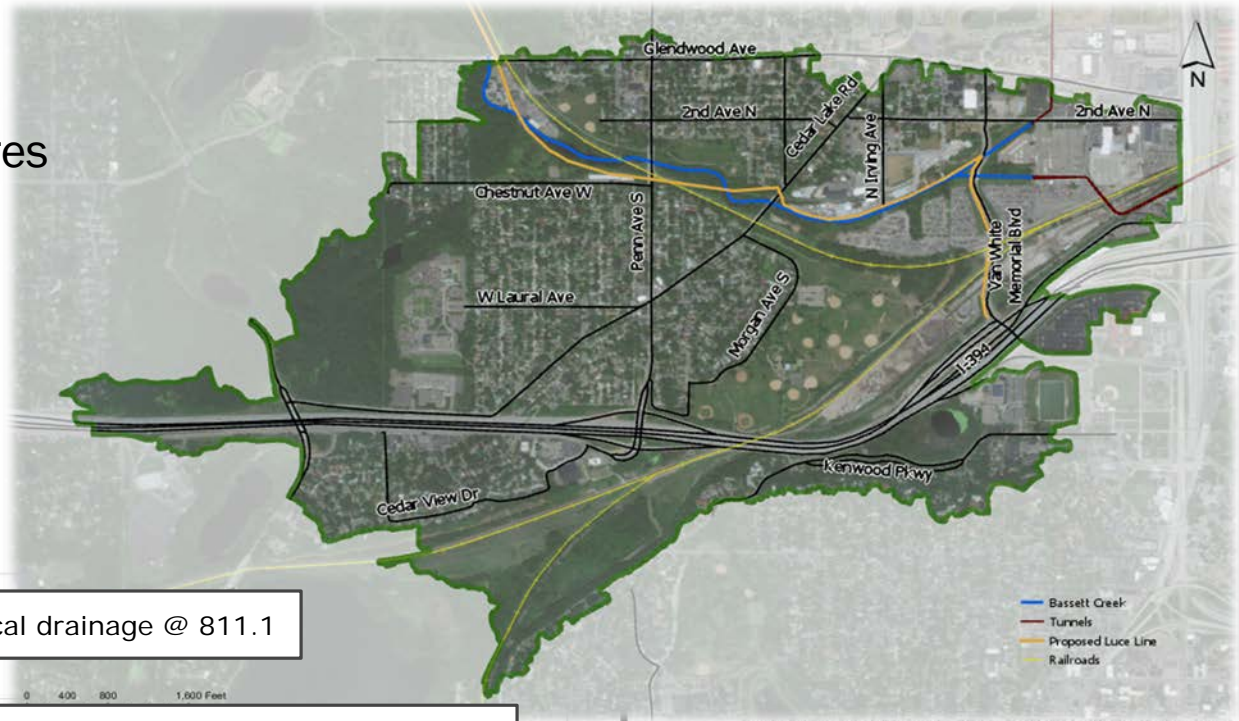
DESIRED OUTCOMES

- Optimize floodplain
- Improve water quality
- Connect corridors
- Maximize land use

How do we **integrate** all the Existing Plans and Projects?

REGIONAL VS LOCALIZED FLOW

Regional Area > 20,000 acres
Local area 900 acres

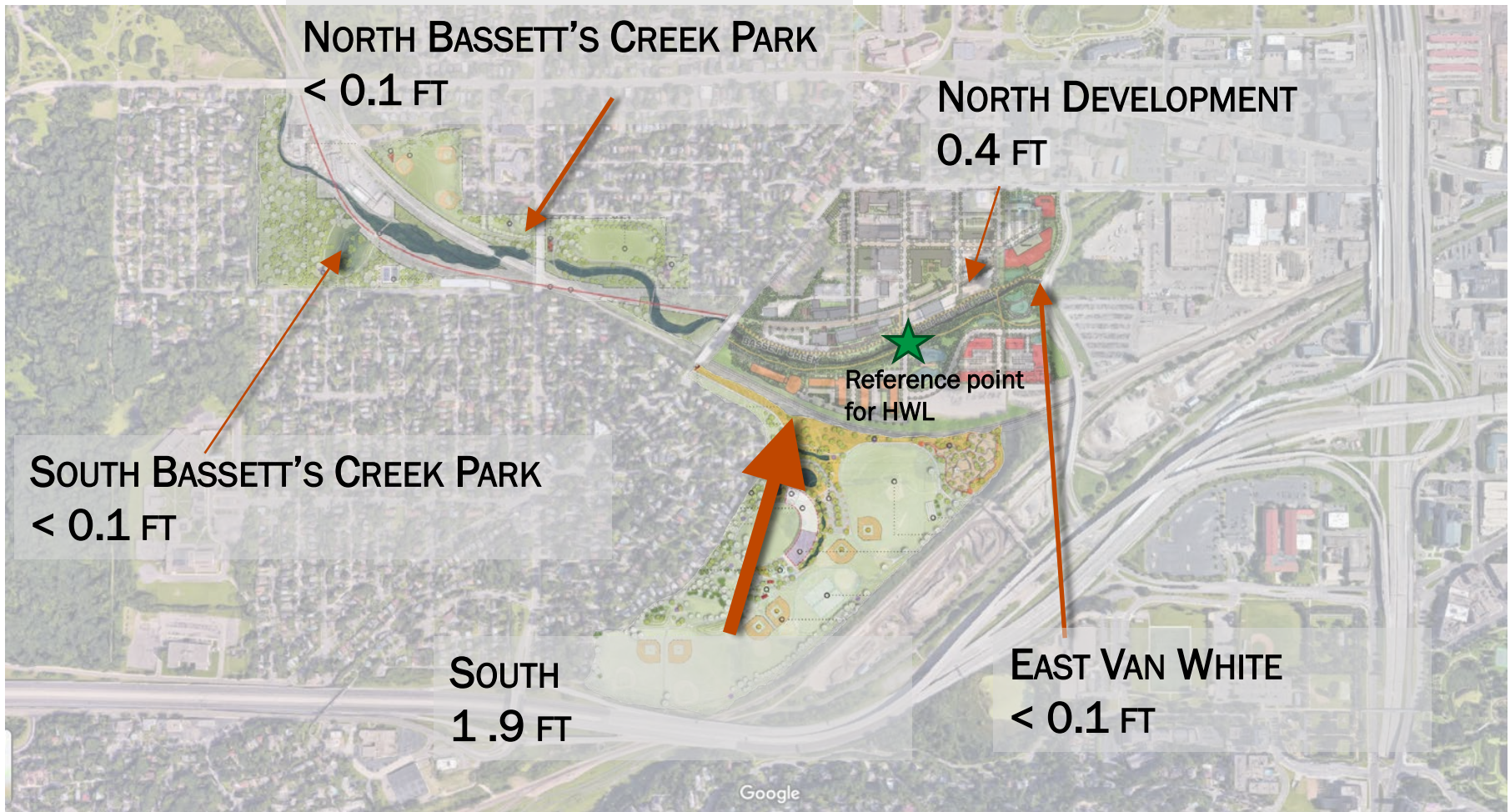


Data from BCWMC XP-SWMM Model (Aug. 2017)

POTENTIAL PROJECT LOCATIONS



WATERSHED INFLUENCE ON HWL



Data from BCWMC XP-SWMM Model (Aug. 2017)

SITE SUITABILITY

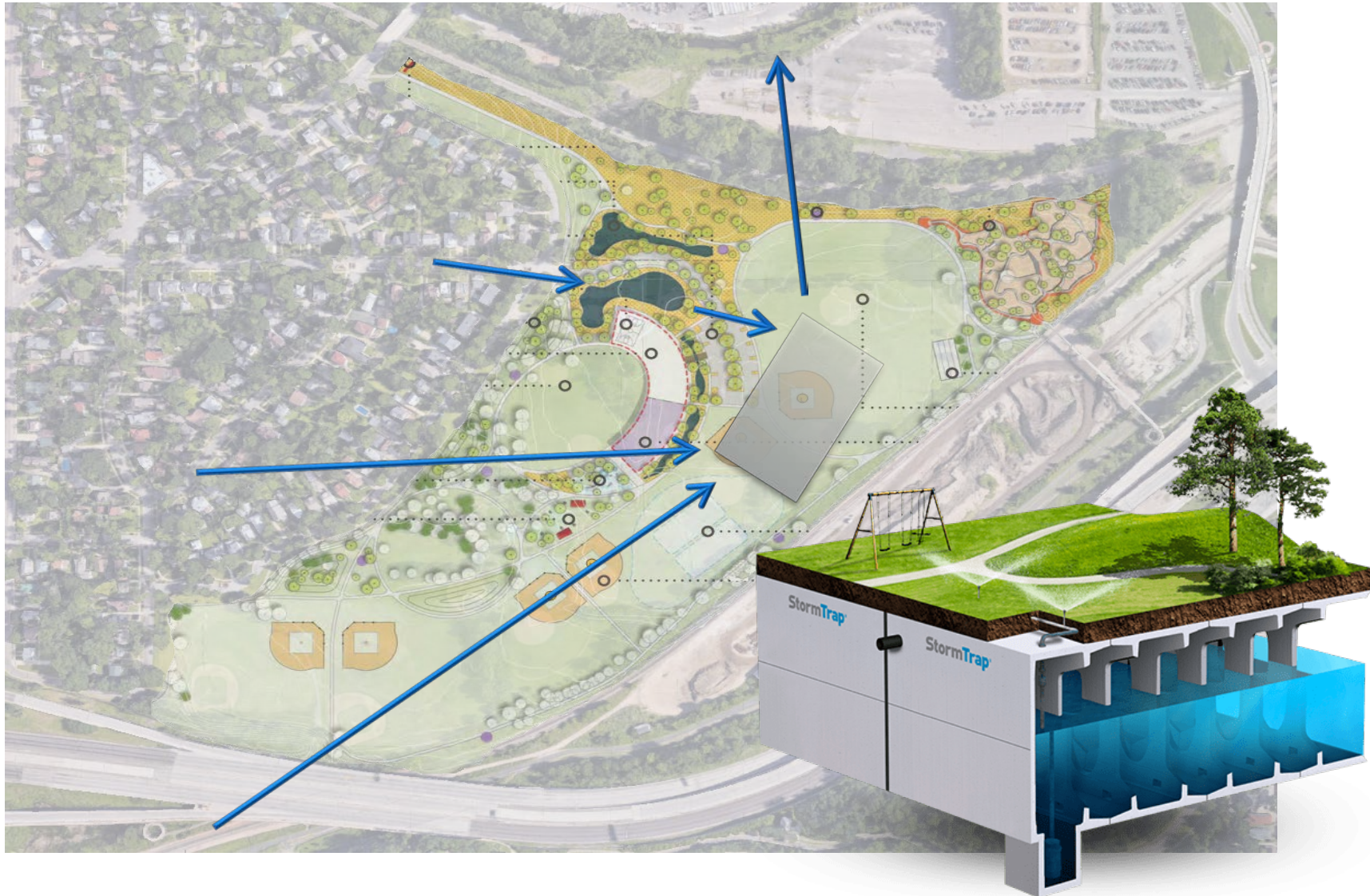


SITE SUITABILITY

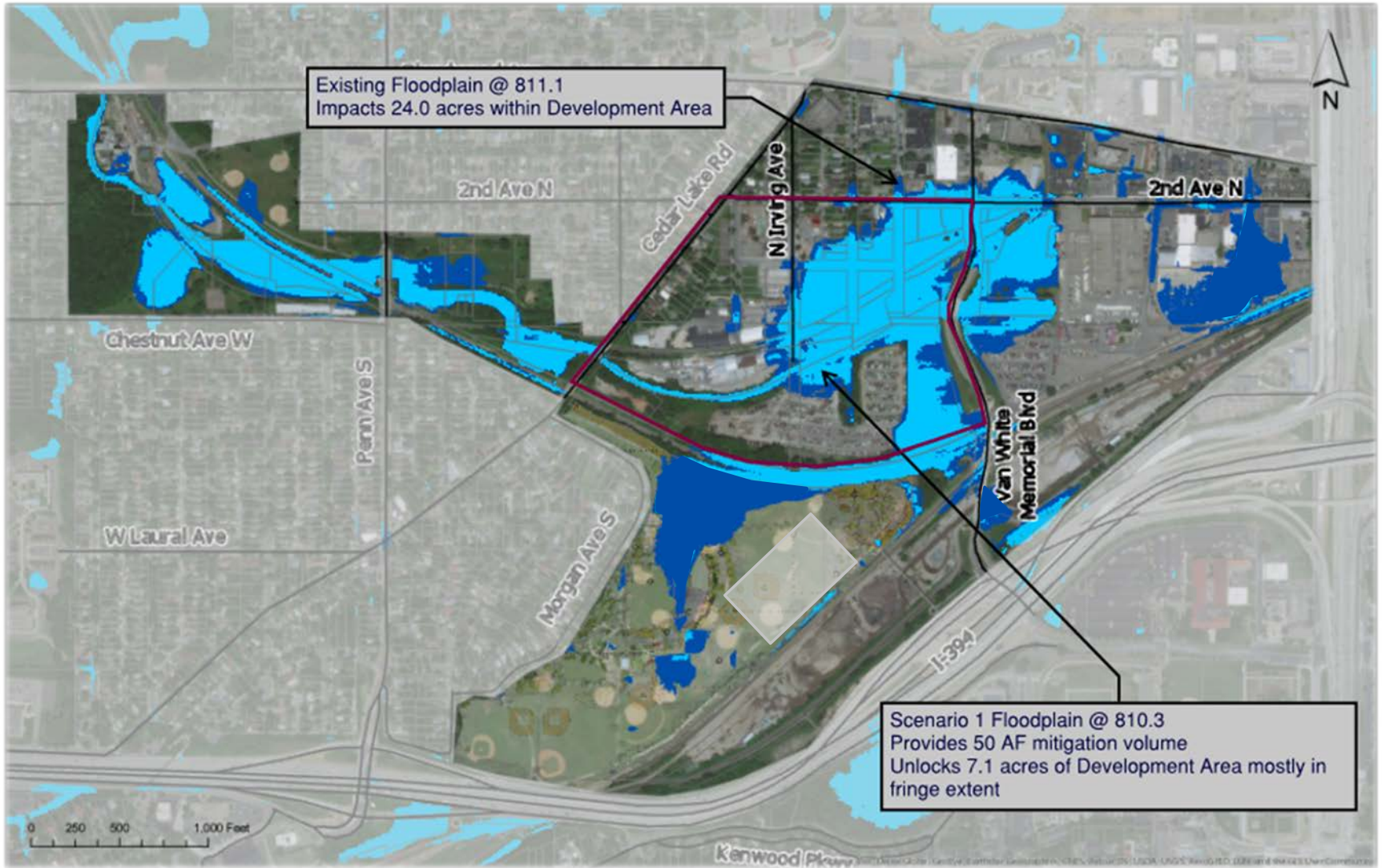


- All project locations have
- Ability to store water
 - Future construction plans
 - Significant reductions to HWL

BRYN MAWR MEADOWS PARK



BRYN MAWR MEADOWS PARK



BASSETT CREEK CORRIDOR

CIP PROJECT - EROSION CONTROL
AND STREAMBANK STABILIZATION
- RECONSTRUCT BANKS FROM
CEDAR LAKE ROAD TO VAN
WHITE BLVD



POTENTIAL CHANNEL MODIFICATIONS

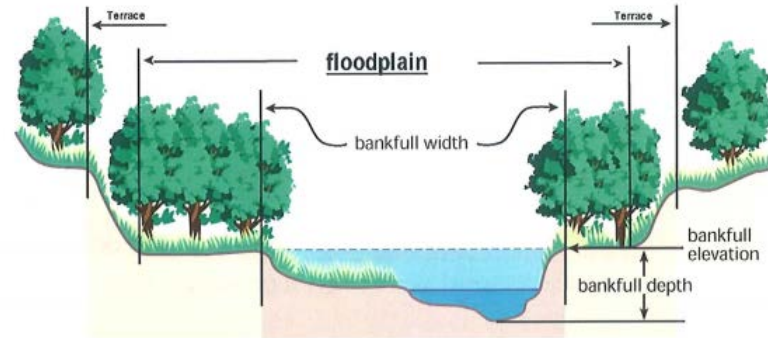
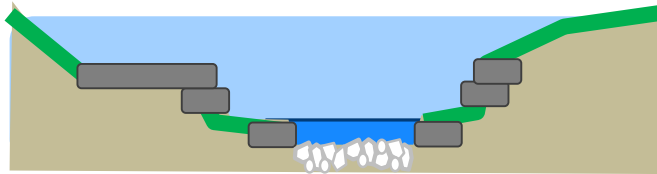
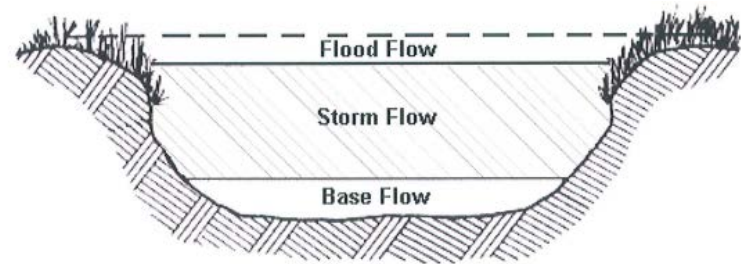
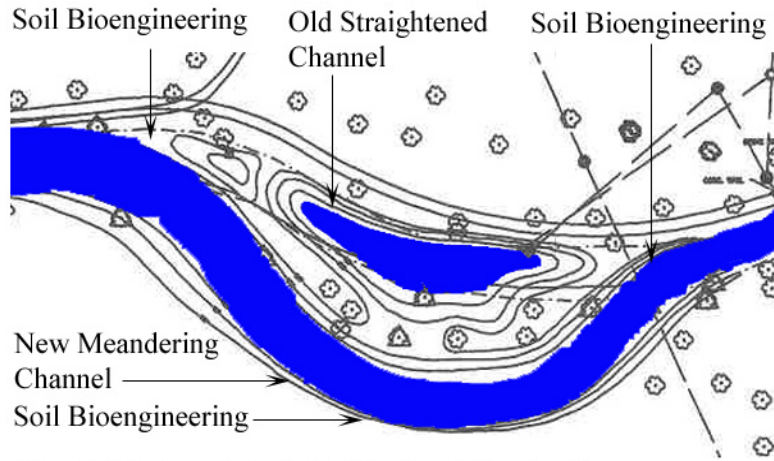
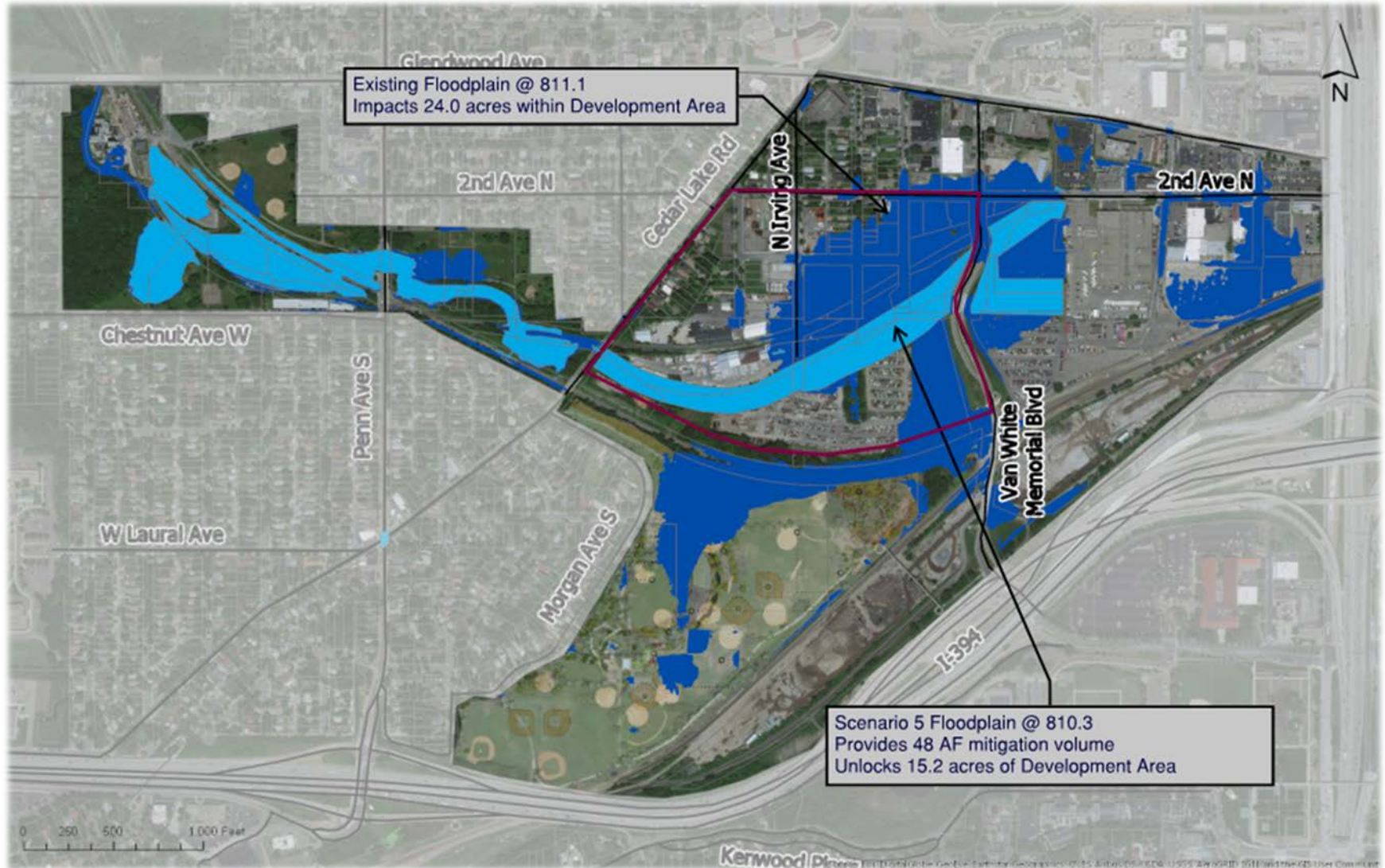


Figure 2.7 Shows a typical cross section of a stream system (USDA-NRCS, 1998)

BASSETT CREEK CORRIDOR



SCENARIO COST

Scenario	Project Type & Location	Mitigation Storage Volume (AF)	Area Unlocked (acres) ⁽²⁾	Flood Elevation (ft)	Estimated Capital Cost (\$M) ⁽²⁾	Cost per Acre Flood Reduction (\$M/ac)
1	Underground in Bryn Mawr	50	7.1	810.3	\$36 - 72.7	5.1 – 10.2
5	New XS in Corridor	48	15.2	810.3	\$3.7 – 7.3 \$10.3 – 20.5	0.24 - 0.48 0.68 - 1.3

¹ Existing condition has 24.0 acres of flooding in Development Area, total area of 60 acres

² Scenarios 5: lower range assumes no soil contamination, upper range assumes all soil contaminated

WHERE ARE WE HEADED?

Denver- The River Mile



Image from Shears Adkins Rockmore Architects

WHERE ARE WE HEADED?

Grand River Corridor, MI



WHERE ARE WE HEADED?

Fort Wayne, IN



NEXT STEPS

- Explore Funding Mechanisms
- Evaluate Byrn Mawr Design Refinement
- Engage DNR for Permitting Needs
- Finalize Contamination Investigation for Impound Lot
- Refine Local & Regional H&H Models
- Consider Land Acquisitions



Concept View from CPED Pre-redevelopment Study



Responsive partner.
Exceptional outcomes.