



AGENDA OF THE ECONOMIC DEVELOPMENT AUTHORITY

THURSDAY, FEBRUARY 18, 2021, 5:00 PM
Virtual Meeting. Public may join via Zoom.

A. Zoom Meeting Information.

1. This item contains documents which provide call in information and instructions for the Zoom Meeting.

B. Roll Call.

1. Members: Pam Parish - Chair, Michael Peot - Vice-Chair, Ald. Brian Johnson, John Calewarts, Glen Sherman and Tara Yang

C. Approval of the Agenda.

1. Approval of the agenda for the February 18, 2021, meeting of the Economic Development Authority.

D. Approval of Minutes.

1. Approval of the minutes from the November 9, 2020, meeting of the Economic Development Authority.

E. Regular Business.

1. Appointment of Neil Stechschulte as Secretary of the Economic Development Authority.
2. Consideration with possible action on the Shipyard Corridor Brownfields Study and Redevelopment Guide.

F. Informational.

1. Director's Report.
2. Brownfields Program Update.
3. Date of next meeting: March 1, 2021

G. Adjournment.

H. EDA Workshop

I. EDA Workshop presented by Staff.

- 1) THIS MEETING IS RECORDED: THE VIDEO OF THIS MEETING AND MINUTES ARE AVAILABLE ONLINE AT www.greenbaywi.gov
- 2) ACCESSIBILITY: Any person wishing to attend who requires special accommodation because of a disability, should contact the City Safety Manager at 920-448-3125 at least 48 hours before the scheduled meeting time so that arrangements can be made.
- 3) QUORUM: Please take notice that a majority or quorum of the Common Council will attend this Economic Development Authority meeting and will constitute a meeting of the Common Council for purposes of discussion and information gathering relative to this agenda.
- 4) REPRESENTATION: The party requesting the communication, or their representative, should be present at this meeting.

Virtual Meeting Instructions

Economic Development Authority



Zoom Meeting Information

Join Zoom Meeting

<https://us02web.zoom.us/j/82648498507?pwd=ZmZlMDVuenpISGV0dWxqcUJLRGZEU09>

Meeting ID: 826 4849 8507

Passcode: 483400

One tap mobile

+1 646 876 9923,,82648498507# US (New York)

+1 301 715 8592,,82648498507# US (Germantown)

Dial by your location

+1 646 876 9923 US (New York)

+1 301 715 8592 US (Germantown)

+1 312 626 6799 US (Chicago)

+1 346 248 7799 US (Houston)

+1 408 638 0968 US (San Jose)

+1 669 900 6833 US (San Jose)

+1 253 215 8782 US (Tacoma)

Meeting ID: 826 4849 8507

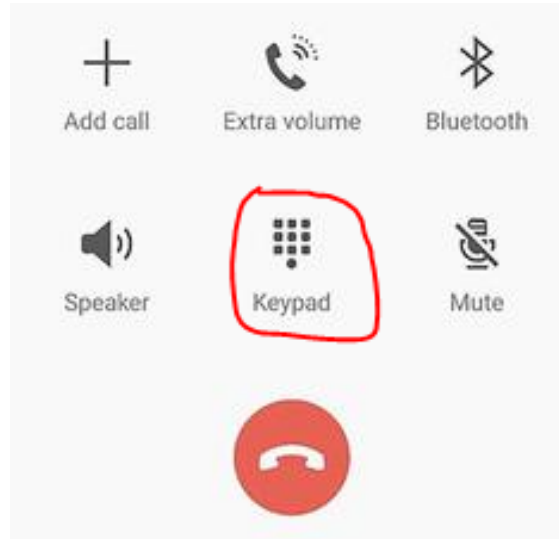
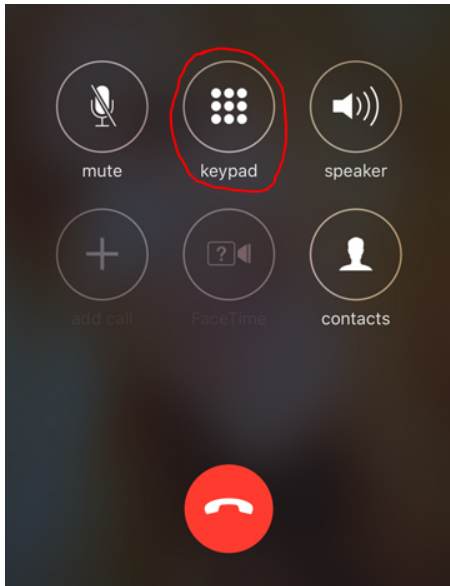
Find your local number: <https://us02web.zoom.us/j/kcKgDFBpar>

Additional Information

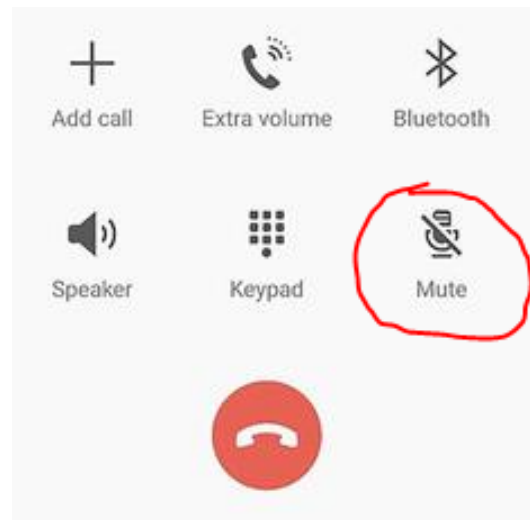
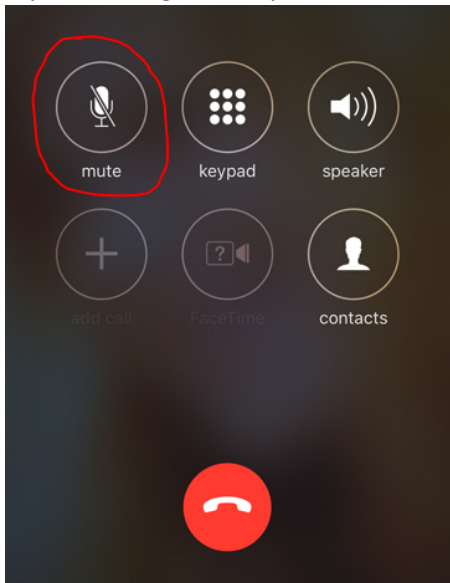
1. Wisconsin Open Meetings Law still applies
 - a. Persons interested in speaking to an item must give their name and address
 - b. Committee/Commission/Board members will still follow *Roberts Rules of Order*
2. All zoom meetings will have a password in the instructions. Please enter when prompted.
3. Please log into the Zoom meeting 10 minutes before the meeting starts to ensure proper technology is working.
 - a. If you are a Board Member, please log into [CivicClerk](#) with a computer, laptop, or tablet device.
4. Once you are in the meeting please mute yourselves.
 - a. You may unmute yourself when you are called upon to speak.
5. Waiting room
 - a. When you call in, all callers/participants will be placed in a “waiting room.”
 - b. Persons on the agenda will be admitted to the meeting, and then once the item is concluded, the host will permanently mute you from the meeting (you can still hear the meeting).
6. Using Zoom with a tablet or computer
 - a. Tablet—you will be asked to sign in. Download the app either with the Apple Store or the Play Store
 - b. Computer—you will be asked to sign in. You may download the app or click on the link to open Zoom in your browser.
7. Registering
 - a. The host may ask you to register for the meeting. A registration link will be sent to you along with the invite. You’ll receive another email confirming that you’re registered for the meeting.
 - b. If you’re using a phone, your registration will still be tied to an email.
8. Raising your hand
 - a. Committee members—you can either use CivicClerk and request to speak or you can “raise your hand” in the zoom meeting (you’d need to use a computer or tablet) to let the host know you’d like to speak. You can also un-mute yourselves and start speaking.
 - b. Persons on the agenda—you can “raise your hand” but you’d need to use a computer. You will be allowed to speak, per Wisconsin Open Meetings Rules, once the committee has “opened the floor for interested parties to speak.” Once the committee is finished with your agenda item, the host will mute you permanently, unless the committee opens the floor again.
9. What devices should I use?
 - a. Smart phone (please see more detailed instructions on page 3)
 - b. Land line
 - c. Tablet—well in advance of the meeting, please download the Zoom Meeting app before you join a meeting by using either the Apple Store or the Play Store. You will be asked to input your name, thus identifying you for the meeting. You’ll also be asked to verify your email.
 - d. Computer—well in advance of the meeting, please download the Zoom Meeting app, but you can also click on a link to open the Zoom Meeting in your browser. You will be asked to input your name, thus identifying you for the meeting.
 - e. For tablet and computer users—if you download the app you will be asked to verify your email.
10. Zoom etiquette
 - a. Muting yourselves when you’re not talking will prevent your background noise from interfering with others’ ability to listen to and participate in the meeting.
 - b. If you’re using a telephone, please identify yourself with your phone number and name before you speak. Zoom meeting hosts can see only your telephone number and will ask you to identify yourselves.
11. Closed session
 - a. Persons in the Zoom meeting will be put into a waiting room while the committee meets in Closed Session. Participants will be admitted back into the Zoom meeting once the committee reconvenes in Open Session.
 - b. Persons watching live on YouTube will see a gray screen with the City logo during closed session.
12. Persons interested in listening to the meeting can go to www.youtube.com/CityofGreenBay

Calling into the Zoom meeting using a smartphone

1. Dial the phone number listed at the beginning of this document.
2. When prompted, enter the Meeting ID number followed by #
 - a. If you're using a smartphone, you can access the keypad by clicking "Keypad" on your screen



3. Once you are in the meeting, notify the meeting host that you are in and state your name.
4. If you do not need to talk, please make sure your phone is on **Mute**
 - a. If you're using a smartphone, look at your screen and click the Mute button



- b. If you're using a computer, you should see a Mute button in the Zoom application





MINUTES OF THE ECONOMIC DEVELOPMENT AUTHORITY

MONDAY, NOVEMBER 9, 2020, 5:00 PM
Virtual Meeting. Public may join via Zoom.

A. ZOOM MEETING INFORMATION.

I. This item contains documents which provide call in information and instructions for the Zoom Meeting.

B. ROLL CALL.

I. Members: Pam Parish - Chair, Michael Peot - Vice-Chair, Ald. Brian Johnson, John Calewarts, Glen Sherman and Tara Yang

Present: Glen Sherman, Mike Peot, John Calewarts, Brian Johnson, Tara Yang, Excused: Pam Parish

C. APPROVAL OF THE AGENDA.

I. Approval of the agenda for the November 9, 2020, meeting of the Economic Development Authority.

Moved by Ald. Brian Johnson, seconded by Tara Yang to approve the agenda for the November 9, 2020 meeting of the Economic Development Authority. Motion carried.

Yes- Brian Johnson, Mike Peot, John Calewarts, Glen Sherman, Tara Yang, No- None, Abstain- None

D. APPROVAL OF MINUTES.

I. Approval of the minutes from the October 5, 2020, meeting of the Economic Development Authority.

Moved by Ald. Brian Johnson, seconded by John Calewarts to approve the minutes from the October 5, 2020, meeting of the Economic Development Authority. Motion carried.

Yes- Brian Johnson, Mike Peot, John Calewarts, Glen Sherman, Tara Yang, No- None, Abstain- None

E. REGULAR BUSINESS.

I. Consideration with possible action on Request for Proposal #3276 for professional environmental services for Brownfields Revolving Loan Fund (RLF).

The Committee may convene in closed session pursuant to Sections 19.85(1)(e), Wis. Stats., for purposes of deliberating or negotiating the sale of public properties, investing of public funds or conducting other specified public business as necessary for competitive or bargaining reasons. The Committee may thereafter reconvene in open session pursuant to Section 19.85(2), Wis. Stats., to report the results of the closed session and consider the balance of the agenda.

Moved by Ald. Brian Johnson, seconded by Tara Yang to enter into professional services agreements with GEI Consulting to serve as the primary qualified environmental professional (QEP) and Stantec to serve as secondary QEP for Brownfields Revolving Loan Fund (RLF). Motion carried.

Yes- Brian Johnson, Mike Peot, John Calewarts, Glen Sherman, Tara Yang, No- None, Abstain- None

F. INFORMATIONAL.

I. Director's Report.

Wendy Townsend and David Buck provided an update.

Moved by Ald. Brian Johnson, seconded by Tara Yang to receive and place on file. Motion carried.

Yes- Brian Johnson, Mike Peot, John Calewarts, Glen Sherman, Tara Yang, No- None, Abstain- None

2. Brownfields Program Update.

Matt Buchanan provided an update.

Moved by Ald. Brian Johnson, seconded by Tara Yang to receive and place on file. Motion carried.

Yes- Brian Johnson, Mike Peot, John Calewarts, Glen Sherman, Tara Yang, No- None, Abstain- None

3. Date of next meeting: December 7, 2020.

G. ADJOURNMENT.

Moved by Ald. Brian Johnson, seconded by John Calewarts to adjourn. Motion carried.

Yes- Brian Johnson, Mike Peot, John Calewarts, Glen Sherman, Tara Yang, No- None, Abstain- None



Report to the
Economic Development Authority
of the City of Green Bay

MEETING DATE

February 18, 2021

PREPARED BY

Matt Buchanan, Staff

AGENDA ITEM # E.2

Consideration with possible action on the Shipyard Corridor Brownfields Study and Redevelopment Guide.

BACKGROUND

Late last year, the City of Green Bay received a technical assistance grant to support the City's ongoing efforts to facilitate the cleanup and redevelopment of brownfield sites along the South Broadway Corridor near the Shipyard (100 W. Mason Street). This effort advances a neighborhood revitalization strategy completed in early 2020, through a separate EPA technical assistance grant that entailed a community meeting and a one-day technical workshop with neighborhood leaders, local housing experts and other key stakeholders.

As part of this latest technical assistance grant, the EPA and City partnered with the consulting firm Stantec to conduct an in-depth study of the corridor along S. Broadway between Mason and Howard streets. The study examined existing conditions, identified brownfield properties and analyzed redevelopment constraints, such as site contamination, flooding/stormwater management and geotechnical suitability of key properties. Using the information gathered from the study, as well as public and stakeholder input received, the project team prepared guidance and recommendations for redevelopment. This guidance includes a vision for new land uses, building densities and ideas to address stormwater challenges through green infrastructure.

City staff and EDA may rely on the Shipyard Corridor Study and Redevelopment Guide when determining how to best utilize it's Brownfields Assessment Grant and the Brownfields Revolving Loan Fund. Furthermore, the guide may be used to prepare requests for proposals (RFPs) for the redevelopment of RDA-owned land within the corridor. Elements of the guide may also be incorporated into updates to the City's Comprehensive Plan and other formal planning documents.

RECOMMENDATION

Staff is recommending approval of the Shipyard Corridor Study and Redevelopment Guide.

FISCAL IMPACT

The Shipyard Corridor Study and Redevelopment Guide was prepared through a U.S. EPA technical assistance grant and did not have a direct fiscal impact to the City of Green Bay.

ATTACHMENTS

1. Shipyard Corridor Report_Final_Appendix_B
2. Shipyard Corridor Report_Final_Appendix_C
3. Shipyard Corridor Report_FINAL_111720
4. Shipyard Corridor Report_Final_Appendix_A

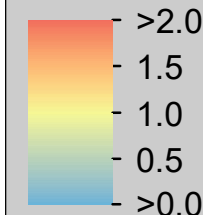
B

APPENDIX B

**MCMAHON GROUP
ANALYSIS**



**September, 2015
Flooding Depth (in feet)**



Other Mapped Features

- Manhole
- 12" Storm Main and Diameter
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.

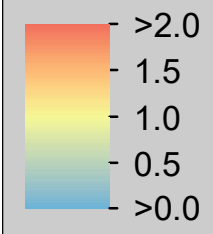


McMAHON
ENGINEERS ARCHITECTS

**BASIN 106 - 108
EXISTING CONDITIONS
SEPTEMBER 2015 STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



10 Year Storm Flooding Depth (in feet)



Other Mapped Features

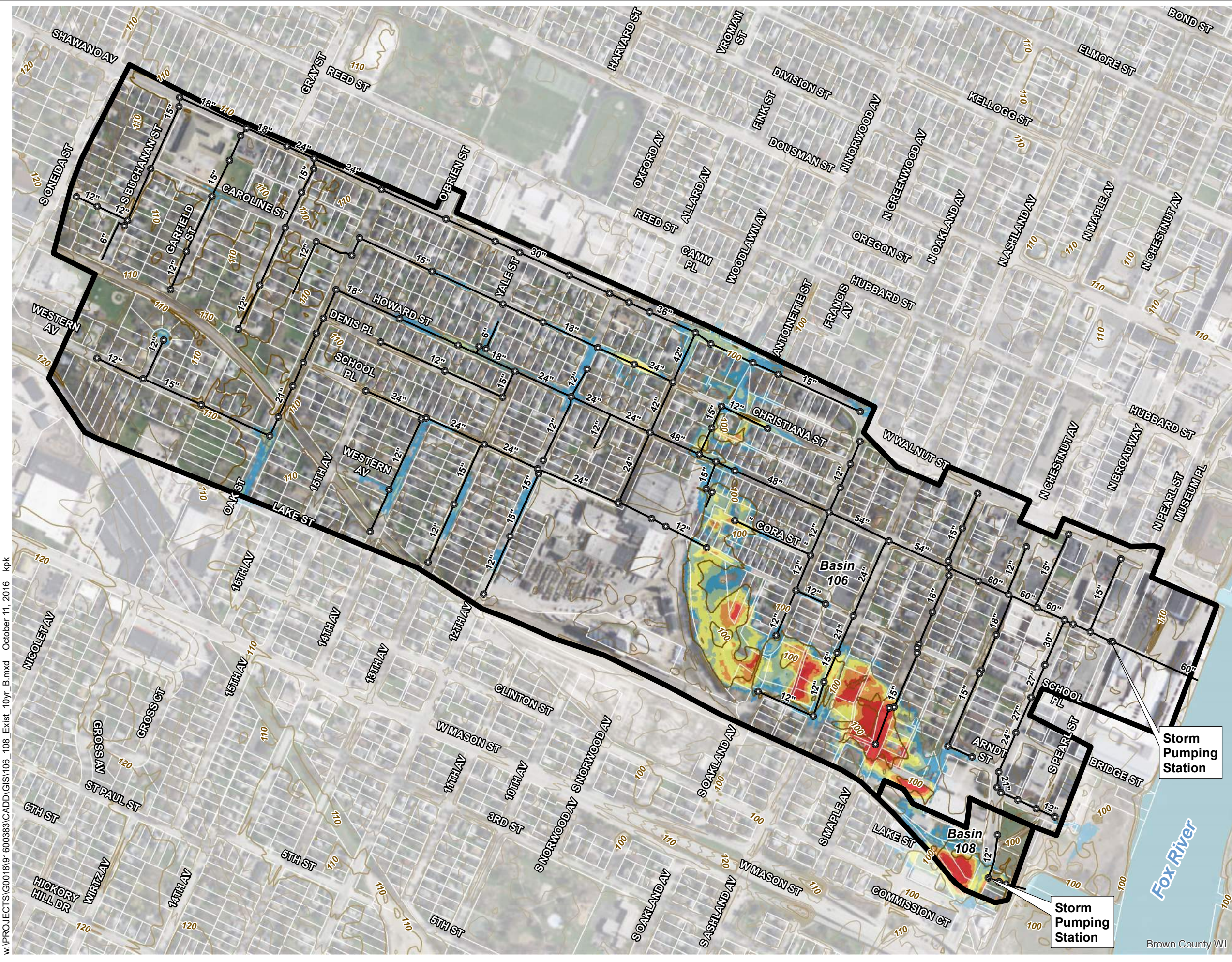
- Manhole
- 12" Storm Main and Diameter
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



**BASIN 106 - 108
EXISTING CONDITIONS
10 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



w:\PROJECTS\G0018\1600383\CADD\GIS\106_108_Exist_10yr_B.mxd October 11, 2016 kpk



- Manhole
- 12" Storm Main and Diameter
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



BASIN 106 - 108
EXISTING CONDITIONS
25 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN



- Manhole
- 12" Storm Main and Diameter
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



BASIN 106 - 108
EXISTING CONDITIONS
100 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN

Owner: City of Green Bay
Project Name: Hydrologic and Hydraulic Analysis
Contract No. G0018-9-16-00383
Date: September 30, 2016
Basin: BASIN 106
Alternative: Alternative 1 - 26 ac-ft Dry Pond, Upsize Storm Sewer
Project Manager: Nick Vande Hey

Item	Qty	Unit	Description	Unit Price	Total
1	1	L.S.	Demolition for Dry Pond	\$50,000.00	\$50,000.00
2	1	L.S.	Traffic Control	\$25,000.00	\$25,000.00
3	2,500	L.F.	Silt Fence	\$1.50	\$3,750.00
4	54	EA.	Inlet Protection	\$75.00	\$4,050.00
5	1	EA.	Tracking Pad &/or Tire Washing	\$1,000.00	\$1,000.00
6	1	L.S.	Dewatering	\$6,000.00	\$6,000.00
7	41,500	C.Y.	Unclassified Excavation for Dry Pond (hailed off-site far with traffic lights)	\$9.00	\$373,500.00
8	890	L.F.	54-Inch Storm Sewer	\$230.00	\$204,700.00
9	3,055	L.F.	48-Inch Storm Sewer	\$190.00	\$580,450.00
10	770	L.F.	36-Inch Storm Sewer	\$120.00	\$92,400.00
11	2,005	L.F.	30-Inch Storm Sewer	\$110.00	\$220,550.00
12	2,390	L.F.	24-Inch Storm Sewer	\$90.00	\$215,100.00
13	1,630	L.F.	18-Inch Storm Sewer	\$80.00	\$130,400.00
14	880	L.F.	Abandon Storm Sewer with Slurry	\$20.00	\$17,600.00
15	2	EA.	RCP Apron Endwall with Joint Ties & Trash Guard (>30")	\$3,500.00	\$7,000.00
16	57	V.F.	Storm Manhole or Inlet Manhole (>8' Dia)	\$900.00	\$50,940.00
17	98	V.F.	Storm Manhole or Inlet Manhole (8' Dia)	\$800.00	\$78,000.00
18	24	V.F.	Storm Manhole or Inlet Manhole (6' Dia)	\$600.00	\$14,220.00
19	53	V.F.	Storm Manhole or Inlet Manhole (5' Dia)	\$500.00	\$26,450.00
20	106	V.F.	Storm Manhole or Inlet Manhole (4' Dia)	\$400.00	\$42,240.00
21	60	C.Y.	Heavy Rip Rap with Type HR Fabric	\$50.00	\$3,000.00
22	760	L.F.	Lower Watermain	\$150.00	\$114,000.00
23	123	EA.	Water Service Adjustments	\$250.00	\$30,750.00
24	20	EA.	Sanitary Service Adjustments	\$250.00	\$5,000.00
25	1,100	L.F.	8-Inch Sanitary Sewer Relay	\$80.00	\$88,000.00
26	1,400	L.F.	Concrete Curb & Gutter Restoration	\$30.00	\$42,000.00
27	400	S.Y.	Concrete Sidewalk Restoration 4-Inch	\$55.00	\$22,000.00
28	80	S.Y.	Asphalt Driveway Restoration	\$45.00	\$3,600.00
29	9,600	S.Y.	Asphalt Street Restoration - 3.5-Inch Pavement, 12-Inch Base	\$35.00	\$336,000.00
30	2,300	S.Y.	Concrete Pavement Restoration (Full Panel) 8-Inch PCC Dowels, 6-Inch Base	\$80.00	\$184,000.00
31	23,232	S.Y.	Turf Grass (4" Topsoil, Fertilizer, Seed & Mulch)	\$3.00	\$69,696.00
32	23,232	S.Y.	WDOT Class I, Urban Type A Erosion Mat	\$1.50	\$34,848.00

Acres
 Acres

Construction
Engineering / Contingency (30%)
Land Acquisition
Easement Allowance
TOTAL PROJECT COST

\$3,076,244.00
\$922,873.20
\$0.00
\$0.00
\$3,999,117.20

Notes:

- 1.) Soil Borings are recommended to determine the type of material excavated for the stormwater detention facility and if a liner is needed.
- 2.) It was assumed that no rock excavation will be required, and the excavated material will not be contaminated.
- 3.) This OPC assumes that the existing street inlets and inlet leads are not replaced. The OPC assumes the existing street inlets and inlet leads have adequate flow capacity and structural condition.
- 4.) This OPC assumes sand or granular trench backfill beneath pavement areas.

Owner: City of Green Bay
Project Name: Hydrologic and Hydraulic Analysis
Contract No. G0018-9-16-00383
Date: September 30, 2016
Basin: BASIN 106
Alternative: Alternative 2 - 11 ac-ft Pond, Upsize Storm Sewer, Upsize Pump
Project Manager: Nick Vande Hey

Item	Qty	Unit	Description	Unit Price	Total
1	1	L.S.	Demolition for Dry Pond	\$10,000.00	\$10,000.00
2	1	L.S.	Traffic Control	\$42,000.00	\$42,000.00
3	1,300	L.F.	Silt Fence	\$1.50	\$1,950.00
4	91	EA.	Inlet Protection	\$75.00	\$6,825.00
5	1	EA.	Tracking Pad &/or Tire Washing	\$1,000.00	\$1,000.00
6	1	L.S.	Dewatering	\$4,000.00	\$4,000.00
7	17,750	C.Y.	Unclassified Excavation for Dry Pond (hailed off-site far with traffic lights)	\$9.00	\$159,750.00
8	1	L.S.	Pumps and Control Panel	\$230,000.00	\$230,000.00
9	1	L.S.	Mechanical Installation	\$46,000.00	\$46,000.00
10	1	L.S.	Electrical Installation	\$35,000.00	\$35,000.00
11	1	L.S.	Pump Station Structure	\$40,000.00	\$40,000.00
12	1	L.S.	General Conditions (Bonding, Insurance, Overhead & Profit, Mobilization, etc...)	\$35,100.00	\$35,100.00
13	640	L.F.	96-Inch Storm Sewer	\$620.00	\$396,800.00
14	3,160	L.F.	54-Inch Storm Sewer	\$230.00	\$726,800.00
15	5,639	L.F.	48-Inch Storm Sewer	\$190.00	\$1,071,410.00
16	4,136	L.F.	36-Inch Storm Sewer	\$120.00	\$496,320.00
17	362	L.F.	30-Inch Storm Sewer	\$110.00	\$39,820.00
18	2,950	L.F.	24-Inch Storm Sewer	\$90.00	\$265,500.00
19	1,358	L.F.	18-Inch Storm Sewer	\$80.00	\$108,640.00
20	60	L.F.	Bore or Jack 96-Inch Storm Sewer	\$1,800.00	\$108,000.00
21	60	L.F.	Bore or Jack 36-Inch Storm Sewer	\$850.00	\$51,000.00
22	880	L.S.	Abandon Storm Sewer with Slurry	\$20.00	\$17,600.00
23	2	EA.	RCP Apron Endwall with Joint Ties & Trash Guard (<30")	\$1,500.00	\$3,000.00
24	2	EA.	RCP Apron Endwall with Joint Ties & Trash Guard (>30")	\$3,500.00	\$7,000.00
25	133	V.F.	Storm Manhole or Inlet Manhole (>8' Dia)	\$900.00	\$119,700.00
26	174	V.F.	Storm Manhole or Inlet Manhole (8' Dia)	\$800.00	\$139,200.00
27	18	V.F.	Storm Manhole or Inlet Manhole (6' Dia)	\$600.00	\$10,800.00
28	140	V.F.	Storm Manhole or Inlet Manhole (5' Dia)	\$500.00	\$70,000.00
29	111	V.F.	Storm Manhole or Inlet Manhole (4' Dia)	\$400.00	\$44,400.00
30	90	C.Y.	Heavy Rip Rap with Type HR Fabric	\$50.00	\$4,500.00
31	26	L.F.	Lower Watermain	\$150.00	\$3,900.00
32	138	EA.	Water Service Adjustments	\$250.00	\$34,500.00
33	20	EA.	Sanitary Service Adjustments	\$250.00	\$5,000.00
34	1,100	L.F.	8-Inch Sanitary Sewer Relay	\$80.00	\$88,000.00
35	1,400	L.F.	Concrete Curb & Gutter Restoration	\$30.00	\$42,000.00
36	400	S.Y.	Concrete Sidewalk Restoration 4-Inch	\$55.00	\$22,000.00
37	80	S.Y.	Asphalt Driveway Restoration	\$45.00	\$3,600.00
38	13,600	S.Y.	Asphalt Street Restoration - 3.5-Inch Pavement, 12-Inch Base	\$35.00	\$476,000.00
39	2,800	S.Y.	Concrete Pavement Restoration (Full Panel) 8-Inch PCC Dowels, 6-Inch Base	\$80.00	\$224,000.00
40	13,068	S.Y.	Turf Grass (4" Topsoil, Fertilizer, Seed & Mulch)	\$3.00	\$39,204.00
41	13,068	S.Y.	WDOT Class I, Type A Erosion Mat	\$1.50	\$19,602.00

Acres
 Acres

Construction
Engineering / Contingency (30%)
Land Acquisition
Easement Allowance
TOTAL PROJECT COST

\$5,249,921.00
\$1,574,976.30
\$0.00
\$0.00
\$6,824,897.30

Notes:

- 1.) Soil Borings are recommended to determine the type of material excavated for the stormwater detention facility and if a liner is needed.
- 2.) It was assumed that no rock excavation will be required, and the excavated material will not be contaminated.
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Owner: City of Green Bay
Project Name: Hydrologic and Hydraulic Analysis
Contract No. G0018-9-16-00383
Date: September 30, 2016
Basin: BASIN 106
Alternative: Alternative 3 - Upsize Storm Sewer, Upsize Pump, No Pond
Project Manager: Nick Vande Hey

Item	Qty	Unit	Description	Unit Price	Total
1	1	L.S.	Traffic Control	\$42,000.00	\$42,000.00
2	20	L.F.	Silt Fence	\$1.50	\$30.00
3	90	EA.	Inlet Protection	\$75.00	\$6,750.00
4	1	EA.	Tracking Pad &/or Tire Washing	\$1,000.00	\$1,000.00
5	1	L.S.	Dewatering	\$1,500.00	\$1,500.00
6	1	L.S.	Pumps and Control Panel	\$230,000.00	\$230,000.00
7	1	L.S.	Mechanical Installation	\$46,000.00	\$46,000.00
8	1	L.S.	Electrical Installation	\$35,000.00	\$35,000.00
9	1	L.S.	Pump Station Structure	\$40,000.00	\$40,000.00
10	1	L.S.	General Conditions (Bonding, Insurance, Overhead & Profit, Mobilization, etc...)	\$35,100.00	\$35,100.00
11	640	L.F.	96-Inch Storm Sewer	\$620.00	\$396,800.00
12	1,643	L.F.	60-Inch Storm Sewer	\$260.00	\$427,180.00
13	4,665	L.F.	54-Inch Storm Sewer	\$230.00	\$1,072,950.00
14	4,775	L.F.	48-Inch Storm Sewer	\$190.00	\$907,250.00
15	1,509	L.F.	36-Inch Storm Sewer	\$120.00	\$181,080.00
16	362	L.F.	30-Inch Storm Sewer	\$110.00	\$39,820.00
17	2,950	L.F.	24-Inch Storm Sewer	\$90.00	\$265,500.00
18	1,358	L.F.	18-Inch Storm Sewer	\$80.00	\$108,640.00
19	60	L.F.	Bore or Jack 96-Inch Storm Sewer	\$1,800.00	\$108,000.00
20	880	L.S.	Abandon Storm Sewer with Slurry	\$20.00	\$17,600.00
21	2	EA.	RCP Apron Endwall with Joint Ties & Trash Guard (<30")	\$1,500.00	\$3,000.00
22	1	EA.	RCP Apron Endwall with Joint Ties & Trash Guard (>30")	\$5,500.00	\$5,500.00
23	118	V.F.	Storm Manhole or Inlet Manhole (>8' Dia)	\$900.00	\$106,200.00
24	262	V.F.	Storm Manhole or Inlet Manhole (8' Dia)	\$800.00	\$209,600.00
25	53	V.F.	Storm Manhole or Inlet Manhole (5' Dia)	\$500.00	\$26,500.00
26	111	V.F.	Storm Manhole or Inlet Manhole (4' Dia)	\$400.00	\$44,400.00
27	60	C.Y.	Heavy Rip Rap with Type HR Fabric	\$50.00	\$3,000.00
28	26	L.F.	Lower Watermain	\$150.00	\$3,900.00
29	138	EA.	Water Service Adjustments	\$250.00	\$34,500.00
30	20	EA.	Sanitary Service Adjustments	\$250.00	\$5,000.00
31	1,100	L.F.	8-Inch Sanitary Sewer Relay	\$80.00	\$88,000.00
32	1,400	L.F.	Concrete Curb & Gutter Restoration	\$30.00	\$42,000.00
33	400	S.Y.	Concrete Sidewalk Restoration 4-Inch	\$55.00	\$22,000.00
34	80	S.Y.	Asphalt Driveway Restoration	\$45.00	\$3,600.00
35	13,600	S.Y.	Asphalt Street Restoration - 3.5-Inch Pavement, 12-Inch Base	\$35.00	\$476,000.00
36	2,800	S.Y.	Concrete Pavement Restoration (Full Panel) 8-Inch PCC Dowels, 6-Inch Base	\$80.00	\$224,000.00
37	1,000	S.Y.	Turf Grass (4" Topsoil, Fertilizer, Seed & Mulch)	\$5.00	\$5,000.00

Acres
 Acres

Construction
Engineering / Contingency (30%)
Land Acquisition
Easement Allowance
TOTAL PROJECT COST

\$5,264,400.00
\$1,579,320.00
\$0.00
\$0.00
\$6,843,720.00

Notes:

- 1.) It was assumed that no rock excavation will be required, and the excavated material will not be contaminated.
- 2.) This OPC assumes that the existing street inlets and inlet leads are not replaced. The OPC assumes the existing street inlets and inlet leads have adequate flow capacity and structural condition.
- 3.) This OPC assumes sand or granular trench backfill beneath pavement areas.

Owner: City of Green Bay
Project Name: Hydrologic and Hydraulic Analysis
Contract No. G0018-9-16-00383
Date: September 30, 2016
Basin: **BASIN 108**
Alternative: **Alternative 1 - Upgrade Pump Station**
Project Manager: Nick Vande Hey

Item	Qty	Unit	Description	Unit Price	Total
1	1	L.S.	Traffic Control	\$2,500.00	\$2,500.00
2	2	EA.	Inlet Protection	\$75.00	\$150.00
3	1	EA.	Tracking Pad &/or Tire Washing	\$1,000.00	\$1,000.00
4	1	L.S.	Pumps and Control Panel	\$230,000.00	\$230,000.00
5	1	L.S.	Mechanical Installation	\$46,000.00	\$46,000.00
6	1	L.S.	Electrical Installation	\$35,000.00	\$35,000.00
7	1	L.S.	Pump Station Structure	\$40,000.00	\$40,000.00
8	1	L.S.	General Conditions (Bonding, Insurance, Overhead & Profit, Mobilization, etc...)	\$35,100.00	\$35,100.00
9	200	L.F.	24-Inch Storm Sewer Force Main	\$100.00	\$20,000.00
10	100	L.F.	60-Inch Storm Sewer	\$260.00	\$26,000.00
11	300	L.F.	48-Inch Storm Sewer	\$190.00	\$57,000.00
12	60	L.F.	Bore or Jack 60-Inch Storm Sewer	\$1,400.00	\$84,000.00
13	60	L.F.	Bore or Jack 24-Inch Storm Sewer	\$600.00	\$36,000.00
14	2	EA.	RCP Apron Endwall with Joint Ties & Trash Guard (<30")	\$1,500.00	\$3,000.00
15	2	EA.	RCP Apron Endwall with Joint Ties & Trash Guard (>30")	\$3,500.00	\$7,000.00
16	25	V.F.	Storm Manhole or Inlet Manhole (8' Dia)	\$800.00	\$20,000.00
17	30	C.Y.	Heavy Rip Rap with Type HR Fabric	\$50.00	\$1,500.00
18	190	L.F.	Concrete Curb & Gutter Restoration	\$30.00	\$5,700.00
19	210	S.Y.	Concrete Sidewalk Restoration 4-Inch	\$55.00	\$11,550.00
20	60	S.Y.	Concrete Pavement Restoration (Full Panel) 8-Inch PCC Dowels, 6-Inch Base	\$80.00	\$4,800.00
21	250	S.Y.	Turf Grass (4" Topsoil, Fertilizer, Seed & Mulch)	\$5.00	\$1,250.00

Acres
 Acres

Construction
Engineering / Contingency (30%)
Land Acquisition
Easement Allowance
TOTAL PROJECT COST

\$667,550.00
\$200,265.00
\$0.00
\$0.00
\$867,815.00

Notes:

- 1.) It was assumed that no rock excavation will be required, and the excavated material will not be contaminated.
- 2.) This OPC assumes that the existing street inlets and inlet leads are not replaced. The OPC assumes the existing street inlets and inlet leads have adequate flow capacity and structural condition.
- 3.) This OPC assumes sand or granular trench backfill beneath pavement areas.
- 4.) This includes two pumps, which is sufficient to pump the 25-year storm with no surcharging. One pump will be sufficient to provide a 10-year level of protection. Reduce the cost of the pump and control panel by 40% if only one pump is purchased and installed now. Structure is sized to allow additional pump to be installed at a later date.



City of Green Bay Hydrologic and Hydraulic Analysis

October 14, 2016

McMahon Project No. G0018 9-16-00383

Basin 106-108 Alternative 1

Synopsis

- Assume no overland flows into Basins 116 and 130 from adjoining basins.
- Upsize mainline storm sewer along Howard Street, between Hazel Street and Oak St.
- Upsize mainline storm sewer along Hazel Street, between Howard Street and School Pl.
- Upsize mainline storm sewer along School Place, between Hazel Street and 15th Avenue.
- Upsize mainline storm sewer along Ashland Avenue, between Howard Street and the new stormwater detention facility located just north of Seymour Court.
- Provide a new storm sewer to convey flow from Maple Avenue to the new detention facility.
- Upsize smaller storm sewers as recommended throughout Basins 106 and 108.
- Provide a stormwater detention facility in Seymour Park
 - 26 acre-feet of storage volume provided (dry bottom)
 - Top of Pond – 100
 - Bottom of Pond – 93
- The existing stormwater pump station at Pearl Street for Basin 106 is not modified.
- Upsize the stormwater pumping station at Broadway Street for Basin 108.
 - Pump station is sized to allow two additional pumps to be installed inside a new structure, which is proposed adjacent to the existing pump station.
 - One pump is sufficient to pump stormwater for all events up to the 25-year storm event, with no surcharging in Broadway Street or the “triangle parcel” west of Broadway St.
 - Two pumps are sufficient to pump stormwater for the 100-year storm event, with no surcharging in Broadway Street or the “triangle parcel” west of Broadway St.
 - If a 100-year level-of-protection is not required at this time, the second pump can be purchased at a later date when a 100-year level-of-protection is desired.
 - The existing pump and structure is proposed to remain and be used for small storms.
 - A force main is proposed for each new pump to convey stormwater to the Fox River.
 - Upsize the storm sewers that convey stormwater from the west side of Broadway Street to the pump station.
 - Upsize the gravity outlet pipe from the pump station to the Fox River.
- The opinion of probable cost includes pavement restoration, water main adjustments, water service adjustments, and sanitary service adjustments.

- Relay of sanitary sewer mains may be required if a new storm sewer conflicts with the existing mainline sanitary sewer and sanitary services. Limited sanitary sewer information is available for the study area.

Engineer's Opinion of Probable Costs

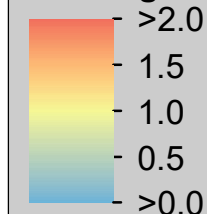
- Basin 106 - \$4.0M
- Basin 108 - \$900K

Level-of-Protection

- 10-year flooding is nominal.
- 25-year flooding is primarily contained within the street, but encroaches onto properties at various locations with the current FEMA Zone AE floodplain area.
- Substantial 100-year flooding is predicted within the current FEMA Zone AE floodplain area. The 100-year flooding is generally contained within the street right-of-way to the east and west of the FEMA Zone AE floodplain area.



**September 2015 Storm
Flooding Depth (in feet)**



Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

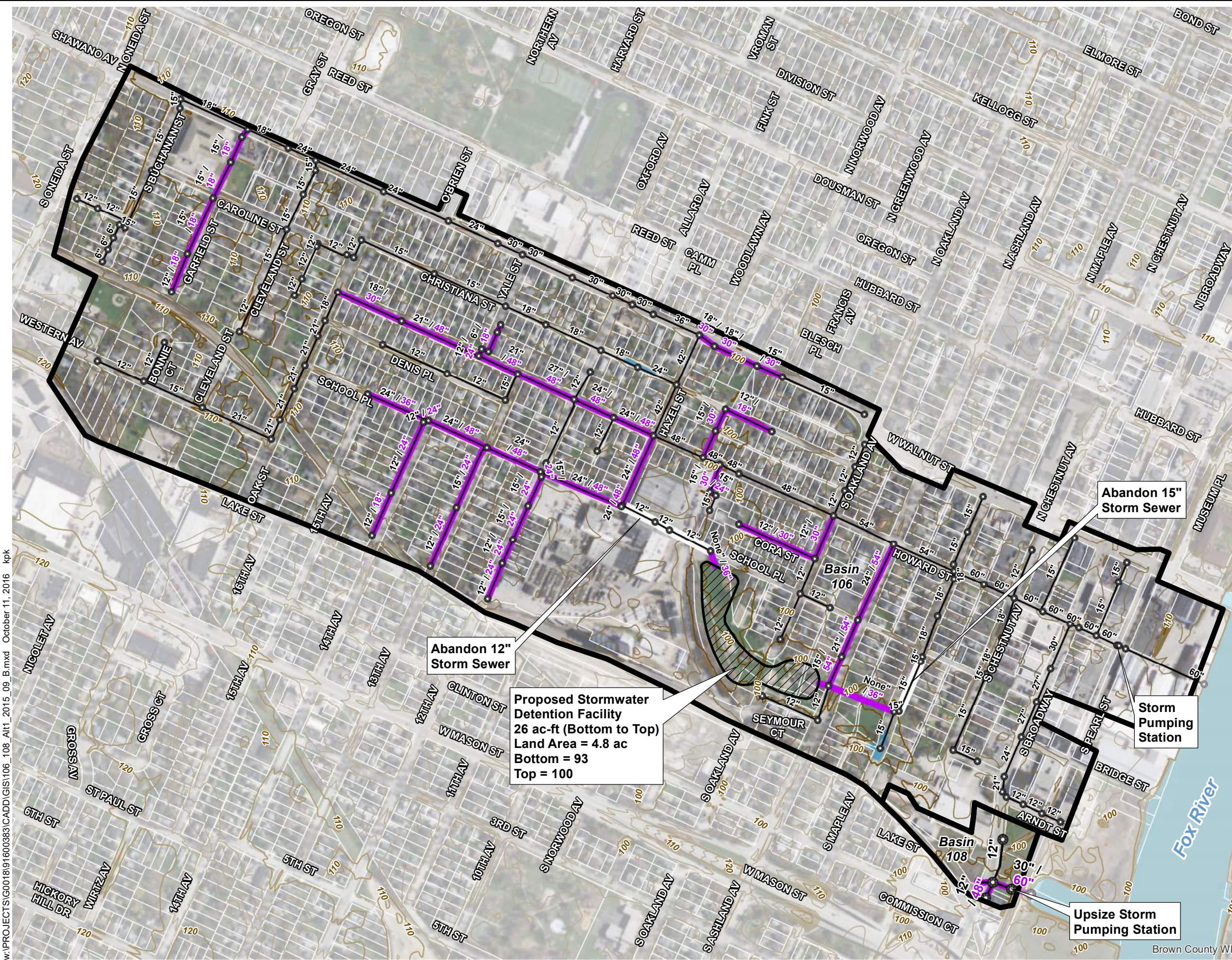
Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



0 500 1,000
Feet

McMAHON
ENGINEERS ARCHITECTS

**BASIN 106 - 108
ALTERNATIVE 1
SEPTEMBER 2015 STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



Abandon 12"
Storm Sewer

Proposed Stormwater
Detention Facility
26 ac-ft (Bottom to Top)
Land Area = 4.8 ac
Bottom = 93
Top = 100

Abandon 15"
Storm Sewer

Storm
Pumping
Station

Upsize Storm
Pumping Station



10 Year Storm Flooding Depth (in feet)

>2.0
1.5
1.0
0.5
>0.0

Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

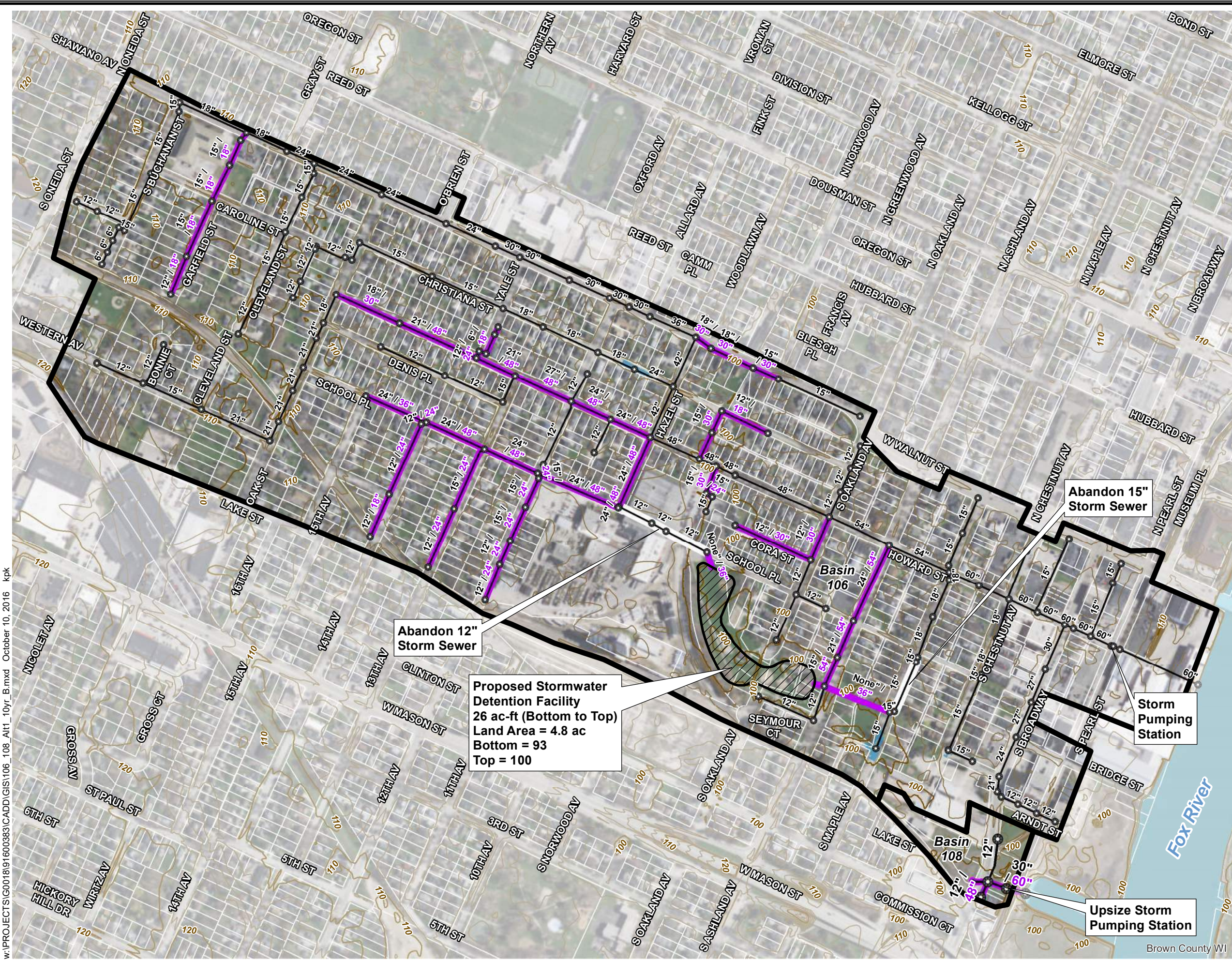
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0 500 1,000 Feet



**BASIN 106 - 108
ALTERNATIVE 1
10 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



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25 Year Storm Flooding Depth (in feet)

>2.0
1.5
1.0
0.5
>0.0

Other Mapped Features

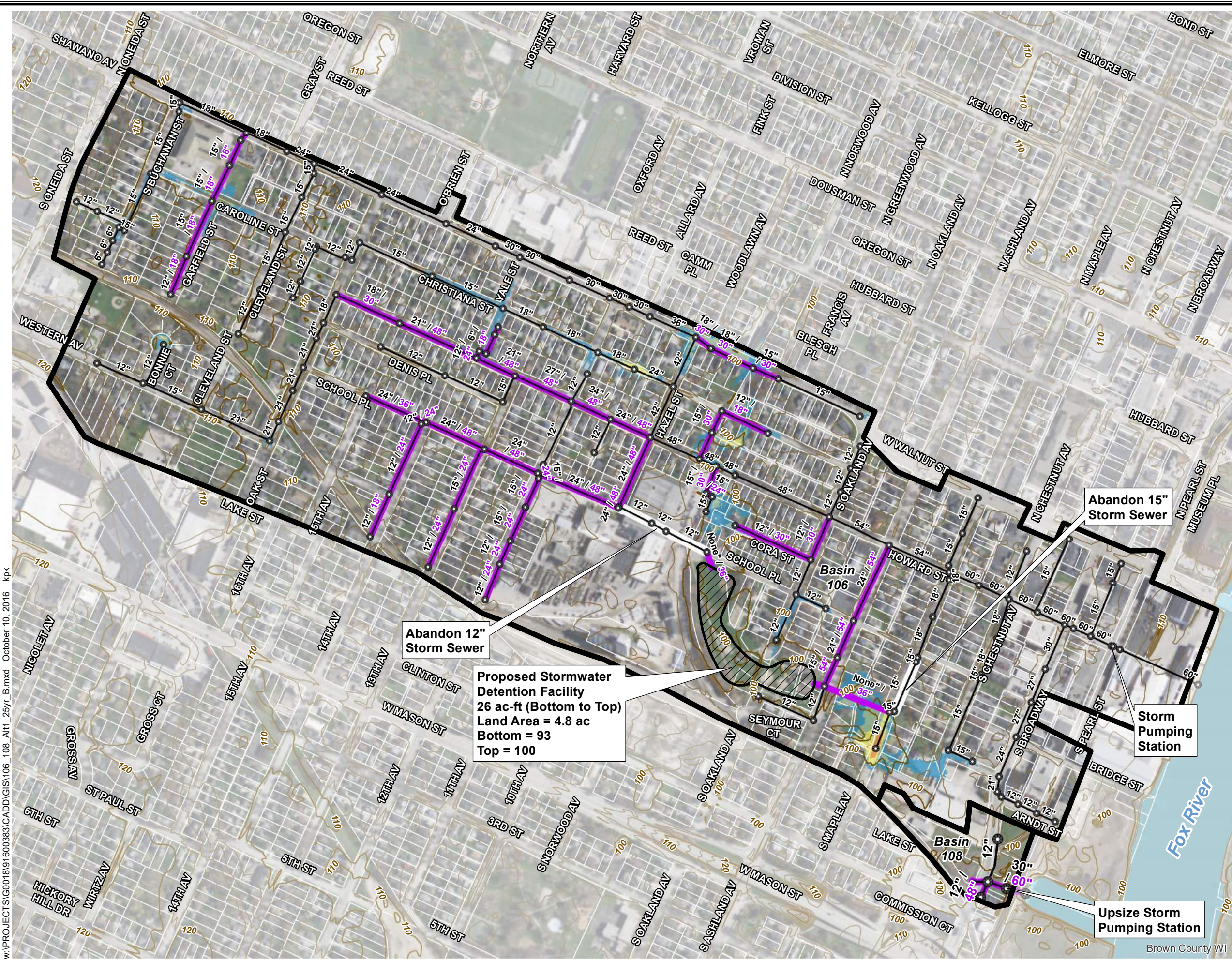
- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

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**BASIN 106 - 108
ALTERNATIVE 1
25 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



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100 Year Storm Flooding Depth (in feet)

>2.0
1.5
1.0
0.5
>0.0

Other Mapped Features

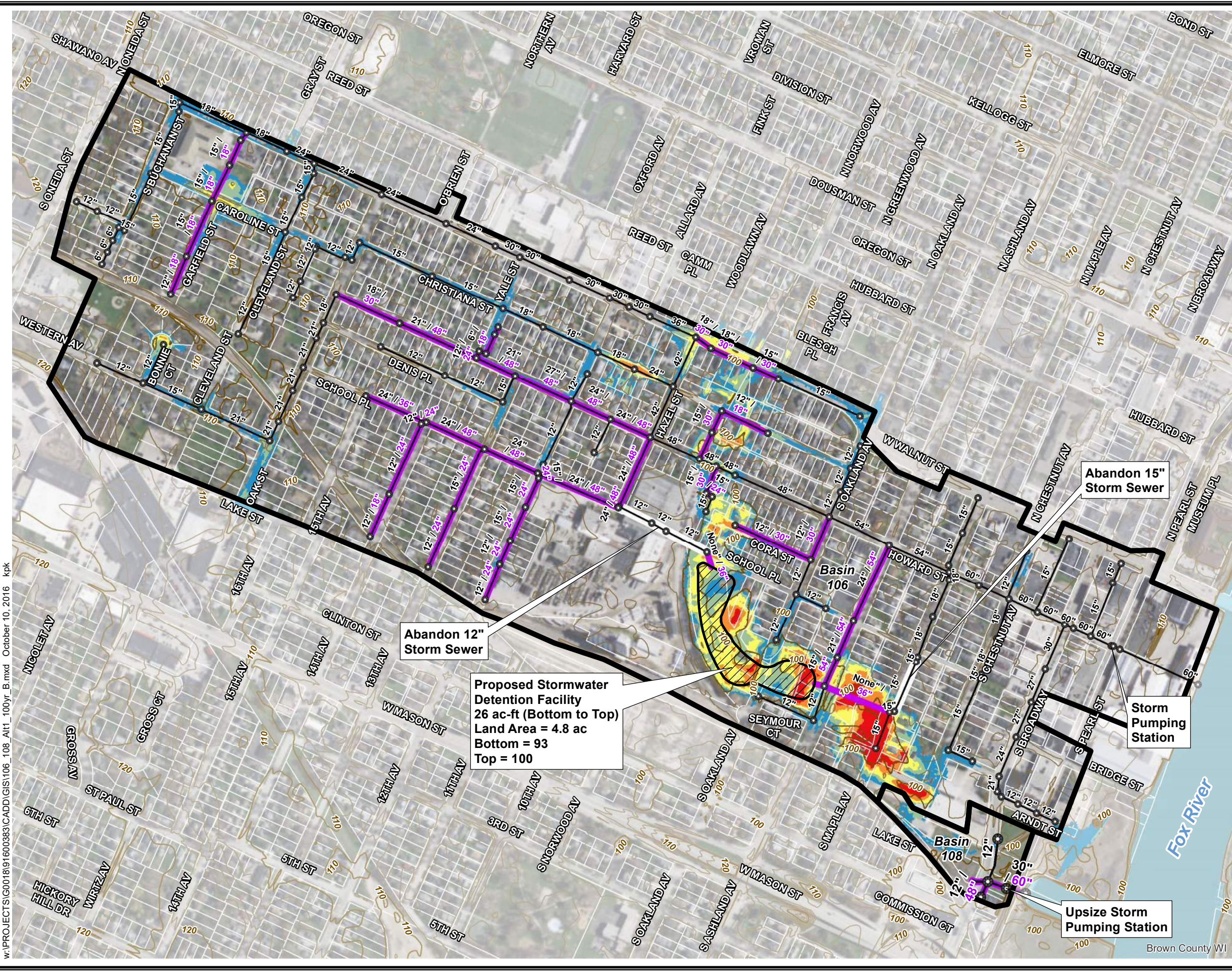
- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

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**BASIN 106 - 108
ALTERNATIVE 1
100 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



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City of Green Bay Hydrologic and Hydraulic Analysis

October 14, 2016

McMahon Project No. G0018 9-16-00383

Basin 106-108 Alternative 2

Synopsis

- Assume no overland flows into Basins 106 and 108 from adjoining basins.
- Provide a 36-inch relief storm sewer along Howard Street from Oakland Avenue to the Fox River to convey stormwater from north of Howard Street to the River, bypassing the pump station.
- Upsize mainline storm sewer along Howard Street, between Oakland Avenue and Oak St.
- Upsize mainline storm sewer along Hazel Street, between Shawano Avenue and School Pl.
- Upsize mainline storm sewer along Shawano Avenue, between Hazel Street and Norwood Avenue extended.
- Upsize mainline storm sewer along Christiana Street, between Yale Street and Hazel St.
- Upsize mainline storm sewer along School Place, between Hazel Street and 15th Avenue.
- Upsize mainline storm sewer along Oakland Avenue, between Howard Street and the new stormwater detention facility. Upsize storm sewer along Cora Street, just west of Oakland Av.
- Upsize mainline storm sewer along Ashland Avenue, between Howard Street and Seymour Ct.
- Upsize mainline storm sewer along Maple Avenue, between Howard Street and the new stormwater detention facility located just west of Arndt Street.
- Upsize smaller storm sewers as recommended throughout Basins 106 and 108.
- Provide a stormwater detention facility in Seymour Park, smaller than the pond in Alternative 1
 - 11 acre-feet of storage volume provided (dry bottom)
 - Top of Pond – 100
 - Bottom of Pond – 93
- Provide a stormwater detention facility along Maple Avenue, east of Seymour Park
 - 1.8 acre-feet of storage volume provided (dry bottom)
 - Top of Pond – 100
 - Bottom of Pond – 94
- Upsize the stormwater pumping station at Pearl Street for Basin 106.
 - Pump station is sized to allow two additional pumps to be installed inside a new structure, which is proposed adjacent to the existing pump station.
 - Two pumps are recommended to pump stormwater for the 10-year storm event, with minimal surcharging.
 - The existing pump and structure is proposed to remain and be used for small storms.
 - Upsize the gravity outlet pipe from the pump station to the Fox River.

- Upsize the stormwater pumping station at Broadway Street for Basin 108.
 - Pump station is sized to allow two additional pumps to be installed inside a new structure, which is proposed adjacent to the existing pump station.
 - One pump is sufficient to pump stormwater for all events up to the 25-year storm event, with no surcharging in Broadway Street or the “triangle parcel” west of Broadway St.
 - Two pumps are sufficient to pump stormwater for the 100-year storm event, with no surcharging in Broadway Street or the “triangle parcel” west of Broadway St.
 - If a 100-year level-of-protection is not required at this time, the second pump can be purchased at a later date when a 100-year level-of-protection is desired.
 - The existing pump and structure is proposed to remain and be used for small storms.
 - A force main is proposed for each new pump to convey stormwater to the Fox River.
 - Upsize the storm sewers that convey stormwater from the west side of Broadway Street to the pump station.
 - Upsize the gravity outlet pipe from the pump station to the Fox River.
- The opinion of probable cost includes pavement restoration, water main adjustments, water service adjustments, and sanitary service adjustments.
- Relay of sanitary sewer mains may be required if a new storm sewer conflicts with the existing mainline sanitary sewer and sanitary services. Limited sanitary sewer information is available for the study area.

Engineer’s Opinion of Probable Costs

- Basin 106 - \$6.8M
- Basin 108 - \$900K

Level-of-Protection

- 10-year flooding is nominal.
- Some 25-year flooding encroaches onto properties at various locations with the current FEMA Zone AE floodplain area. The 25-year flooding is generally contained within the street to the east and west of the FEMA Zone AE floodplain area.
- Substantial 100-year flooding is predicted within the current FEMA Zone AE floodplain area. The 100-year flooding is generally contained within the street right-of-way to the east and west of the FEMA Zone AE floodplain area, except along Garfield Street.



September 2015 Storm Flooding Depth (in feet)

>2.0
1.5
1.0
0.5
>0.0

Other Mapped Features

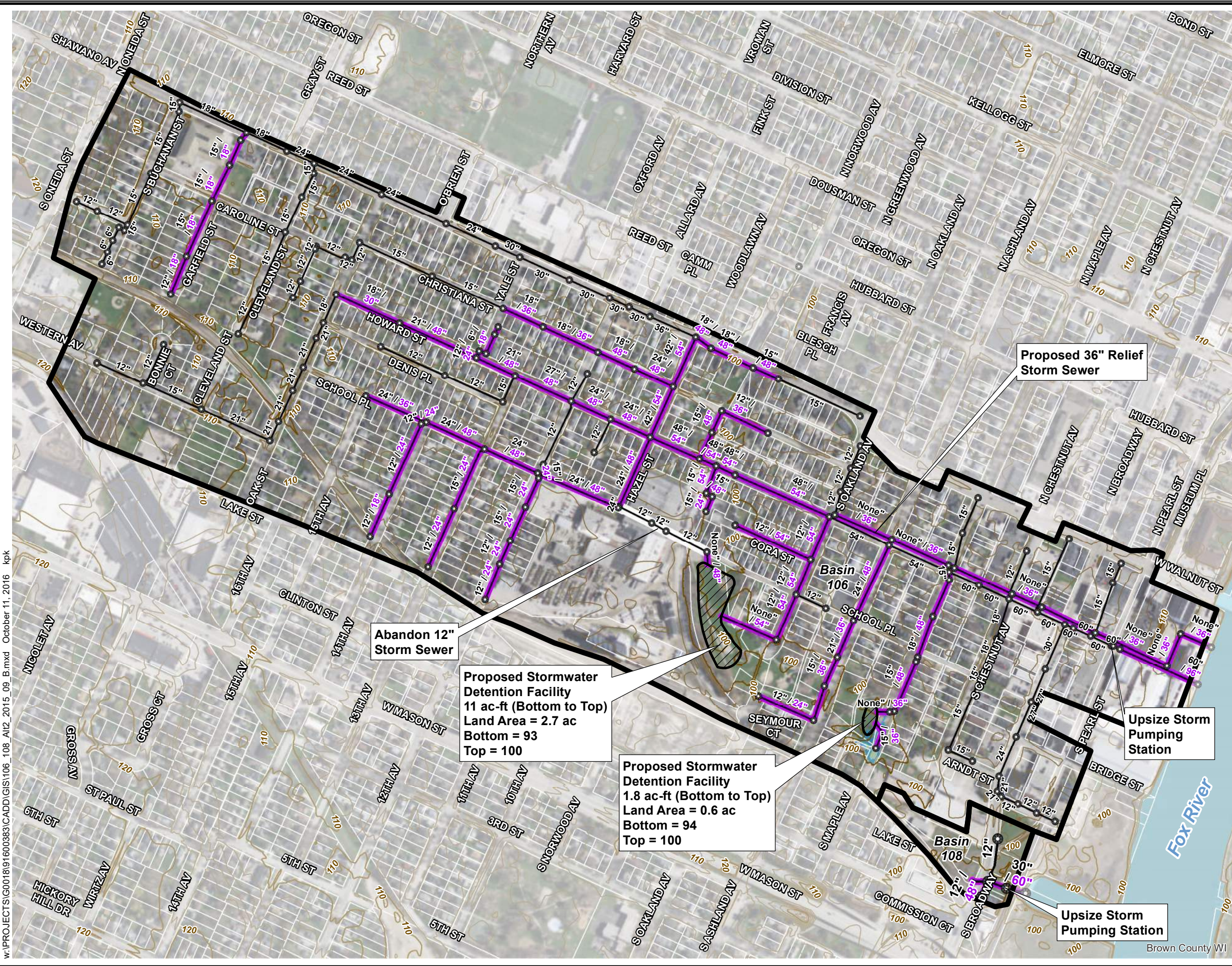
- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

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**BASIN 106 - 108
ALTERNATIVE 2
SEPTEMBER 2015 STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



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10 Year Storm Flooding Depth (in feet)

>2.0
1.5
1.0
0.5
>0.0

Other Mapped Features

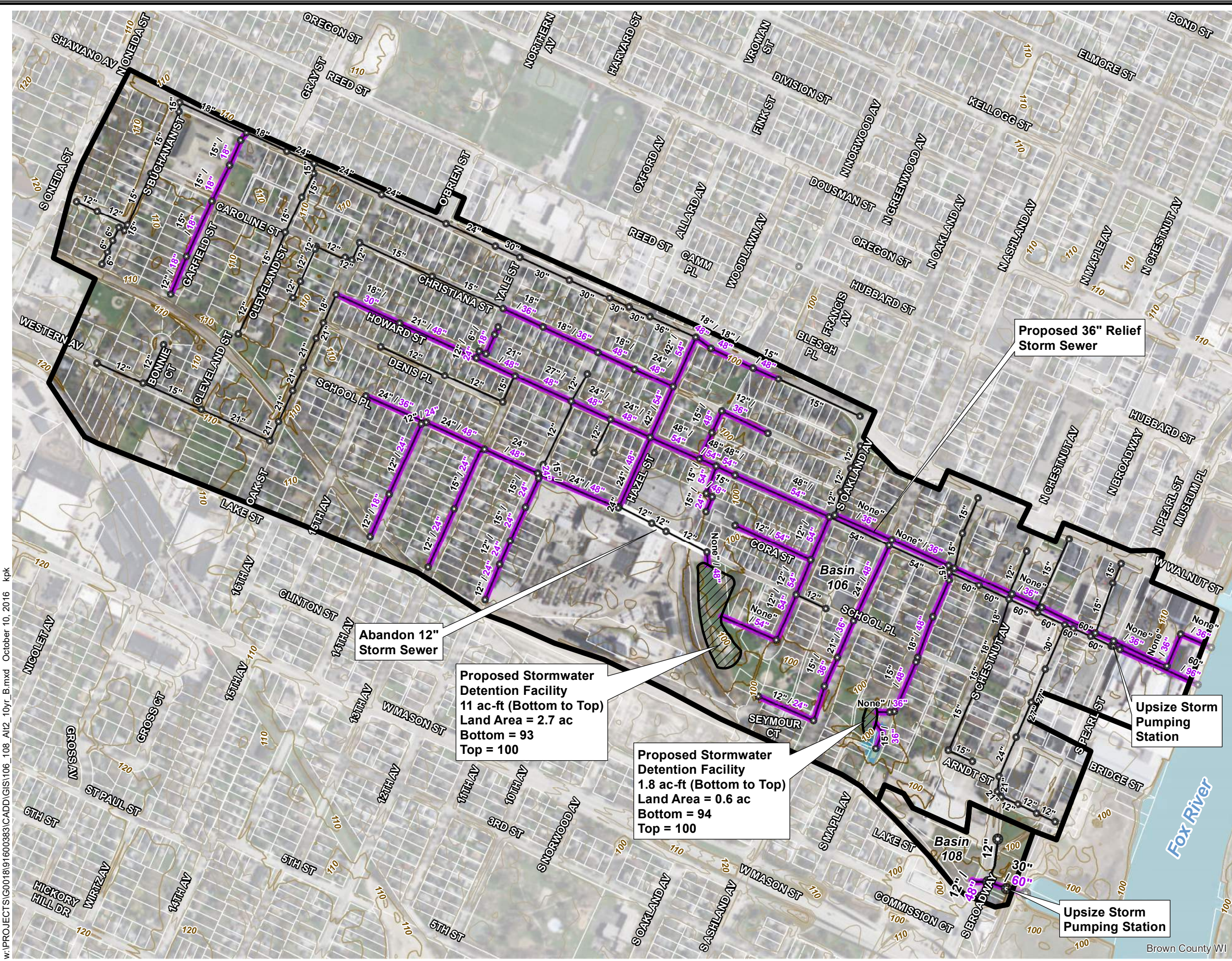
- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

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**BASIN 106 - 108
ALTERNATIVE 2
10 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



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25 Year Storm Flooding Depth (in feet)

>2.0
1.5
1.0
0.5
>0.0

Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

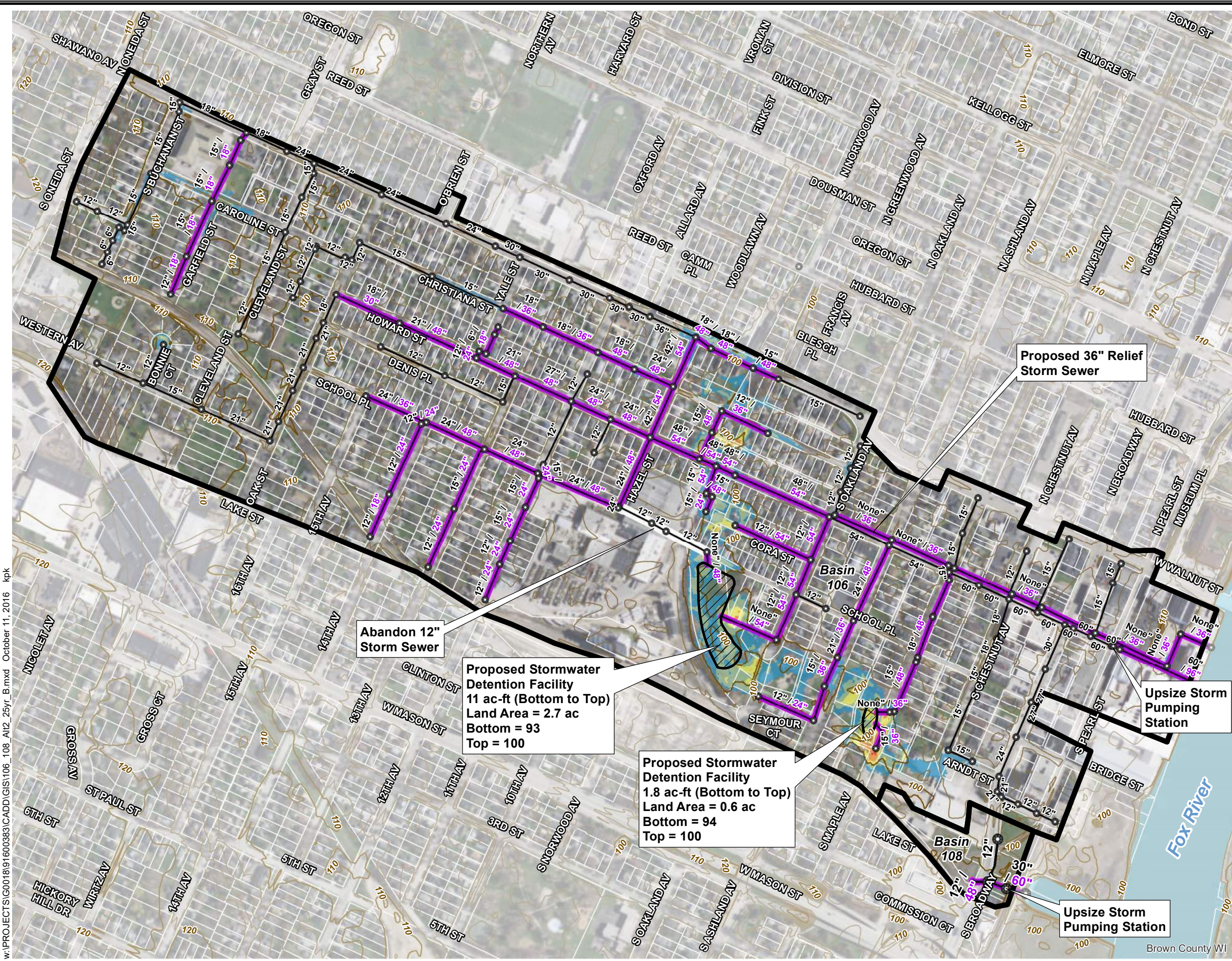
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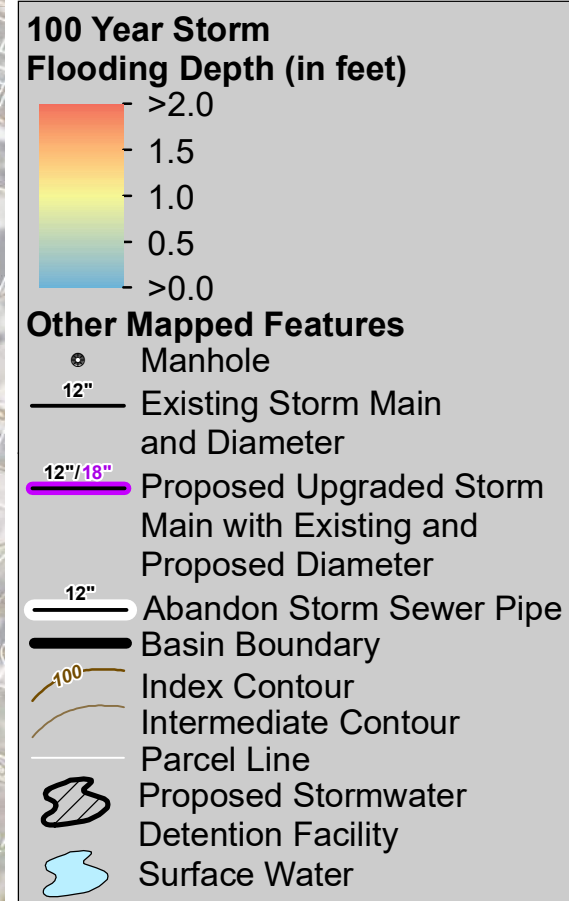
0 500 1,000 Feet



**BASIN 106 - 108
ALTERNATIVE 2
25 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



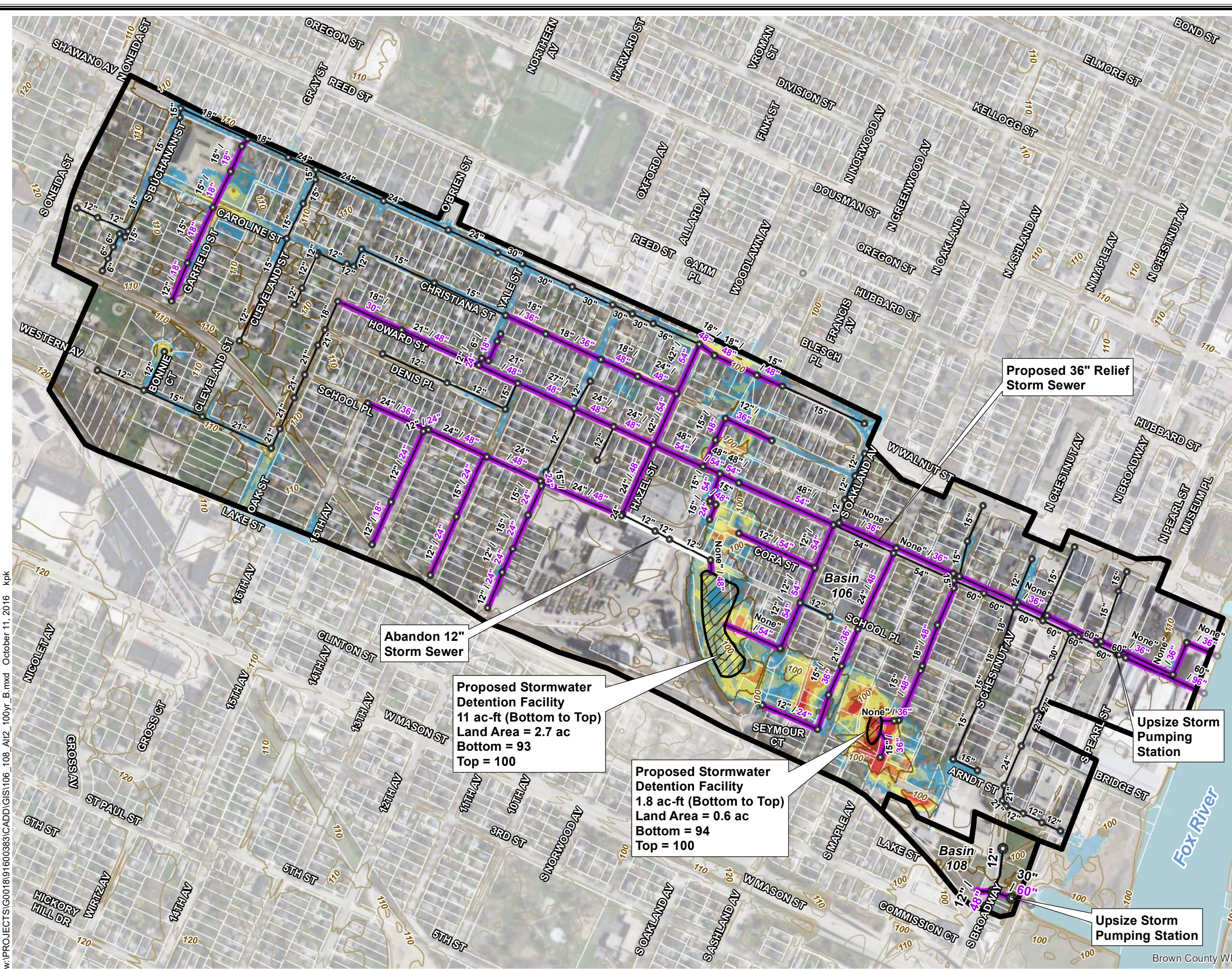
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**BASIN 106 - 108
ALTERNATIVE 2
100 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



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City of Green Bay Hydrologic and Hydraulic Analysis

October 14, 2016

McMahon Project No. G0018 9-16-00383

Basin 106-108 Alternative 3

Synopsis

- Assume no overland flows into Basins 106 and 108 from adjoining basins.
- Provide a 60-inch relief storm sewer along Howard Street from Oakland Avenue to the Fox River. Connect the existing Howard Street mainline to the 60-inch relief sewer at Oakland Avenue to convey stormwater from the west of Oakland Avenue to the Fox River. The parallel storm sewers along Howard Street both connect to the stormwater pumping station.
- Upsize mainline storm sewer along Howard Street, between Oakland Avenue and Oak St.
- Upsize mainline storm sewer along Hazel Street, between Shawano Avenue and School Place.
- Upsize mainline storm sewer along Shawano Avenue, between Hazel Street and Norwood Avenue extended.
- Upsize mainline storm sewer along Christiana Street, between Yale Street and Hazel St.
- Upsize mainline storm sewer along School Place, between Hazel Street and 15th Avenue.
- Upsize mainline storm sewer along Oakland Avenue, between Howard Street and Seymour Park. Upsize storm sewer along Cora Street and School Place, just west of Oakland Av.
- Upsize mainline storm sewer along Ashland Avenue, between Howard Street and Seymour Ct.
- Upsize mainline storm sewer along Maple Avenue, between Howard Street and Arndt Street extended.
- Upsize smaller storm sewers as recommended throughout Basins 106 and 108.
- Upsize the stormwater pumping station at Pearl Street for Basin 106.
 - Pump station is sized to allow two additional pumps to be installed inside a new structure, which is proposed adjacent to the existing pump station.
 - Two pumps are recommended to pump stormwater for the 10-year storm event, with minimal surcharging.
 - The existing pump and structure is proposed to remain and be used for small storms.
 - A force main will be required for each new pump to convey stormwater to the Fox River.
- Upsize the stormwater pumping station at Broadway Street for Basin 108.
 - Pump station is sized to allow two additional pumps to be installed inside a new structure, which is proposed adjacent to the existing pump station.
 - One pump is sufficient to pump stormwater for all events up to the 25-year storm event, with no surcharging in Broadway Street or the “triangle parcel” west of Broadway St.
 - Two pumps are sufficient to pump stormwater for the 100-year storm event, with no surcharging in Broadway Street or the “triangle parcel” west of Broadway St.

- o If a 100-year level-of-protection is not required at this time, the second pump can be purchased at a later date when a 100-year level-of-protection is desired.
- o The existing pump and structure is proposed to remain and be used for small storms.
- o A force main is proposed for each new pump to convey stormwater to the Fox River.
- o Upsize the storm sewers that convey stormwater from the west side of Broadway Street to the pump station.
- o Upsize the gravity outlet pipe from the pump station to the Fox River.
- The opinion of probable cost includes pavement restoration, water main adjustments, water service adjustments, and sanitary service adjustments.
- Relay of sanitary sewer mains may be required if a new storm sewer conflicts with the existing mainline sanitary sewer and sanitary services. Limited sanitary sewer information is available for the study area.

Engineer's Opinion of Probable Costs

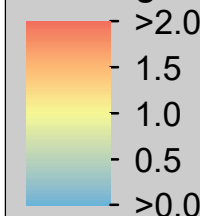
- Basin 106 - \$6.8M
- Basin 108 - \$900K

Level-of-Protection

- 10-year flooding is nominal.
- Some 25-year flooding encroaches onto properties at various locations with the current FEMA Zone AE floodplain area. The 25-year flooding is generally contained within the street to the east and west of the FEMA Zone AE floodplain area.
- Substantial 100-year flooding is predicted within the current FEMA Zone AE floodplain area. The 100-year flooding is generally contained within the street right-of-way to the east and west of the FEMA Zone AE floodplain area, except along Garfield Street.



**September 2015 Storm
Flooding Depth (in feet)**

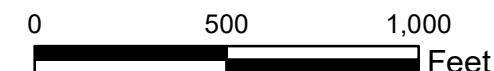


Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

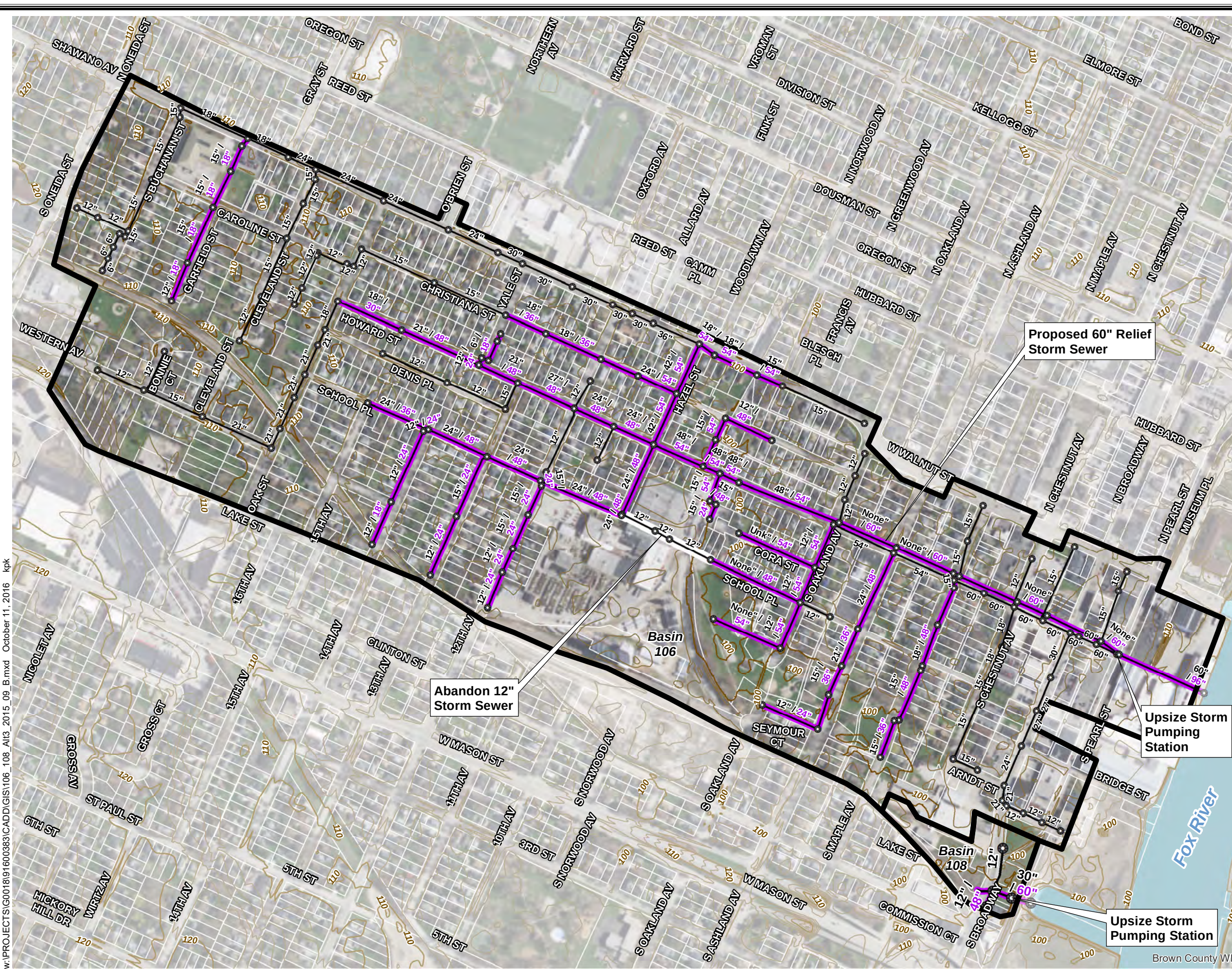
Source: City of Green Bay, 2016; Brown County, 2014-16.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



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**BASIN 106 - 108
ALTERNATIVE 3
SEPTEMBER 2015 STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**





10 Year Storm Flooding Depth (in feet)

>2.0
1.5
1.0
0.5
>0.0

Other Mapped Features

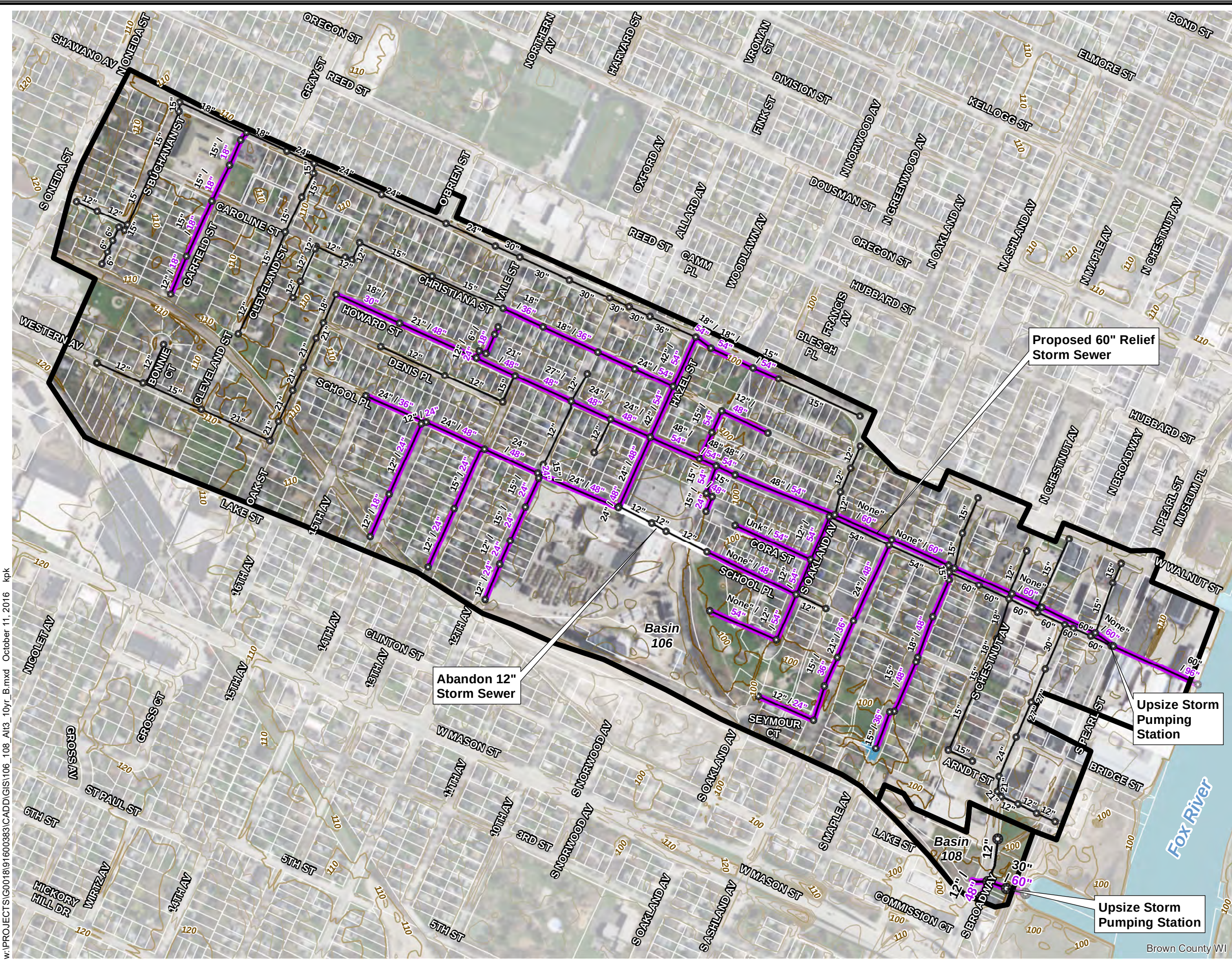
- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

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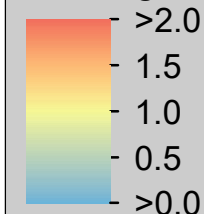
**BASIN 106 - 108
ALTERNATIVE 3
10 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



w:\PROJECTS\G0018\91600383\CADD\GIS\106_108_Alt3_10yr_B.mxd October 11, 2016 kpk



**25 Year Storm
Flooding Depth (in feet)**



Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2014-16.

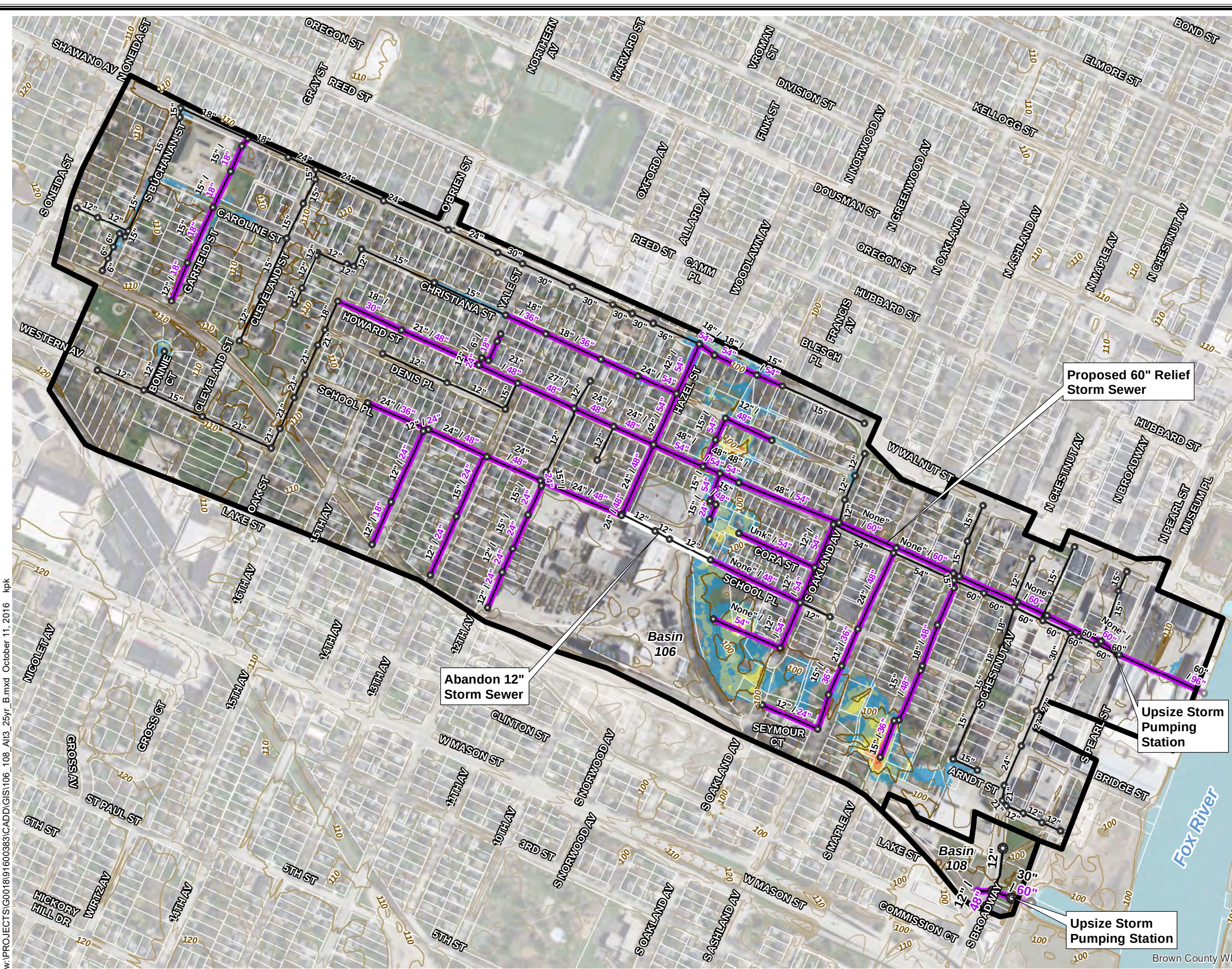
Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



0 500 1,000
Feet

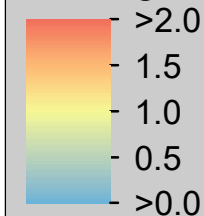
McMAHON
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**BASIN 106 - 108
ALTERNATIVE 3
25 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**





**100 Year Storm
Flooding Depth (in feet)**

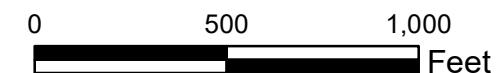


Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

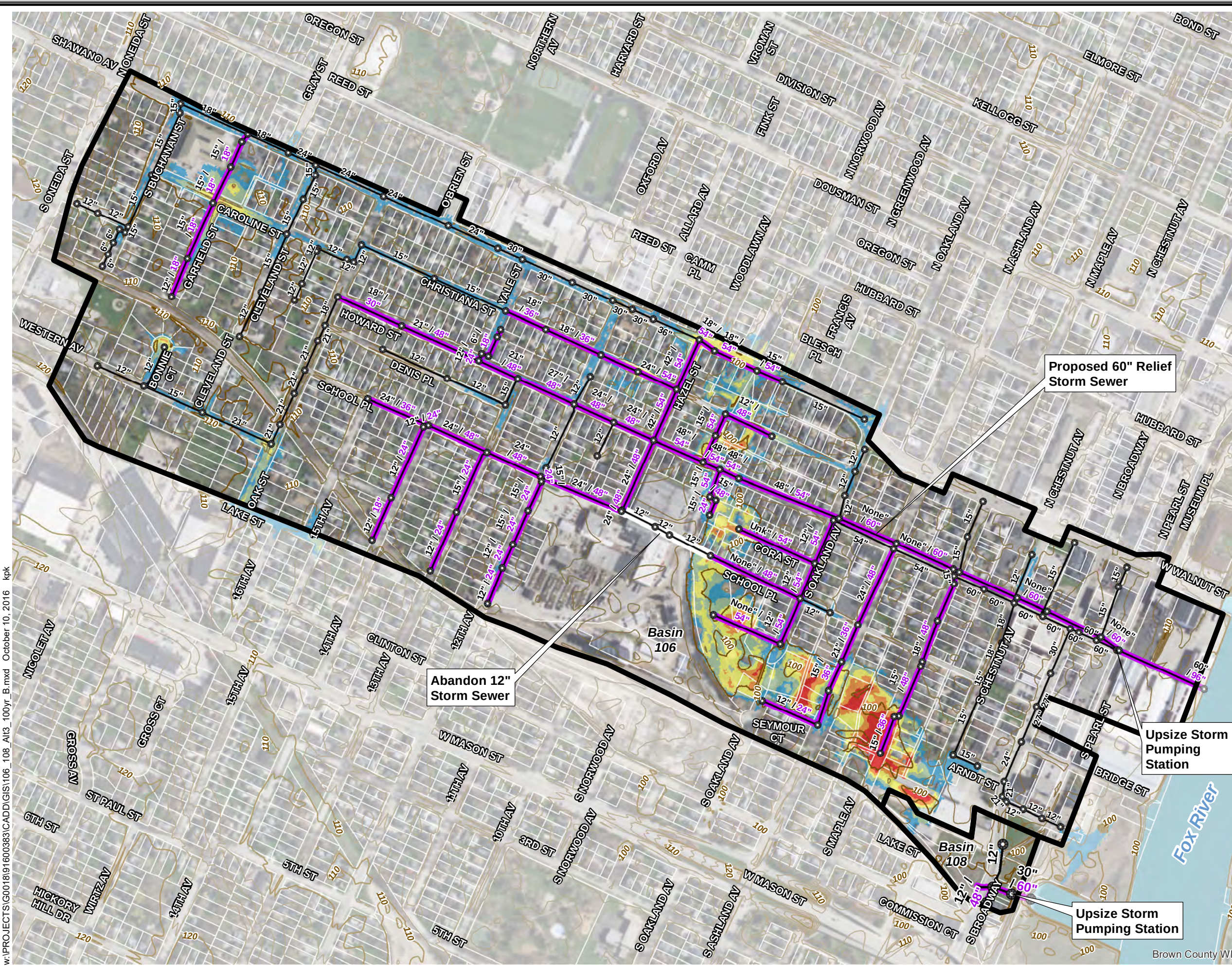
Source: City of Green Bay, 2016; Brown County, 2014-16.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.

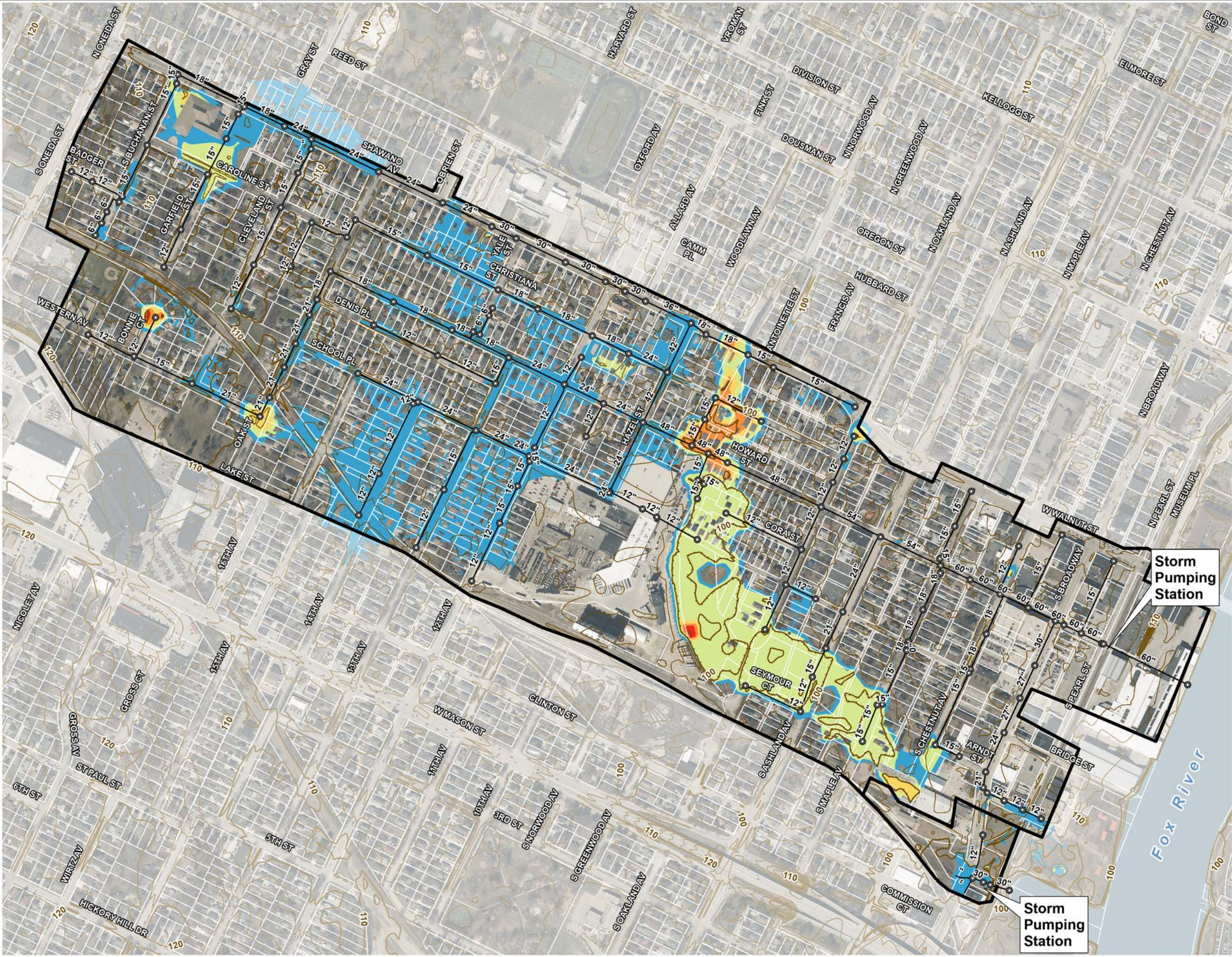


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**BASIN 106 - 108
ALTERNATIVE 3
100 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



w:\PROJECTS\G0018\2000\121\CADD\GIS\Basin106_108_Improvements.aprx|Figure1_B March 11, 2020 kpk



10 Year Storm Flooding Depth (in feet)

- >2.0
- >1.5
- >1.0
- >0.5
- >0.1

Other Mapped Features

- Manhole
- 12" Existing Storm Main and Diameter
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2017-19.

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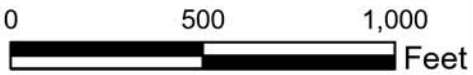
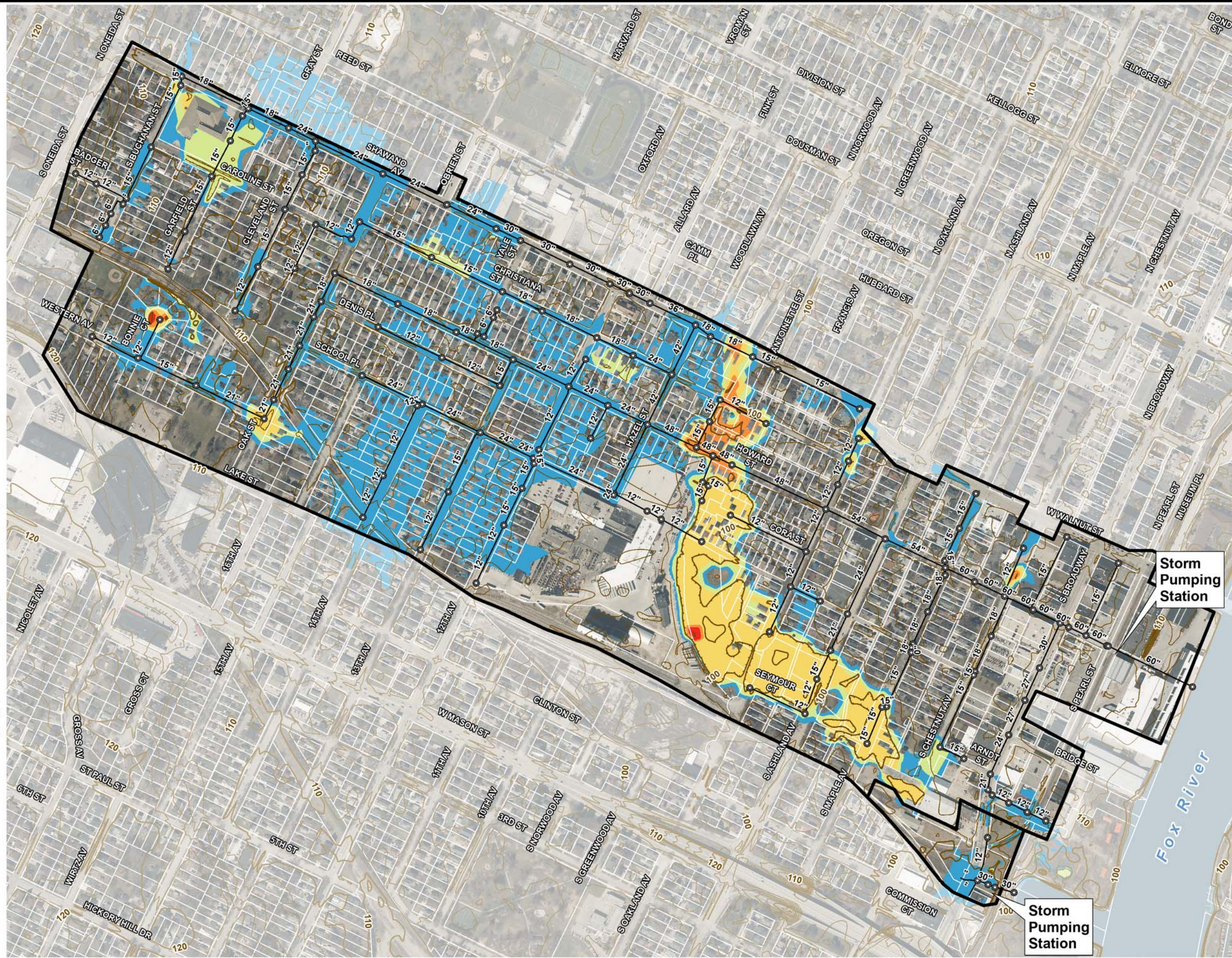


FIGURE 1
BASIN 106 - 108
EXISTING CONDITION
10 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
BROWN COUNTY, WISCONSIN

w:\PROJECTS\IG0018\92000121\CADD\GIS\Basin106_108_Improvements.aprx\Figure2_B March 11, 2020 kpk



25 Year Storm Flooding Depth (in feet)

- >2.0
- >1.5
- >1.0
- >0.5
- >0.1

Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

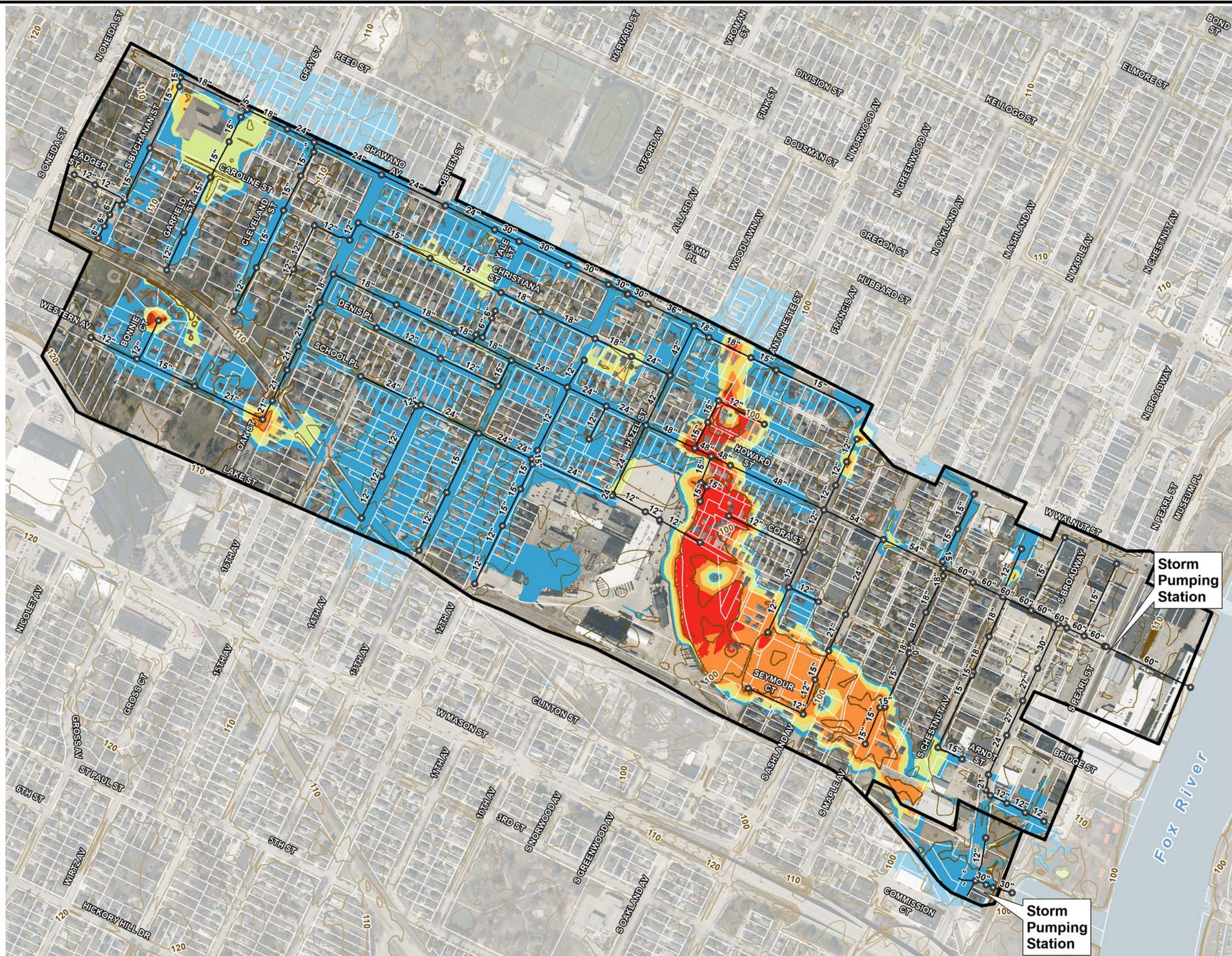
Source: City of Green Bay, 2016; Brown County, 2017-19.

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FIGURE 2
BASIN 106 - 108
EXISTING CONDITION
25 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
BROWN COUNTY, WISCONSIN

w:\PROJECTS\IG0018\2000121\CADD\GIS\Basin106_108_Improvements.aprx\Figure3_B March 11, 2020 kpk



100 Year Storm Flooding Depth (in feet)

- >2.0
- >1.5
- >1.0
- >0.5
- >0.1

Other Mapped Features

- Manhole
- 12" Existing Storm Main and Diameter
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2017-19.

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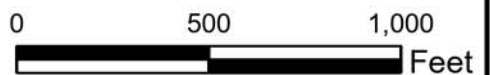


FIGURE 3
BASIN 106 - 108
EXISTING CONDITION
100 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
BROWN COUNTY, WISCONSIN



-  Manhole
-  12" Existing Storm Main and Diameter
-  Basin Boundary
-  100 Index Contour
-  Intermediate Contour
-  Parcel Line
-  Surface Water

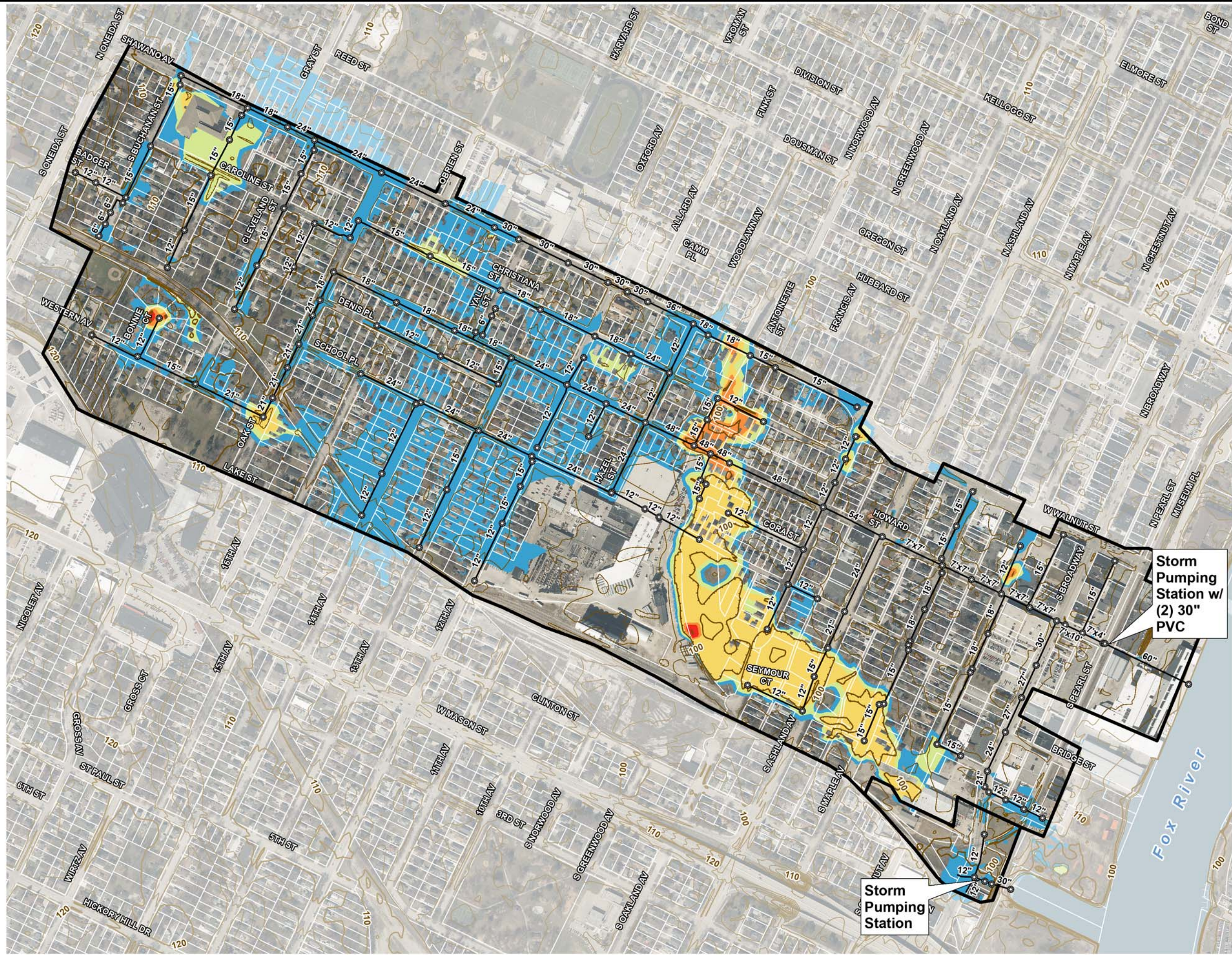
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FIGURE 4
BASIN 106 - 108
ALTERNATIVE 2A - PHASE 1
10 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
BROWN COUNTY, WISCONSIN

w:\PROJECTS\G0018\92000121\ICADD\GIS\Basin106_108_Improvements.aprx\Figure5_Phase1_25_B March 11, 2020 kpk



25 Year Storm Flooding Depth (in feet)

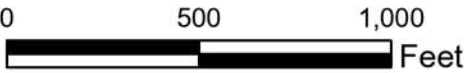
- >2.0
- >1.5
- >1.0
- >0.5
- >0.1

Other Mapped Features

- Manhole
- 12" Existing Storm Main and Diameter
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2017-19.

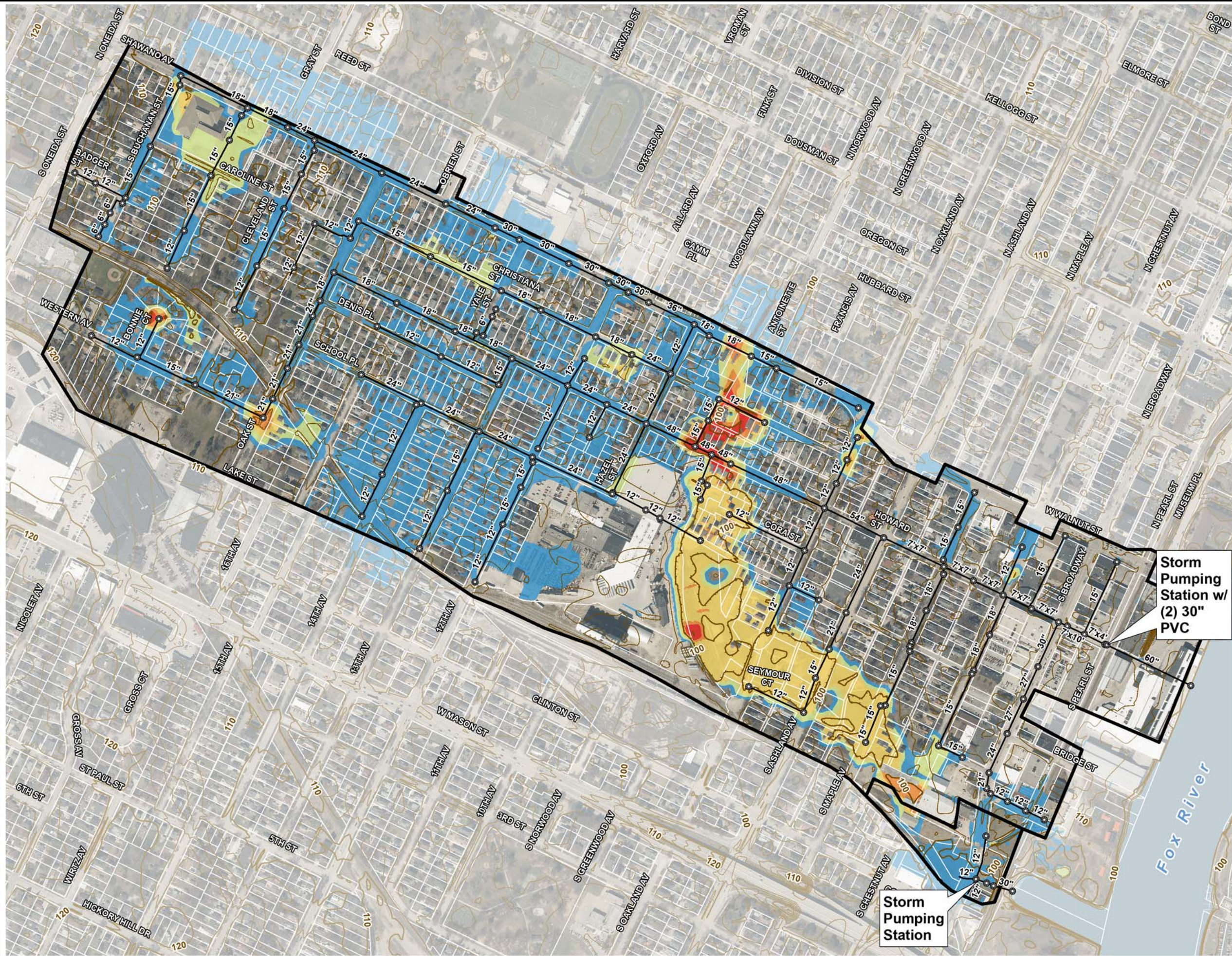
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FIGURE 5
BASIN 106 - 108
ALTERNATIVE 2A - PHASE 1
25 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
BROWN COUNTY, WISCONSIN

w:\PROJECTS\IG0018\20200121\CADD\GIS\Basin106_108_Improvements.aprx\Figure6_Phase1_100_B_March 11, 2020 kpk



100 Year Storm Flooding Depth (in feet)

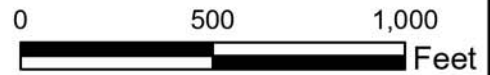
- >2.0
- >1.5
- >1.0
- >0.5
- >0.1

Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2017-19.

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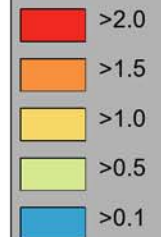
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FIGURE 6
BASIN 106 - 108
ALTERNATIVE 2A - PHASE 1
100 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN

w:\PROJECTS\G0018\20000121\CADD\GIS\Basin106_108_Improvements.aprx\Figure7_Phase2_10_B_March 11, 2020 kpk



10 Year Storm Flooding Depth (in feet)

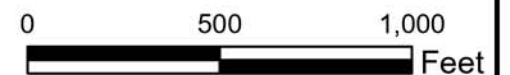


Other Mapped Features

- Manhole
- 12" Existing Storm Main and Diameter
- 12"/24" Proposed Upgraded Storm Main with Existing and Proposed Diameter
- 12" Abandon Storm Sewer Pipe
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2017-19.

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FIGURE 7
BASIN 106 - 108
ALTERNATIVE 2A - PHASE 2
10 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN



w:\PROJECTS\G0018\92000012\1\ADD\GIS\Basin106_108_Improvements.aprx\Figure8_Phase2_25_B March 11, 2020 kpk



**25 Year Storm
Flooding Depth (in feet)**

- >2.0
- >1.5
- >1.0
- >0.5
- >0.1

Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- Proposed Upgraded Storm Main with Existing and Proposed Diameter
- Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2017-19.

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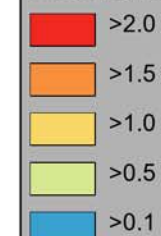
0 500 1,000 Feet



**FIGURE 8
BASIN 106 - 108
ALTERNATIVE 2A - PHASE 2
25 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**



**100 Year Storm
Flooding Depth (in feet)**



Other Mapped Features

- Manhole
- 12" Existing Storm Main and Diameter
- 12"/24" Proposed Upgraded Storm Main with Existing and Proposed Diameter
- 12" Abandon Storm Sewer Pipe
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2017-19.

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**FIGURE 9
BASIN 106 - 108
ALTERNATIVE 2A - PHASE 2
100 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN**

w:\PROJECTS\IG0018\2000121\CADD\GIS\Basin106_108_Improvements.aprx|Figure10_Phase3_10_B_March 24, 2020 kpk



10 Year Storm Flooding Depth (in feet)

- >2.0
- >1.5
- >1.0
- >0.5
- >0.1

Other Mapped Features

- Manhole
- 12" Existing Storm Main and Diameter
- 12"/24" Proposed Upgraded Storm Main with Existing and Proposed Diameter
- 12" Abandon Storm Sewer Pipe
- Basin Boundary
- 100 Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2017-19.

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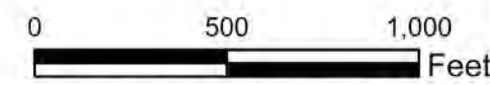
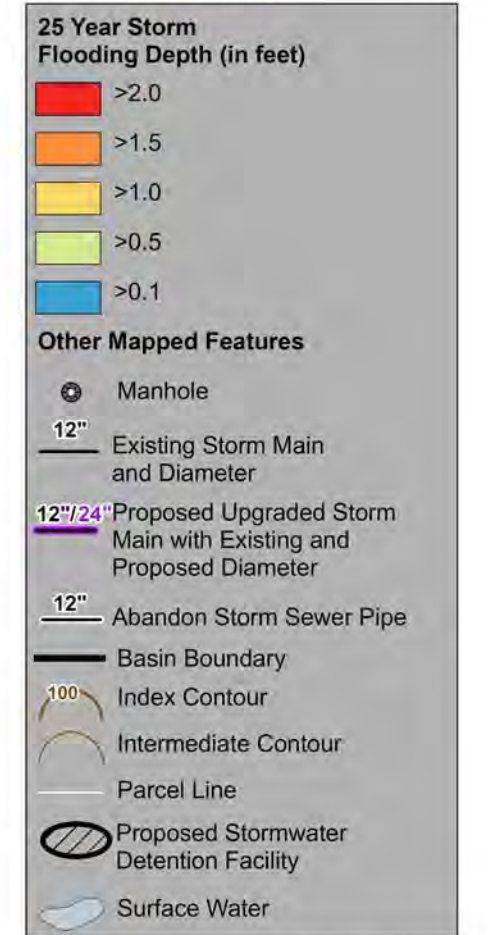
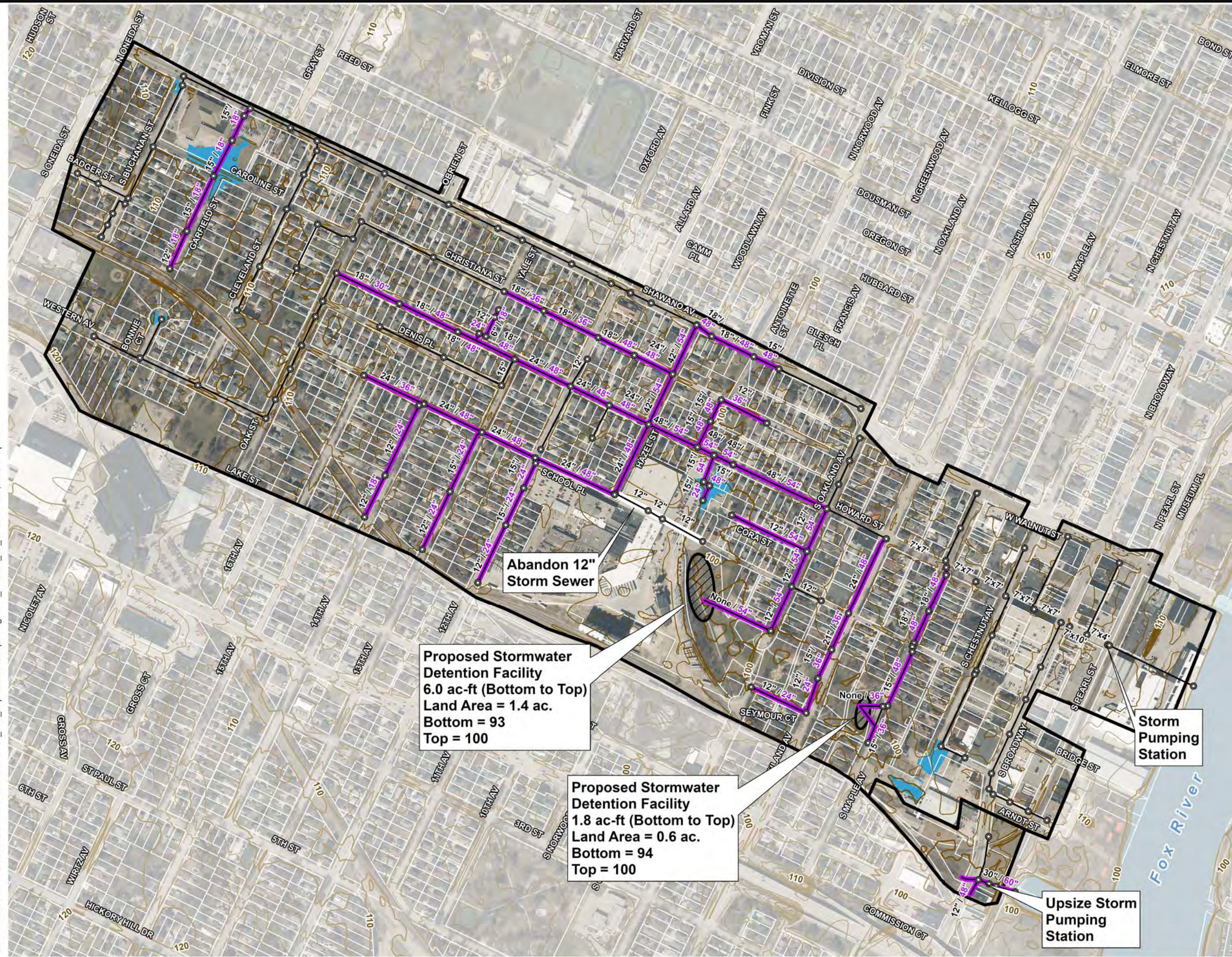


FIGURE 10
BASIN 106 - 108
ALTERNATIVE 2A - PHASE 3
10 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN

w:\PROJECTS\G0018192000121\CADD\GIS\Basin106_108_Improvements.aprx|Figure11_Phase3_25_B_March 24, 2020 kpk

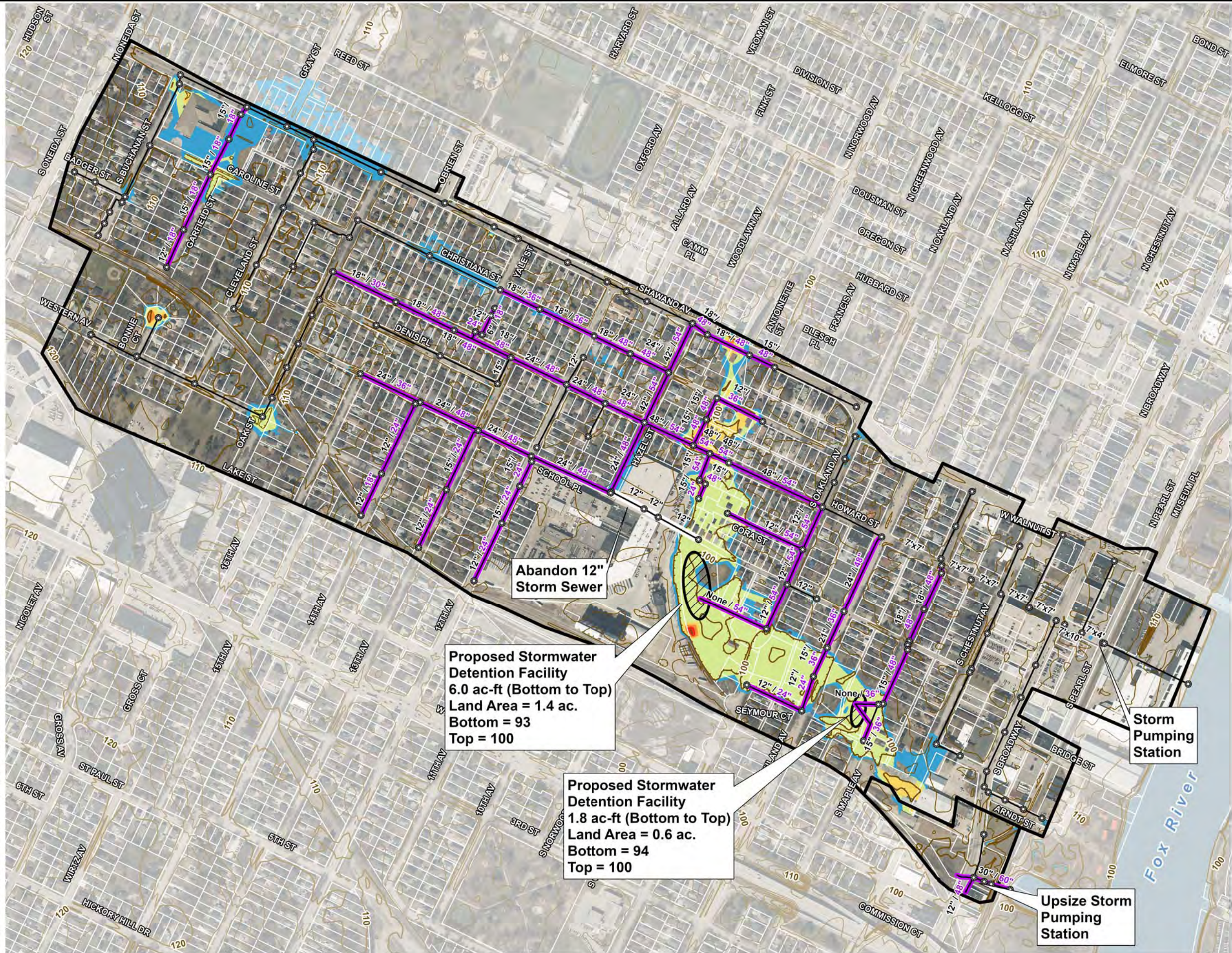


0 500 1,000 Feet

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FIGURE 11
BASIN 106 - 108
ALTERNATIVE 2A - PHASE 3
25 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN

w:\PROJECTS\G0018\9200012\1\CADD\GIS\Basin106_108_Improvements.aprx|Figure12_Phase3_100_B March 24, 2020 kpk



100 Year Storm Flooding Depth (in feet)

- >2.0
- >1.5
- >1.0
- >0.5
- >0.1

Other Mapped Features

- Manhole
- Existing Storm Main and Diameter
- 12"/24" Proposed Upgraded Storm Main with Existing and Proposed Diameter
- 12" Abandon Storm Sewer Pipe
- Basin Boundary
- Index Contour
- Intermediate Contour
- Parcel Line
- Proposed Stormwater Detention Facility
- Surface Water

Source: City of Green Bay, 2016; Brown County, 2017-19.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON ASSOCIATES, INC. does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a General reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



0 500 1,000 Feet



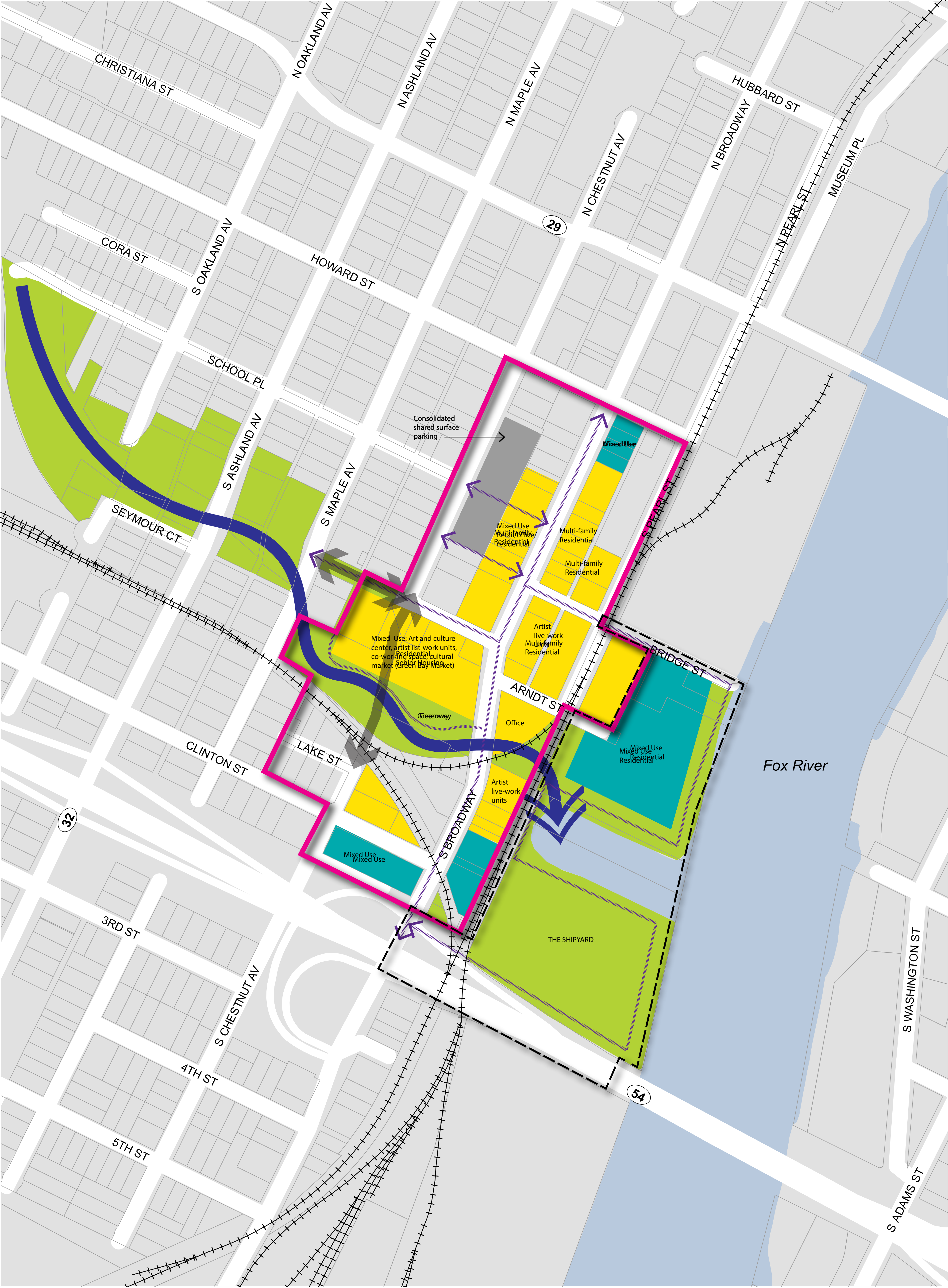
FIGURE 12
BASIN 106 - 108
ALTERNATIVE 2A - PHASE 3
100 YEAR STORM EVENT
HYDROLOGIC AND
HYDRAULIC ANALYSIS
CITY OF GREEN BAY
BROWN COUNTY, WISCONSIN

C

APPENDIX C

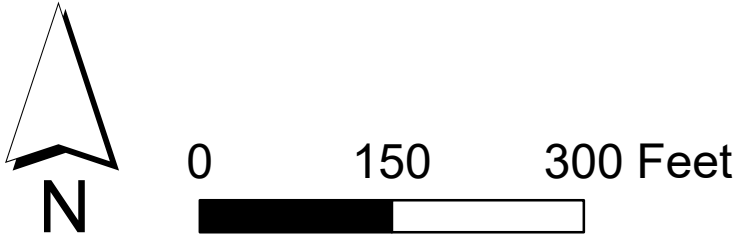
LAND USE

ALTERNATIVES



Proposed Land Use Residential

US EPA Shipyard Project
City of Green Bay, WI



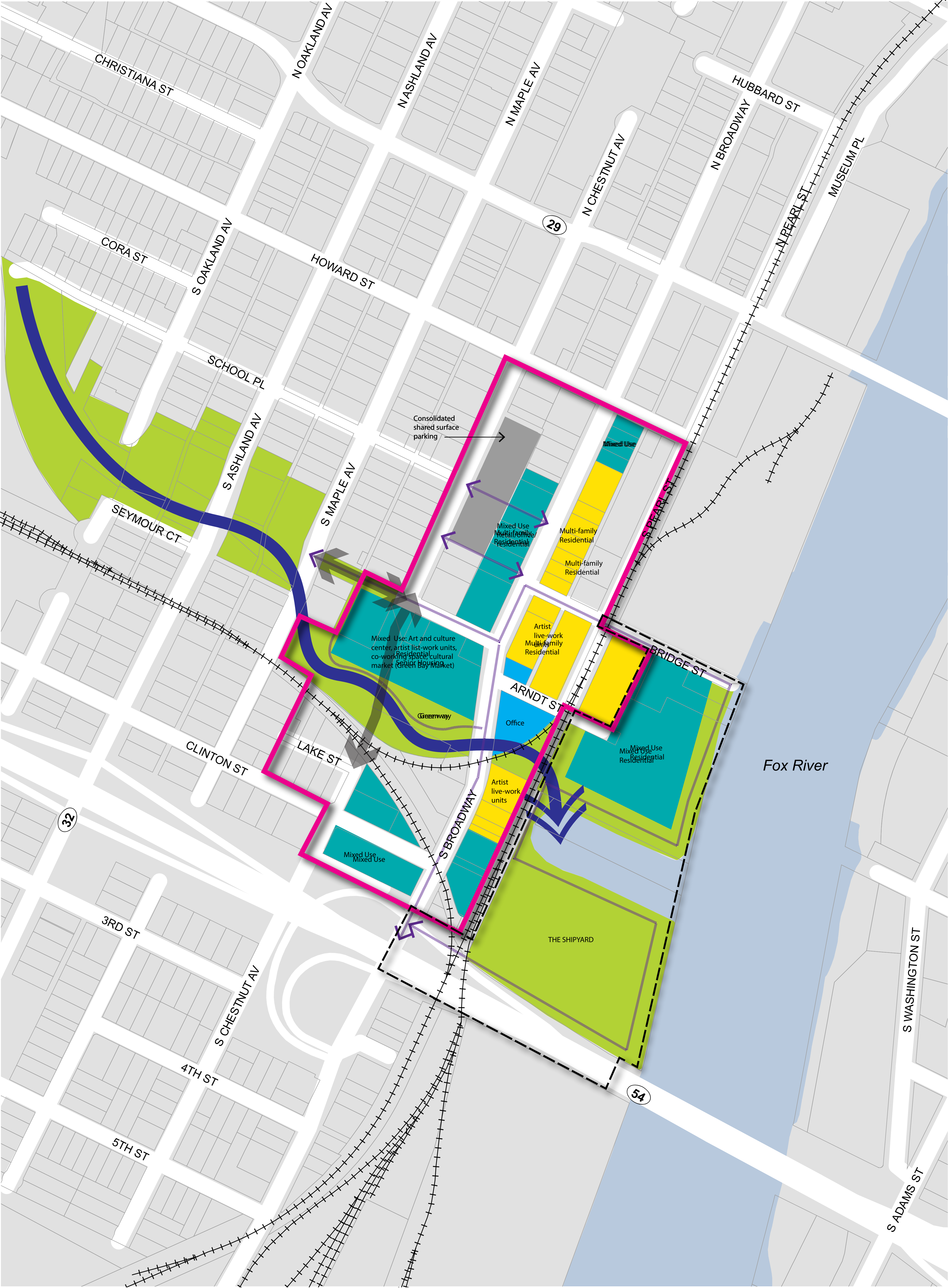
- Target Area
- Shipyards
- Parcels
- River
- Railroad

- Office
- Mixed Use
- Residential
- Park/Greenway
- Parking Lots

- Green Infrastructure
- Pedestrian Connections
- Vehicular Connections
- The Shipyard
- Target Area

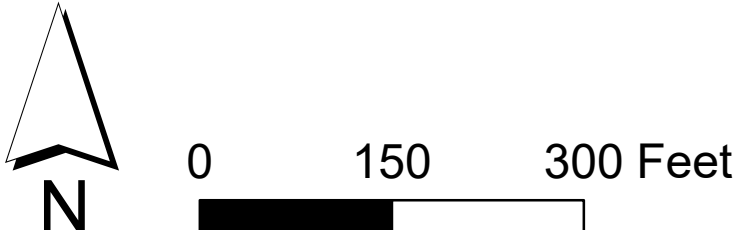
October 1, 2020





Proposed Land Use Mixed Use

US EPA Shipyard Project
City of Green Bay, WI



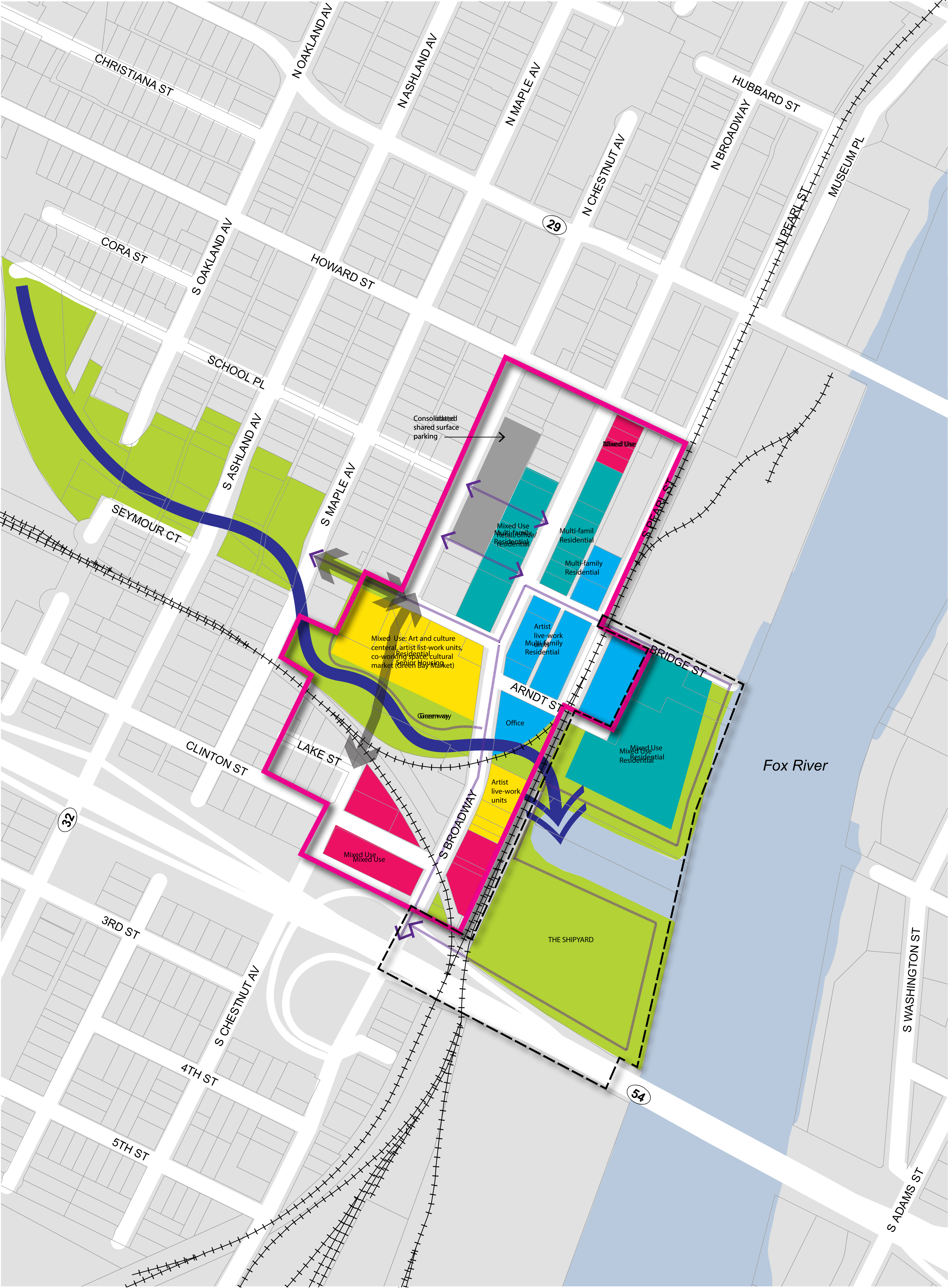
- Target Area
- Shipyards
- Parcels
- River
- Railroad

- Office
- Mixed Use
- Residential
- Park/Greenway
- Parking Lots

- Green Infrastructure
- Pedestrian Connections
- Vehicular Connections
- The Shipyard
- Target Area

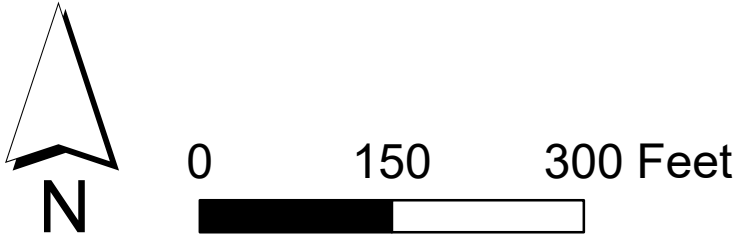
October 1, 2020





Proposed Land Use Expansion of Downtown

US EPA Shipyard Project
City of Green Bay, WI



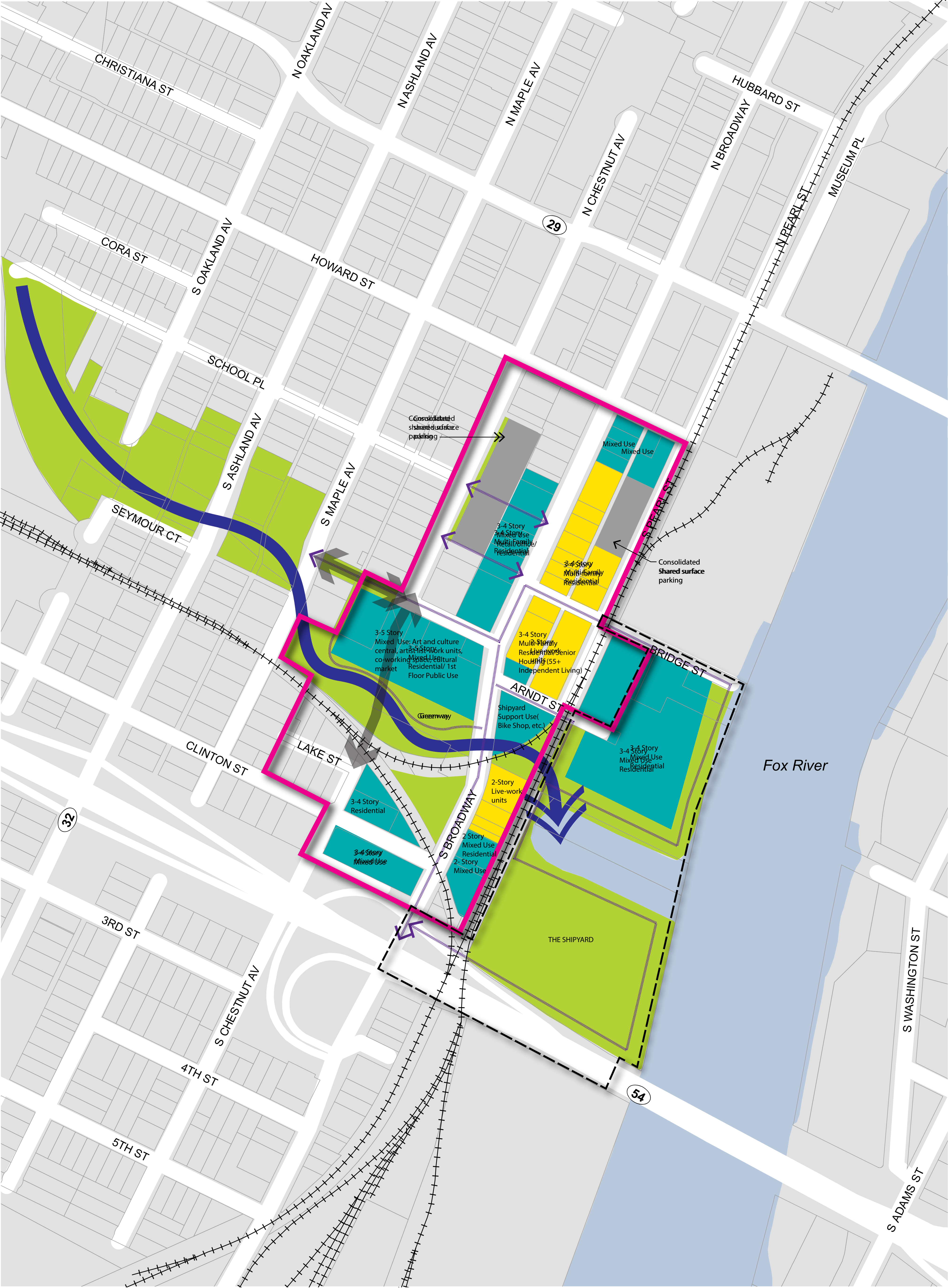
- Target Area
- Shipyard
- Parcels
- River
- Railroad

- Office
- Mixed Use
- Residential
- Park/Greenway
- Parking Lots

- Green Infrastructure
- Pedestrian Connections
- Vehicular Connections
- The Shipyard
- Target Area

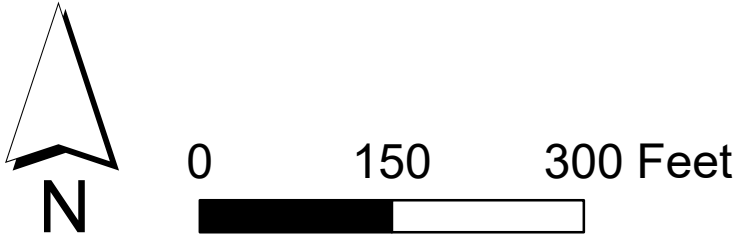
October 1, 2020





Proposed Land Use Mixed Use

US EPA Shipyard Project
City of Green Bay, WI



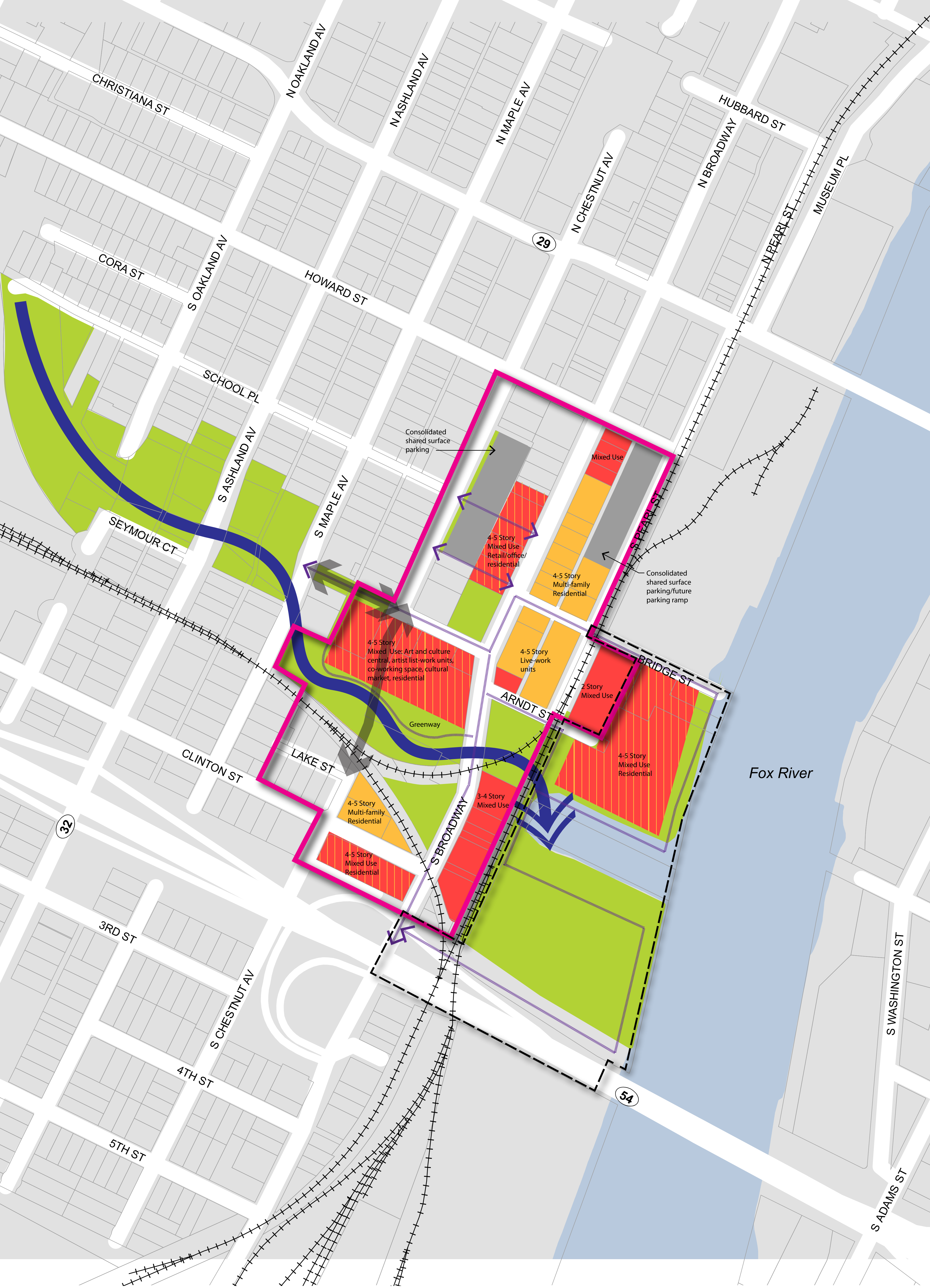
- Target Area
- Shipyards
- Parcels
- River
- Railroad

- Office
- Mixed Use
- Residential
- Park/Greenway
- Parking Lots

- Green Infrastructure
- Pedestrian Connections
- Vehicular Connections
- The Shipyard
- Target Area

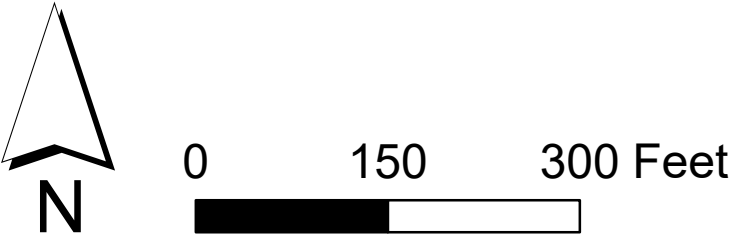
October 12, 2020





Proposed Land Use

US EPA Shipyard Project
City of Green Bay, WI



- Target Area
- Shipyards
- Parcels
- River
- Railroad

- Mixed Use
- Medium Intensity Retail, Office or/ High Density Housing
- Medium/High Density Residential
- Park
- Parking Lots
- No change in land use

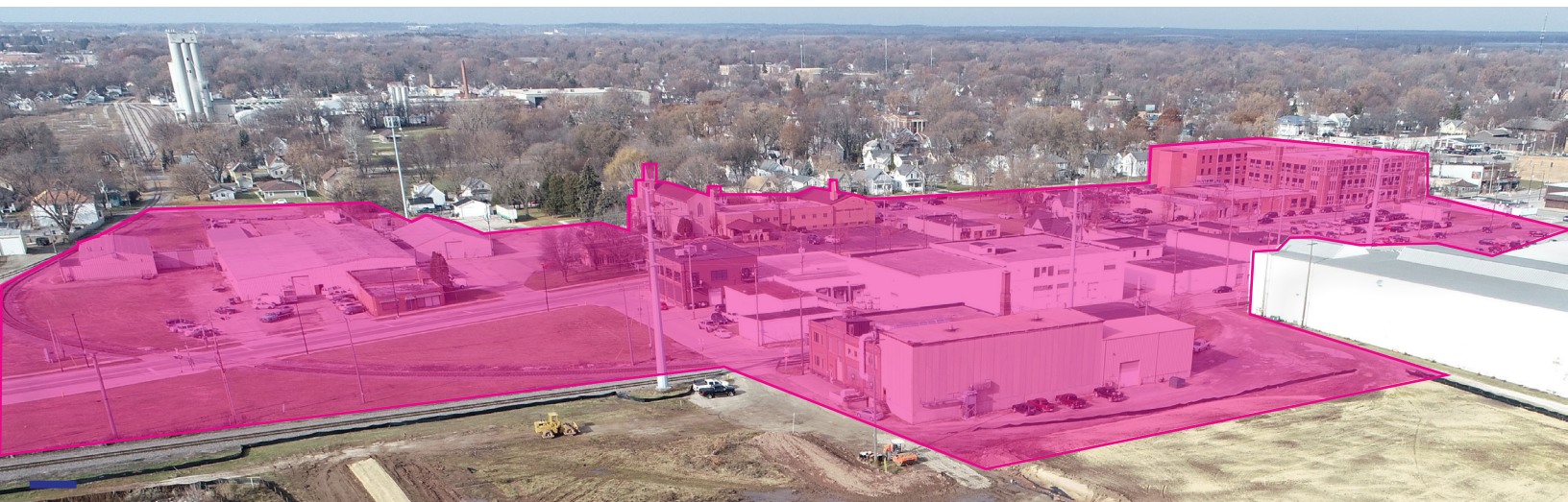
- Green Infrastructure
- Pedestrian Connections
- Vehicular Connections
- The Shipyard
- Target Area

US EPA SHIPYARD CORRIDOR

A GUIDE FOR REDEVELOPMENT

Green Bay, Wisconsin | November 17, 2020

Report Prepared Through Technical Assistance by USEPA Region 5 Brownfields



Aerial view of the Shipyard Corridor taken from the Fox River



Aerial image of the Target Area from above the Fox River

WHY THE SHIPYARD CORRIDOR?

"The revitalization of the Shipyard neighborhood represents a unique opportunity for the City of Green Bay and our residents to breathe new life into a long and overlooked but critically important area of our community. The effort has engaged the opinions and ideas of people from all walks of life and areas of expertise with a shared mission of recreating a neighborhood with local and regional amenities that embraces its distinctive "residential" identity. This redevelopment guide synthesizes many of the studies and conversations that have taken place to this point and offers us a coherent roadmap toward a better future for this neighborhood, our City, and Green Bay's citizens."

Eric Genrich
Mayor of Green Bay

**Ultra
Plating**

School District

**Ace
Marine**



ACKNOWLEDGMENTS

We recognize the following members for their efforts:

US EPA

Brian Kennedy, Brownfields Project Manager, U.S. Environmental Protection Agency, Region 5

James Van der Kloot, Land Remediation, U.S. Environmental Protection Agency, Region 5

City of Green Bay

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Erin Roznik, Design Specialist

David Buck, AICP, Principal Planner

Matt Heckenlaible, PE, Utility Manager

Melissa Schmitz, CEM, LEED, GA, Resiliency Coordinator

Paul Neumeyer, Zoning Administrator

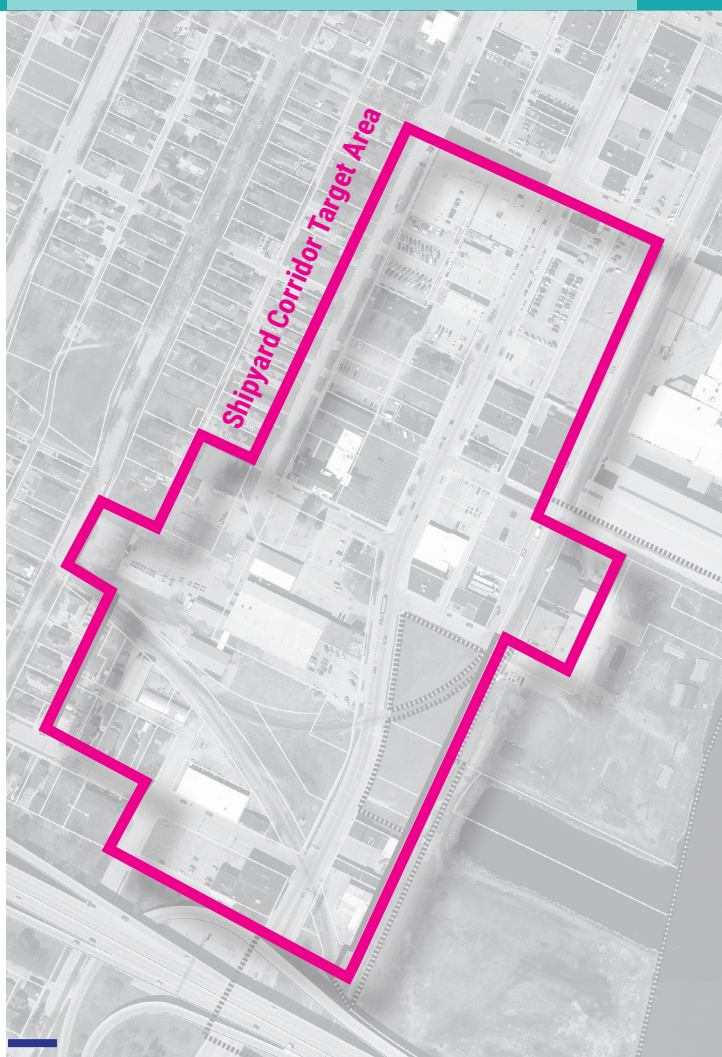
Cheryl Renier-Wigg, Interim Development Director



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3.0	Development Plan	36
4.0	Catalyst Sites	57
5.0	Implementation Action	71
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	McMahon Group Hydrologic & Hydraulic Analysis	Appx. B
	Land Use Alternatives	Appx. C

1.0



Shipyard Corridor Target Area

The U.S. Environmental Protection Agency Region 5 Brownfields Program provided technical assistance which supported the preparation of this redevelopment plan for Shipyard Corridor in Green Bay, Wisconsin. The technical assistance was provided through Superfund Technical Assistance and Response Team contractor Sustainment and Restoration Services (SRS) and its subcontractor Stantec.

PURPOSE

The purpose of the Shipyard Corridor Study is to capitalize on momentum of the Shipyard and proposed multi-family developments to transform the Target Area into an impressive gateway to the Broadway District, Downtown and to the Fox River. This report reviews existing planning studies, provides due diligence on existing conditions and a vision for the City of Green Bay to use as a guide for redevelopment.

This document is intended to help developers understand the opportunities and constraints associated with development in the Target Area and will act as a guide for City staff to craft requests for development proposals.

INTRODUCTION

SHIPYARD CORRIDOR

STUDY AREA

The area of interest known as the Target Area, is an approximately 30-acres west of the proposed Shipyard and north of West Mason Street Bridge. Multiple sites within the area meet the definition brownfields by the Environmental Protection Agency (EPA), which defines it as a property which the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Since 1995, through tax incentives and grants, the EPA's Brownfields and Land Revitalization Program has provided communities with a pathway to redevelop land that would otherwise continue to remain abandoned or underutilized. The EPA sees the untapped potential of the area and has graciously funded this project.

STAKEHOLDER INPUT

Stantec facilitated a presentation and stakeholder discussion on October 15, 2020 via Teams meeting to review future land use alternatives with City staff, the neighborhood association and district leaders as well as local developers. The results of that meeting can be found in Chapter 3. Thank you to the stakeholders who contributed their expertise to this planning effort:

- James Van der Kloot, Land Remediation, U.S. Environmental Protection Agency, Region
- Matthew Buchanan, AICP, Economic Development Specialist
- Erin Roznik, Design Specialist, City of Green Bay
- David Buck, AICP, Principal Planner, City of Green Bay
- Will Peters, Neighborhood Development Specialist, City of Green Bay
- Cheryl Renier-Wigg, Interim Development Director, City of Green Bay
- Brian Johnson, OnBroadway Inc.
- Joy Hannemann, Operations Partner, Merge Urban Development
- Brent Dahlstrom, Managing Partner, Merge Urban Development
- Steve Miller, Architect, Slingshot Architects
- Mike Stangel, Facility Director, Green Bay Area Public Schools
- Mariah Kelly, President, Seymour Park Neighborhood Association
- Brian Kennedy, Brownfields Project Manager, U.S. Environmental Protection Agency, Region 5

2.0



S Broadway looking northwest just past Clinton Street

OPPORTUNITY ANALYSIS

OPPORTUNITY ANALYSIS

The Opportunity Analysis consists of completing an inventory of existing data related to the Shipyard Corridor Target Area and an analysis to identify opportunities and potential barriers to redevelopment.

Inventory: Document Review

The documents listed below have been reviewed as a part of the Inventory portion of the opportunity analysis process. Documents with pertinent information related to Shipyard have been summarized.

- [Green Bay Housing Market Study \(2020\)](#)
- [Shipyard Neighborhood Investment Strategy \(2018\)](#)
- [Building Blocks \(2020\)](#)
- [City of Green Bay Comprehensive Plan: 2022](#)
- [City of Green Bay Park, Recreation, and Open Space Plan 2020-2024](#)
- [Authenticity: A Strategic Vision for Green Bay's Downtown \(2014\)](#)
- [Environmental Analysis](#)
- [The Shipyard: Diversifying the Brand of a Well-](#)

[Branded City \(The Cuningham Group ,2018\)](#)

- [Market & Development Analysis for The Shipyard 2019\)](#)
- [Shipyard Archaeological Monitoring \(Commonwealth Heritage Group 2019\)](#)
- [The Shipyard \(Stantec, 2018\)](#)
- [Merge Development \(2020\)](#)

Analysis: Infrastructure Analysis

The infrastructure analysis includes a stormwater management assessment that highlights flood history, FEMA floodplain mapping, permitting challenges (Federal, State and City) and stormwater design standards. Green infrastructure best management practices are highlighted as solutions to stormwater issues in the Target Area and can be found in the Implementation Chapter.

An evaluation of the City utilities (water, sanitary, storm, electrical and telecommunication), roadway and railroads was also completed. A geotechnical analysis was completed for the former Badget Sheet Metal site, one of the properties predetermined to be one of the catalyst sites for redevelopment.

DOCUMENT SUMMARY

GREEN BAY HOUSING MARKET STUDY (2020)

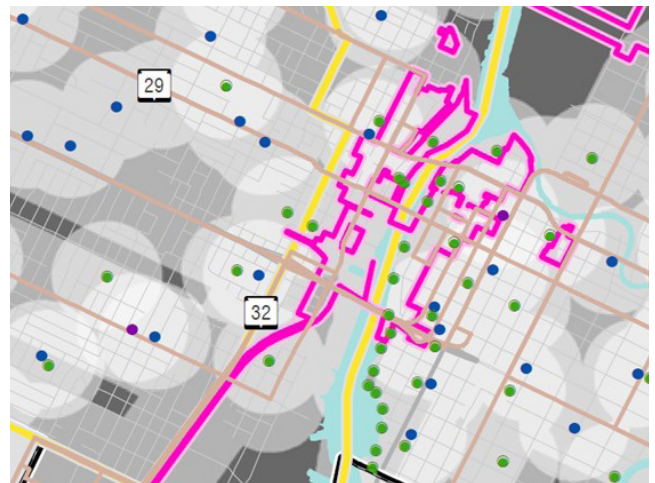
The Green Bay Housing Market Study was commissioned by the Redevelopment Authority (RDA) of the City of Green Bay in 2020. The RDA previously identified housing as a critical issue that should be addressed to improve Green Bay and grow its economy. The RDA also wanted to have a better understanding of both the City's housing market as well as the housing market of surrounding communities.

The Housing Market Study examines the existing balance between housing demand and supply by analyzing data, talking to housing experts, and understanding local residents' experiences to determine gaps in the number, type, price point, and location of housing units in the City. To close these gaps and improve housing options in the City, the study lays out a toolbox of targeted strategies.

44% of the housing within the City of Green Bay is rental units, with the remaining 56% being single-family homes. Of those single-family homes, 91% are owner-occupied.

In relation to the housing gaps and opportunities, it is noted that affordable housing is needed. The study defines affordable housing as housing that serves lower-income residents, typically households earning 80% of the area median income (AMI) as calculated by the US Department of Housing and Urban Development. There is also a determined need for senior housing and new owner-occupied housing.

New units, no matter what type they may be, are encouraged to be implemented throughout the Target Redevelopment Areas, shown in magenta below. These areas include the Whitney Park Townhomes, 901 Main, the Rail Yard Innovation District, and the Shipyard Project site.



The main goal determined by the Market Study is to BUILD HEALTHY NEIGHBORHOODS within those key areas that consist of varied housing types, sidewalks and urban design features, convenient access to public transit and daily needs retail/services, quality parks and open space, community gathering places, and active neighborhood associations.

This could successfully be accomplished by following the proposed strategies for implementation:

- Communication – with committees, staff, and key stakeholders
- Initiatives – neighborhood initiatives and RDA proposals
- Regulation – enforce existing plans in place, encourage code flexibility, and review fees and processes in place
- Funding – explore internal funds, TIFs, tax credits, and down payment assistance
- Partnerships – with Habitat for Humanity, major employers, UWGB, and NWTC

THE SHIPYARD NEIGHBORHOOD INVESTMENT STRATEGY (2018)

The Shipyard Neighborhood Investment Strategy, also known as “The Strategy,” was adopted in December of 2018. The Strategy focuses on the predominately residential neighborhood bounded by Walnut Street to the north, Ashland Avenue to the west, 6th Street to the South, and the Fox River to the east. This includes the Target Area as well as Stantec’s Shipyard project site.

The Strategy is in place to help guide the City of Green Bay’s committed \$1 Million investment in this area over the course of 3 years, but specific action strategies for property acquisition and infrastructure projects (the Action Plan) are to be determined internally and are not further defined in the planning document itself. Overall, The Strategy is supported by US Census data, resident surveys, business surveys, site analysis, existing

planning documents, and community stakeholder meetings.

Using comprehensive background data and an Existing Conditions Survey, priority areas for investment were identified by The Strategy’s team. The following 5-Year Goals and overall objectives associated with the priority areas were then identified by City Staff and community stakeholders based on a neighborhood survey:

Goal #1 – PROPERTY VALUES: Increase Property Values Through Improvement to Overall Curb Appeal of the Neighborhood and Surrounding Area

- **Objective #1A:** Encourage high standards of property maintenance and investment within the Shipyard area neighborhood
- **Objective #1B:** Reduce the prevalence and intensity of distressed and nuisance properties as well as eliminate factors that contribute to blight

Goal #2 – HOUSING: Promote continual reinvestment in neighborhood housing that increases housing choices, number of living units, and owner occupancy rates to stabilized and enhance the desirability as a neighborhood of choice.

- **Objective #2A:** De-conversion of single-family homes that have been divided into multiple living units where the design, density, and site constraints are problematic
- **Objective #2B:** Increase density at appropriate locations and provide additional housing choice included attached single-family (townhomes),

DOCUMENT SUMMARY

multiple-family, and mixed-use living options.

- **Objective #2C:** Increase the percentage of homeownership and owner-occupancy
- **Objective #2D:** Align land-use regulations with adopted development and area-wide plans

Goal #3 – LAND USE: Advance an appropriate and compatible mix of residential, commercial, and public uses within the neighborhood

- **Objective #3A:** Adjust land use regulations to promote and encourage desired mix of uses

Goal #4 – ECONOMIC DEVELOPMENT: Encourage an appropriate and compatible mix of residential, commercial, and institutional uses that provide increase neighborhood commercial business and local employment base

- **Objective #4A:** Increase neighborhood sustaining and supported commercial options to the immediate area
- **Objective #4B:** Clean-up and reuse environmentally compromised properties

Goal #5 – INFRASTRUCTURE: Provide an attractive, safe, well-maintained, and efficient multi-modal transportation network for all users

- **Objective #5A:** Improve and expand existing roadway infrastructure
- **Objective #5B:** Increase function and “friendliness” of roadways for pedestrian and bicycle circulation
- **Objective #5C:** Improve right-of-way and public space amenities to improve image of the area and provide attractive places for people to live, work, and play

- **Objective #5D:** Better utilize existing surface parking lots

Goal #6 – COMMUNITY BUILDING: Engage, activate, and empower residents, property owners, and other community partners to take ownership of their neighborhood

- **Objective #6A:** Involve residents and property owners in future planning and implementation of changes and improvements to the area
- **Objective #6B:** Create a unique identity for the area
- **Objective #6C:** Celebrate the history and historic structure/sites within the neighborhood area

Funding sources noted in The Strategy include Neighborhood Enhancement Funds, Community Development Block Grants, HOME Investment Partnerships Programs, Brownfields Grants, and other local, private investments.

BUILDING BLOCKS (2020)

Building Blocks is a memorandum from March 31, 2020, for the City of Green Bay that addresses strategies and technical assistance for neighborhood reinvestment within the Shipyard Area.

Technical assistance was provided by the EPA to help the City of Green Bay and other key stakeholders in overall assessments of the area, convening of the stakeholders in workshop and meeting formats, and action planning for the next best steps.

Opportunities and issues for revitalization in the

Shipyards Area were addressed at both a Community Meeting and Technical Workshop in late January 2020. The series of meetings was an important event for convening people from a variety of backgrounds who were interested in promoting positive development in the Shipyards Area. Goals were formulated during the meetings that ultimately became the foundation for the following recommended strategies:

Strategy #1: Promote Placemaking and Development

- Expand or establish a merchants' association or business District
- Plan for future development of state transportation right-of-way
- Promote Shipyards area events
- Establish long-term plans to redevelop the CN Railyard, coal piles site, Badger Sheet Metal property

Strategy #2: Invest in Quality Affordable Housing

- Consider proactive code enforcement
- Pursue state legislative changes that affect affordable housing
- Increase funding for housing incentives

Strategy #3: Define the "Reindustrial" Area

- Build a neighborhood coalition
- Conduct visioning and identity building
- Relax zoning regulations and add a form-based element
- Create a land acquisition/disposition plan

Strategy #4: Reshape Neighborhood Connectivity and Mobility

- Install entrance identity and wayfinding signage
- Establish a long-term plan for removing viaducts on Ashland Avenue and Mason Street
- Reconstruct Pearl Street and Bridge Street to accommodate bike/pedestrian traffic and beautify the streetscapes

CITY OF GREEN BAY COMPREHENSIVE PLAN: 2022

The City of Green Bay's Comprehensive Plan (the Plan) was adopted in 2003 in compliance with the Smart Growth requirements. The preparation of the Plan relied heavily on the participation of the citizens of Green Bay. The Plan ultimately provides City leaders with a guide to use while assessing policy and development proposals. The Plan is extensive but does focus some of its objectives and policies on the Shipyards Corridor and Target Area.

Within the Community Facilities Chapter, there is a "Planned Park" for the Shipyards Project site and extension into the Target Area. Within the Community Facilities Chapter, there is a "Planned Park" for the Shipyards Project site and extension into the Target Area:

Within the Economic Development Chapter, there is suggested guidance to encourage downtown revitalization by means of redevelopment efforts. More specifically, it is recommended that a high percentage of

DOCUMENT SUMMARY

the City's new commercial and industrial growth should occur within the existing boundaries of Green Bay on brownfield sites or areas targeted for redevelopment such as contaminated, underutilized, or obsolete areas. This would include the Target Area.



The Housing Chapter focuses on the City meeting the needs for affordable housing, housing diversity, housing density, and infill / rehabilitation of existing housing stock. There are no specific areas for these initiatives further defined in the Plan, rather general thoughts that should be applied to all future housing discussions. It is noted, however, in the Implementation Chapter, that the City will likely create any Sub-Area and Neighborhood Plans that reflect new ideas and initiatives.

Several planned parks, special area parks, and planned parkways are proposed within the Parks, Greenways, and Parkway Chapter for the Target Area and its surrounding neighborhoods. This recommendation also promotes public access to the riverfront during

redevelopment efforts. Parkway are intended to be arterial or collector roads that are highly landscaped and include sidewalks, decorative lighting, on-road lanes, or off-road paths for bicycling. There is also guidance from the Concept Plan that a public path be considered along the west side of the Fox River to complement the one on the east side, which is now known as the Fox River Trail. A bike and pedestrian path is also proposed for the Target Area.



The Parks, Greenways, and Parkway Chapter promotes the development of new parks, greenways, trails, and parkways. It is also noted that the City should continue to extend public parks, plazas, recreational marinas, walkways, and overlooks along the Fox River from Mason Street to just north of Main Street.



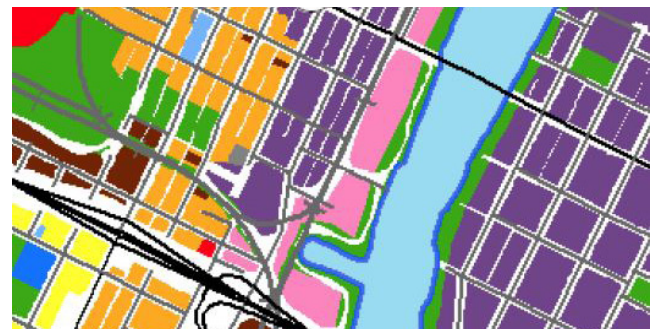
Also identified in the Chapter is “the 15-acre property immediately north of Mason Street on the west side of the Fox River” as a possible marina site. The Downtown Design Plan indicates this as a possible multi-purpose marina with adjacent housing, offices, shops, and restaurants. According to the Chapter, a marina at this location would support broader aims for downtown, Broadway Avenue, and central riverfront revitalization. Limited space for parking and downtown traffic conditions may preclude a major boat launch at this location.

The Land Use Chapter guides redevelopment and reinvestment for many areas throughout the City. According to the Plan, redevelopment activities should receive priority on the riverfront, in distressed neighborhoods, and key activity centers. Riverfront land use should focus on river-dependent industries, parks, housing, and offices. Existing riverfront parks should be linked, and an emphasis should be placed on creating more parks and open space.

Riverfront redevelopment is also found within the Land Use Chapter. It states that Green Bay should take a proactive approach to the redevelopment and clean-up of riverfront property to accommodate a mixture of residential, office, hotel, recreation, natural areas, protection, and technology-oriented land uses. Brownfields program funding could be an option to help support financial partnerships.

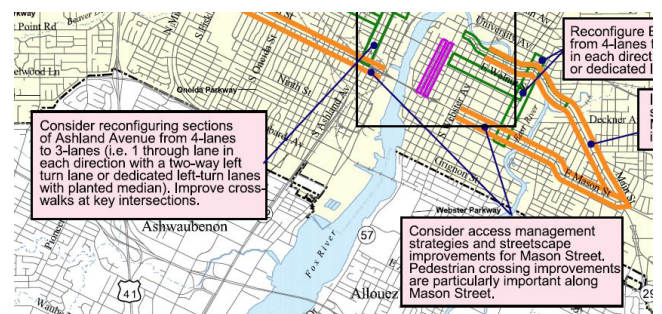
The Target Area is also found within the Transit District, an area that has existing bus routes and potential for transit-oriented development. This is also noted in the Transportation Chapter of the Plan.

The adopted Land Use Plan shown below also identifies the Target Area as parks, high intensity retail/office/housing, downtown use, or low/medium density housing for future development.



According to the Natural Resources Chapter, there appears to be a fair amount of 500-year Floodplain within the Target Area, along with an initiative to improve water quality and river edges just north of the Shipyard site.

Found within the Transportation Chapter are recommendations for further exploration of improved access management as well as 4-lane to 3-lane streets. This is shown in the image below.



DOCUMENT SUMMARY

The Transportation Chapter also recommends the implementation of multi-use trails and bicycle facilities within the Target Area as seen below.



The Neighborhoods and Districts Analysis found within the Comprehensive Plan splits the City of Green Bay into 6 neighborhood Districts. The Target Area is found within District 3: Near Downtown West. The Analysis provides a more specific land use plan for each District, clarifying recommendations for the Target Area and surrounding parcels as shown below. The Analysis also recommends establishing initiatives for this area that support improved access to the riverfront, mixed-use development along the riverfront, additional commercial activities along the Broadway Corridor, and stabilized housing with higher density closer to commercial land uses, employment, and transit.



CITY OF GREEN BAY PARK, RECREATION, AND OPEN SPACE PLAN 2020-2024

The City of Green Bay's preparation of the Park, Recreation, and Open Space Plan in 2020 (The Parks Plan) was an important step toward achieving a park system that meets the recreational and environmental needs of the Green Bay community. The Parks Plan also takes into account recommendations from the Wisconsin Statewide Comprehensive Outdoor Recreation Plan, the Brown County Park and Outdoor Recreation Plan, the Brown County Bicycle and Pedestrian Plan Update, the City of Green Bay's Smart Growth Plan 2022, the Green Bay Safe Walk & Bike Plan, the Green Bay University Avenue Corridor Brownfields Redevelopment Plan, and the City of Green Bay's Downtown Master Plan.

The Parks Plan's established goals are the following:

Goal #1: Provide a diversified park and recreation system that meets the recreational needs of Green Bay residents and attracts visitors from other communities

Goal #2: Preserve and enhance the natural resources of the community

Goal #3: Sustain and improve cultural resources and placemaking within the community

Goal #4: Develop and maintain parkland and recreational opportunities in a fiscally-prudent manner

Action Plan recommendations based on analysis of

existing facilities that include the Target Area are graphically shown in three exhibits from the Plan. Other recommendations specifically relating to the Target Area include:

Community Park Recommendation: SHIPYARD

- This future park (8.05 acres) is located just north of Mason Street along the west bank of the Fox River. Ownership, maintenance, and program management of the various Shipyard facilities is yet to be determined and may involve a public/private partnership. In any case, all facilities will be for public use.
- Proposed Activities include working with other City Departments to secure funding to construct a shoreline walk, multi-use trail, an open green space, stage, fountain/splashpad, playground, retail shipping container area, dog park, a kayak launch, transient boat dock, fishing area, urban beach, wetland habitat/ ecological area and riverfront seating.

Neighborhood Park Recommendation: SEYMOUR PARK (Just west of the Target Area)

- This medium neighborhood park (10.39 acres) has amenities that include one basketball court, two playgrounds, ice skating, shelter, open shelter, splash pad, community garden and edible landscape garden. There is an active gardening program for neighborhood children within this park.
- Proposed Activities include exploring the purchase of the south railroad yard for park expansion, replacing the playground, and considering downsizing to one playground. The area east of Ashland Avenue is currently underutilized. Staff should evaluate the best use of this area.

Greenway Recommendation: FOX RIVER GREENWAY WEST BANK

- The 2.20-acre Fox River West Bank Greenway is located in the heart of downtown Green Bay. The City currently owns property along the bank from Walnut Street to Dousman Street. This greenway is adjacent to Veteran's Memorial Park, the Neville Museum and Leicht Memorial Park. This narrow strip of shoreline property consists of a riprap edge, a brick river walk, and a firefighter's memorial.
- Proposed Activities recommended
 - Develop a master plan that addresses the potential re-design of Veteran's Memorial Park, a new riverfront walkway, shoreline treatments, along with connections to the Broadway Shopping District, the Neville Museum and Leicht Memorial Park
 - Actively pursue the relocation of the coal piles
 - Develop the Shipyard property as a public park

Recommended improvements should obviously be phased in over time. Funding mechanisms, such as grants, user fees / concessions, foundations, volunteer efforts, partnership groups, and sponsorships, are highlighted in the Plan to better assist in any upcoming implementation efforts.

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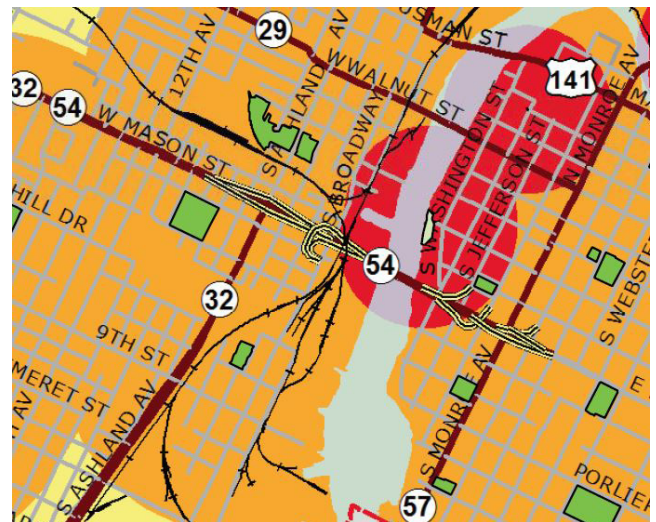
Existing & Proposed Parks (Green), Greenways (Pink), and Schools (Cyan) Exhibit Below:



Existing & Proposed Bike, Trail, and Pedestrian Plan Exhibit Below:

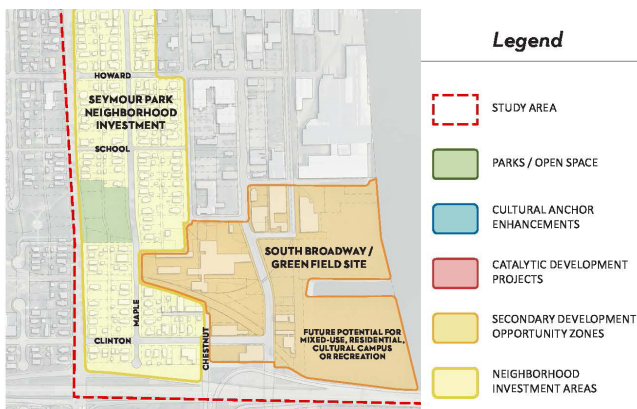


Park Proximity Analysis Below: (Dark Green: Community Park, Light Green: Mini Park, Red: 1/4 mile service radius)



AUTHENTICITY - A STRATEGIC VISION FOR GREEN BAY'S DOWNTOWN (2018)

Authenticity was created to allow for the City of Green Bay to capitalize on a unique mix of people, businesses, natural features, amenities, and characteristics that make the City one-of-a-kind. The goal of Authenticity is to identify opportunities that could not be achieved in other communities, allowing Green Bay to build on these unique elements and strengthen its competitive position in a world economy, while fostering an increased sense of place and pride. Authenticity is not about recreating the past, but instead planning for growth that embraces Green Bay's history while addressing what the community wants to become, in a way that reflects the unique spirit of the City.



The proposed Land Use Framework within Authenticity provides guidance to Downtown for a range of projects and policies. The Shipyard and Target Area and surrounding context has been defined not only as a brownfield redevelopment site, but also as an area for parks/open space and neighborhood investment as shown in the image below.

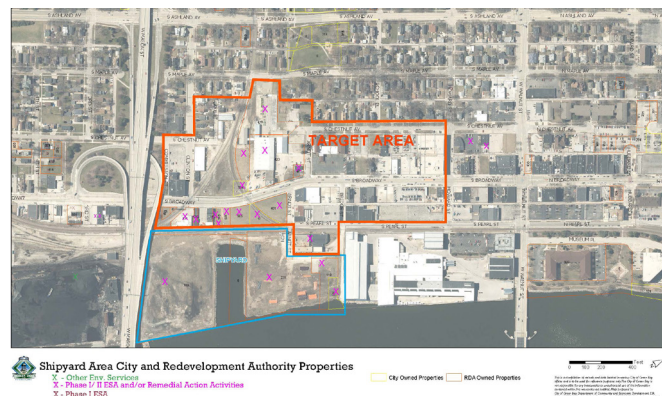
Authenticity encourages the City to strive for expanded Downtown economic base with livable spaces, improved connectivity, and preserved features unique to Green Bay.

ENVIRONMENTAL ANALYSIS

The Shipyard Corridor is in a fully developed area of the City consisting of wide-ranging commercial, industrial, and residential properties. Buildings and land uses in portions of the Corridor are no longer well-matched with current market demands and underutilized

properties are in need of redevelopment to promote a vibrant and productive community. Depending on the size and condition of these buildings and the extent to which historic land uses included use or storage of hazardous substances and petroleum, redevelopment may be hindered by the known or suspected presence of environmental liabilities which must be addressed prior to redevelopment. Multiple sites meet the EPA's definition of a brownfield and pose a key challenge to revitalization of the Shipyard Corridor.

Stantec has been engaged by the City of Green Bay on multiple occasions to provide environmental analysis on the Shipyard site itself and properties within the Shipyard Corridor. Utilizing multiple Community Wide Assessment funds for hazardous substance and petroleum brownfields awarded to the City by the EPA, Stantec has completed 5 Phase I and II ESAs on 12 parcels within the Shipyard Corridor. Phase II ESAs concluded soil and/or groundwater contamination exists on a majority of the parcels assessed in the Shipyard Corridor associated with widespread historic urban fill, industrial property use, or petroleum/hazardous substance releases.



DOCUMENT SUMMARY

During Fall 2020, Stantec completed a parcel-scale inventory of “Known” and “Potential” brownfield sites along South Broadway which included the Shipyard Corridor. The findings of the report were summarized in a letter dated October 20, 2020. Key components of the inventory included a review of historic data sources (aerials, Sanborn Insurance maps, etc.), a review of environmental databases, and physical “windshield” surveys at each non-residential property within the Corridor.

Using the sources listed previously, the brownfield inventory identified 47 parcels to be “Known” or “Potential” brownfields. 34 of these parcels lie within the boundary of the Shipyard Corridor. Potential brownfields were identified as those parcels which given current use and condition, are or have, a high likelihood of becoming a brownfield if the site were to suddenly become vacant.

THE SHIPYARD: DIVERSIFYING THE BRAND OF A WELL-BRANDED CITY (2018)

The Cunningham Group was hired by the City of Green Bay to provide a flexible design for the Shipyard site that was capable of withholding a strong brand and image separate of any associated with Lambeau Field, the Packers, and “Green & Gold.”

Per the Cunningham Group’s website and project overview, they knew that in order to establish the “Shipyard” brand, the space would need to be flexible,

adaptable, and ever-changing. Like the City of Green Bay itself, change and evolution are incorporated into the master plan. For example, the container park can transition to a new area and formation; the floating bridge allows for the potential development of a larger urban beach; the parking lot can be turned into a through-road; the soccer field’s footprint allows for an easy stadium bleacher expansion and a venue for concerts and festivals. In a strongly-branded location like Green Bay, this kind of fluid concept plan is essential in staying relevant.

Ultimately, what makes the Shipyard space unique is that it is designed directly for the people of Green Bay, not a pre-existing organization. Rather than relying on the draw of a single tenant or event, the success of the Shipyard will be in its ability to attract a broad cross-section of the population, to provide entrepreneurial opportunities, and to showcase the playful and creative energies of the City. The design invests in the enrichment of the City’s citizens, effectively making them both the client and the brand.

Design Principles and Goals

Create an attraction that draws people, year round, to the waterfront for events and daily activities. The attraction should be a combination of well designed building and spaces that encourage recreation, interaction, and entertainment.

Ensure the site is not an island - connect it to the City and weave it into its surroundings.

Create a strong image and brand, based on the physical qualities of the site, its history and the events/activities of the site and its surroundings.



Connect to the Broadway District



Third Destination



Complete the Edge



Extend the City to the Water

MARKET DEVELOPMENT & ANALYSIS FOR THE SHIPYARD (2019)

A Market & Development Analysis was prepared in December of 2019 by Stantec for a Shipping Container Park at The Shipyard to help support its viability and success. The methodology used to determine relevant development markets included traditional market research approaches, data derived primarily from US Census products, ESRI's Business Analyst, and Costar. It also included insight from key real estate professionals that were familiar with the local market context. The research focus areas included retail, food/beverage, and housing, all of which are candidates not only for the Shipping Container Park, but also for the surrounding redevelopment areas.

Findings and recommendations from the Market & Development Analysis for Target Area are the following:

- The design concept for the Shipyard's container park is suitable for establishing a unique visual brand that is consistent with Green Bay's waterfront industrial heritage. It also lends itself well to hosting an interesting mix of micro-businesses that would be unique in Green Bay, and would be complementary to the existing business spaces and Districts that are available for retail, food and beverage businesses in the nearby downtown and Broadway Street business Districts.
- Viewed as an extension of downtown's destination business Districts—particularly the City Deck area, and the Broadway Street District—there are indications that Green Bay's customer base is deep enough to support the expansion of downtown's

retail, food and beverage offerings to the Shipyard site.

- The existing site context is not conducive to full build out of the container park at the present time. Adjacent properties and area conditions are unsightly and may be perceived as unsafe. The park feels disconnected from the nearby Broadway Street business District and may feel isolated to some. The residential density of the surrounding area is low. Pedestrian traffic from the surrounding neighborhoods and the downtown employee base would be limited, given current development patterns. That would leave the container park reliant to a disproportionate extent on patrons making single purpose trips to the site and looking past some evident dis-amenities in the process.
- On the basis of the three preceding findings, proceeding with a full build out of the Shipyard's container park at the current time would entail a high risk of persistent vacancies and business failures, even if the City took on 100% of the construction cost.
- A distinctive eating or drinking establishment is likely to be viable in the short run and could be constructed as Phase I of the container park, using a design that allows for additional build out of micro-retail spaces in the future. The initial restaurant or brewpub may need to be responsive to market conditions through decisions about hours and seasonality—which can be extended in the future as conditions allow. Even as a single business entity, a restaurant or brewpub at the Shipyard site can become a much-loved neighborhood amenity and make an important contribution to establishing the Shipyard's brand and momentum. A Market & Development Analysis

DOCUMENT SUMMARY

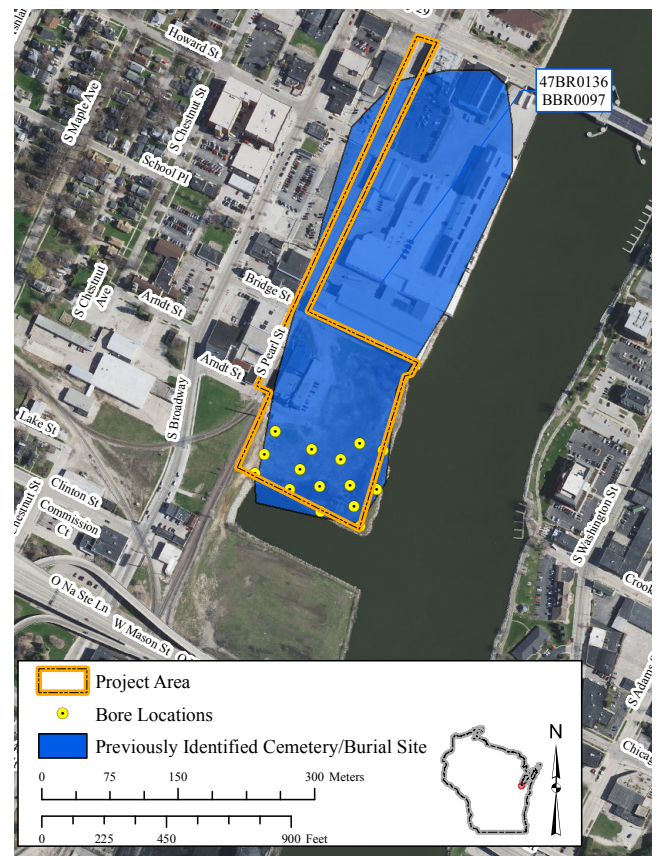
was prepared in December of 2019 by Stantec for the Shipping Container Park at The Shipyard to help support its viability and success.

The analysis also lists actions that could be taken in the near term to improve the context of the container park, which would include the Target Area. These include the recommendations of building housing and building continuity to the north by connecting to the Broadway Street business District, as the locational analysis does state that the Shipyard site feels fairly isolated.

SHIPYARD ARCHAEOLOGICAL MONITORING (COMMONWEALTH HERITAGE GROUP 2019)

Commonwealth Heritage Group was hired to conduct archaeological monitoring of the Shipyard site for uncataloged Burial Site 4BR0136/BBR097) Chakcha Chakana Menominee cemetery/burial and compaiste/ village site located along the Fox River. The investigation was triggered by Section 106: National Historic Preservation Act of 1966 which requires consultation (in this case) by the Tribal Historic Prservation Officer.

Commonwealth monitored ground disturbing activities within the boundary of the uncatalogued burial site 47BR0136/BBR0097 in the City of Green Bay, Wisconsin. Archaeological monitoring was conducted by a "qualified archaeologist" as specified under Wisconsin Statute §157.70 (1) (1) and the Wisconsin Administrative Code §HS 2.04 (6). No cultural materials, features, human remains, or other evidence of human burials were observed during ground disturbing activities. Based on these results, Commonwealth



concludes that the geotechnical boring within the uncataloged burial site 47BR0136/BBR0097 did not cause disturbance to human burials. Moreover, based on the soil profiles observed at the bore locations, Commonwealth concluded that the site has been impacted to such an extent that there is no potential for intact human burials to remain at the site. It should be noted that other properities in the Target Area may also trigger investigations pursuant to Section 106.



Shipyard Site Plan



Aerial perspective



Shipyard Container Park



Beer Garden



Urban Beach

DOCUMENT SUMMARY

THE SHIPYARD

Stantec was engaged by the City of Green Bay in September of 2018 to build off the Cuningham plan and make the Shipyard a reality. Stantec conducted a thorough site inventory and analysis to determine the sites opportunities and constraints and facilitated a collaborative visioning process with key City stakeholders and to solicit feedback from the public on what they wanted to see at the park. While there were many reasons driving a revisioning for the site the largest was the City residents lack of interest in a programmed sports field use and the high costs associated with sheet piling the entire shoreline.

Stantec is working with the City to design a rich assortment of attractions and programming that will provide visitors and residents with a year-round destination to gather. The Shipyard will be anchored by a shipping container park that could house restaurants, incubator space for startup businesses, local artisans, boutique retail, equipment rentals, intern housing, Airbnb-type rentals, and a 40,000 square foot private development. Planned support attractions and features include a beer garden, urban beach, volleyball, adventure playground, play fountain, dog park, great lawn, lookout, fishing wharf, kayak launch, marina with boat slips, floating docks, terrace waterfront seating, riverfront promenade, great lawn with room for a temporary stage and various pedestrian connections and amenities. The City wants to be able to host a variety of events on site including festivals, markets, run/walks, concerts, movies and in winter months ice skating, snow sculptures, sledding and winter market.

We facilitated program discussions for The Shipyard park improvements and are working with the City on design development of The Shipyard amenities and associated support infrastructure (regional trail connections, safe railroad crossing, parking lots, road reconstruction). Throughout the project we have maintained careful focus on options that the City residents desire, local businesses can champion, and the City can realistically operate and maintain.

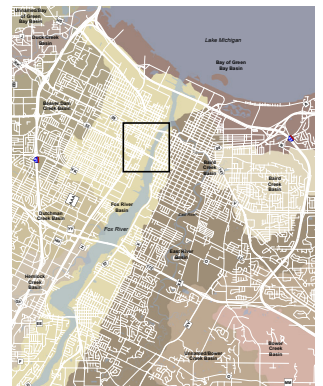
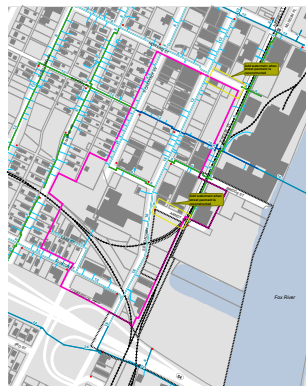
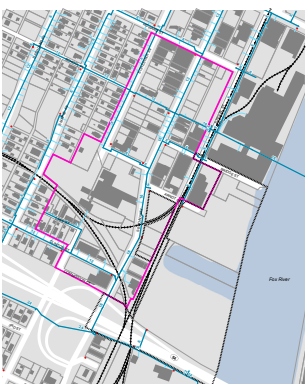
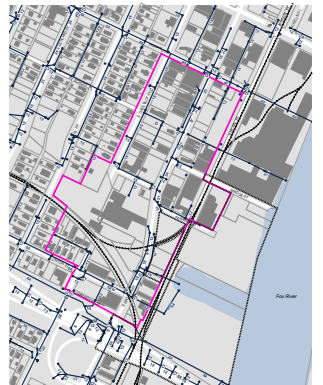
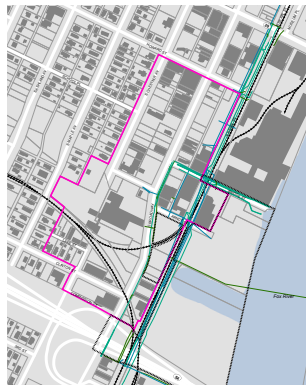
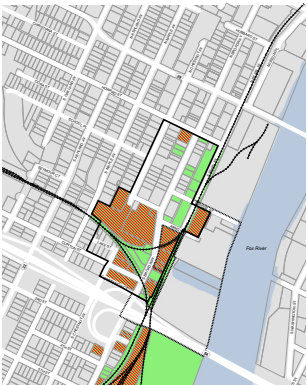
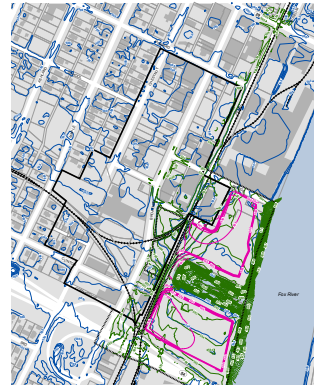
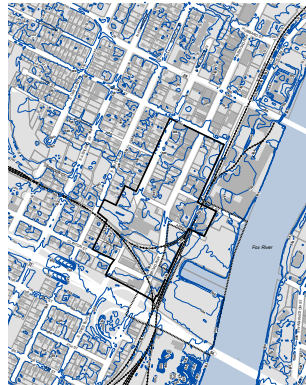
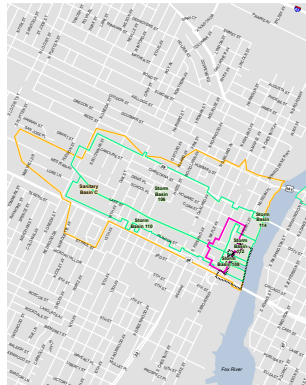
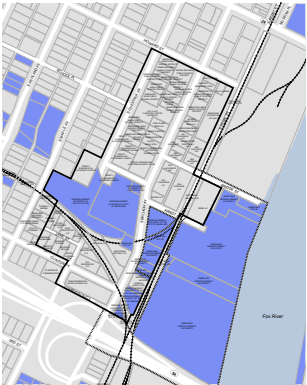
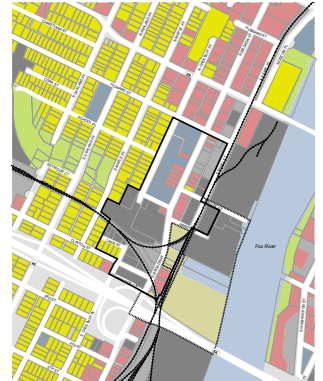
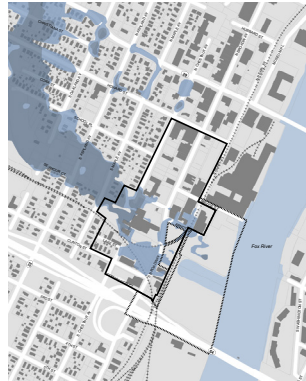
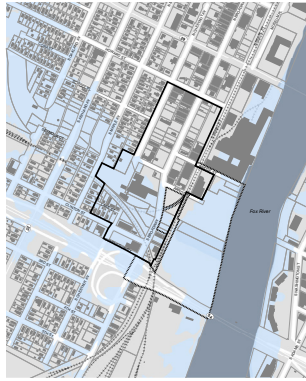
MERGE AND SLINGSHOT DEVELOPMENT

A four story mixed use residential housing development has been proposed in the location of the former Breakthrough Fuel Headquarters property. Located east of Broadway along the Fox River just north of cove and the proposed Shipyard site. This redevelopment, when built, will be a four building complex with first floor covered parking, market rate apartments and a 4,000 square foot restaurant or retail space. (Conceptual site plan and renderings on next page)



Preliminary Merge Development Site Plan (north of Shipyard)





Inventory mapping (full size maps are in the appendix)

INVENTORY & ANALYSIS

OVERVIEW & INTENT

The Infrastructure Analysis identifies issues related to infrastructure, municipal codes, the permitting process, and other hurdles that may present themselves during a redevelopment process. Ideally, all challenges would be identified before redevelopment design plans begin. However, this is not practical. Therefore, challenges to redevelopment have been identified based on previous experience, understanding of legislation, and existing information provided by the City of Green Bay and related entities.

The Analysis addresses some of the Target Area's redevelopment challenges through the initial stormwater and geotechnical reports. More specifically, flood-prone areas within this area will be adequately analyzed to assess if infrastructure modifications may reduce flooding in future redevelopment.

The goal is to identify and conceptualize reuse options for brownfield sites within the Shipyard Corridor. This analysis incorporates recent input from neighborhood residents and helps implement relevant elements of the Shipyard Area Investment Strategy and the Building Blocks Next Steps Memorandum.

An initial stormwater management assessment identifies major infrastructure challenges, informs reuse visioning, and offers recommendations for innovative stormwater management techniques to be considered with future redevelopment.

STORMWATER MANAGEMENT ASSESSMENT

FLOOD HISTORY

Repeated flooding events have presented existing

infrastructure challenges to the City of Green Bay. One of these challenge areas is presented as an arc shape flood area, which extends west, northwest from the Target Area. As the floodwaters rise in the challenge area, it continues south, curves along the east side of the Bay Valley Foods property located at 307 12th Avenue, where it widens to approximately three blocks. Generally, it approaches the Shipyard Property and Fox River perpendicularly. Nearly all the Target Area is contained within the flood area described. For planning purposes, all the area south of Ardnt Street should be considered an area of considerable flood risk.

Two sources were used to obtain flood mapping data for this area: Brown County and the McMahon Group report. Brown County completed one flood map that portrayed different flooding causes and information from multiple data sources. Data sources included the Wisconsin Department of Natural Resources, historical flooding observations, and the Federal Emergency Management Agency (FEMA) mapped floodplains. This mapping is useful to screen higher risk areas, but it doesn't address flooding causes.

The McMahon Group completed an earlier detailed study that showed localized flooding as part of their Analysis. They were retained in 2019 to perform hydrologic/hydraulic modeling of the stormwater drainage system of the area described above, for the 10-year, 25-year, and 100-year storms. Flooding in the stormwater drainage system is affected by river flooding/high river elevations, especially if areas must drain by gravity. A significant amount of stormwater flooding is caused by high local runoff rates and volumes, lack of capacity in the storm sewer system, and surface topography, which has depressional areas or does not have a clear surface overflow route to the river.

INVENTORY & ANALYSIS

Historically, the flood-prone area was characterized as slough in the topography. The historical mapping suggests it was once a tributary to the Fox River, releasing water from the wetlands in the Town of Fort Howard to the Fox River. More recent historical mapping shows increasing development through the flooding area.

Given the broad area of ponding water, an assumption is portions of the current storm sewer system have sizing or performance deficiencies, which is supported by the McMahon Group report. Due to the limited capacity, presumably anything beyond a 10-year storm event, the pipes, and the stormwater lift stations become the limiting factor during heavy rain events. This situation is compounded by the fact that the existing lift stations in the study area were designed to alleviate flooding caused by the rising flood waters of the Fox River and not the inundation of the storm system from runoff. Therefore, the hydraulic grade line in the storm system rises, and water begins to exit the storm system structures and pool on the surface.

Regional detention and upgrading the current lift stations were recommended solutions to help alleviate flood issues. The Green Bay Department of Public Works has begun improvements to the storm system in the Target Area by undertaking two projects. One project includes the improvements at the Clinton Street and South Broadway lift station and new lift station servicing at the proposed Shipyard Development. This project had associated storm pipe replacement and was completed in the summer of 2020. The second project is the upgrading of the lift station located at Pearl Street and Ashland Avenue. Storm sewer upgrades and lift station upgrades are expected to be completed before the end of 2020.

Future projects that are identified but not yet planned or budgeted include storm sewer upgrades down Howard Street from South Ashland to South Oakland, South Oakland from Howard Street into Seymour Park, South Maple Street from Howard Street to the railroad tracks past Seymour Park. There is also discussion and a plan shown in the McMahon Group report to add two surface stormwater facilities within Seymour Park within the next 5 to 10 years.

FEMA FLOODPLAIN MAPPING

As with the McMahon Group's study, FEMA has mapped the Target Area in a very similar fashion. FEMA depicts the flood mapping in the form of a document called a Federal Insurance Rate Map (FIRM). Within the FIRM, areas become defined as a floodway, special flood hazard area, and area of minimal risk. The Target Area is mainly within the special flood hazard areas and zone AE. The entire Target Area falls within the flood fringe, as determined by FEMA. The flood fringe is the area between the 100-year storm elevation and the floodway. None of the Target Area is within a floodway, which is where the water typically flows. Floodways cannot be developed, but flood fringes can, if conditions discussed later in this document are followed.

All areas not identified as flood zone AE are zone X are labeled as such. Given their proximity to the flood zone, these areas of minimal risk and any future development should consider the relationship between the lowest opening of any structures and the base flood elevation. No 500-year flood, or 0.2% annual chance of flooding, is identified within the Target Area or the FIRM.

PERMITTING CHALLENGES

Permits noted below are anticipated to provide

challenges to development directly related to stormwater and have been addressed from the federal level down to the local level. This is not intended to be an inclusive list of all permits necessary for the development.

Federal Permitting Challenges

Commonly, in a development of this nature, the Federal organizations expected to be involved are the Corps of Engineers, Federal Emergency Management Agency (FEMA), and Environmental Protection Agency (EPA).

The study area and potential redevelopment should not anticipate that the Corps of Engineers will have any involvement as there is no expectation of construction taking place within the floodway. There are no mapped wetlands present within the Target Area, either. However, the entire Target Area and flood area currently display wetland indicators per the Wisconsin Department of Natural Resources (DNR), and further investigation should be conducted before continuing beyond schematic design. There are three wetland indicator soil types present: Wauseon fine sandy loam, Manawa silty clay loam, or Tedrow loamy fine sand.

All properties that fall within FEMA mapped floodplains are regulated and require a Letter Of Map Change (LOMC) to be filed and must be accepted by FEMA before construction. In addition to the FEMA regulations, State and Municipal regulations also apply. One important requirement stated in the Municipal, State and Federal code is that the site must be raised 2' above the base flood elevation.

State Permitting Challenges

A DNR Wetland Permit, often referred to as a Notice of Intent (NOI), is required for developments that disturb more than one acre of land. The DNR permit supersedes the need for a City of Green Bay Stormwater permit. This permit should be a major design consideration as space will be required on each permitted site to provide regional controls for both water quality and water release rate. Typical controls are above ground or below ground detention systems, bioretention basins, and proprietary engineered solutions. From the inception of designs, the area required for these devices should be taken into account, or the maximum extent practical portion of the statute should be attempted to be met. If the sites are permitted individually and kept under one acre in disturbances, no DNR wetland permit will be required.

The Wisconsin General Permit, Chapter 30 or Chapter 31 permits are not expected at this time but should be reviewed with an environmental analysis when the development area concept is solidified.

City Of Green Bay Permitting Challenges

The City of Green Bay will require Erosion Control permitting and will potentially a Stormwater Management Permit. The need for Stormwater Management Permit in Green Bay is defined in Section 30.05 of the Code of Ordinances and is expected on all sites. As stated above, the DNR NOI and the municipal Stormwater Management Plan are tied together and triggered based on the site disturbance area. Stormwater BMPs need to be identified as part of the design process per the ordinance.

INVENTORY & ANALYSIS

In addition to the FEMA and State requirements to raise inhabitable structures 2' above the regional flood elevation, the City of Green Bay has further construction requirements in wetland fill areas.

The City requires dry land access to a new structure by emergency services at the time of a flood. Suppose the existing infrastructure prevents the development from providing dry land access due to existing road profiles or other means. In that case, the municipality may obtain a written agreement from the City of Green Bay first responders stating that 'rescue and relief will be provided by wheeled vehicles during a regional flood event, or the municipality could enter into an agreement with the Wisconsin DNR for an emergency evacuation plan. This portion of the ordinance could place significant challenges on developing properties within the Target Area as much of the streets are below the base flood elevation. If agreements cannot be obtained, road reconstruction would be the only option.

Removal of the floodplain cannot increase flooding anywhere else or obstruct the flow of floodwaters. The floodplain fill is not expected to increase flooding anywhere else given the size of the area that is changing, and due to the elevation, the City is in relation to the Bay and Fox River. Flood modeling may be required to satisfy this section with the City of Green Bay Zoning.

When filling a building pad is complete on a LOMC site, the footing base cannot be greater than 5' below finished grade, which equals 3' below base flood elevation. This is significant because new structures would probably require piling foundations and would likely not allow for basements or underground parking. Additionally, materials/construction of a new building

installed less than 5' above the base flood must have been evaluated for hydrostatic and hydrodynamic loads.

The shoreland zoning of the Target Area is unclear at this time and should be investigated further.

Razing permits may be of note for the demolition process as there is no defined procedure for commercial, industrial, and buildings closer than 10' to the property line. It is assumed that demolition of the undefined structures will be allowed with an agreement from Building Inspection.

DESIGN STANDARDS

The entire existing area is assumed to be 100% developed and developed before October 1, 2004. No exploratory measures were given to assess development and redevelopment between 2004 and the present day. If areas were subject to present-day development standards, an increase in stormwater quality treatment might need to be performed, as stated in §30.06(6)(c) Green Bay Code of Ordinances.

Redevelopment sites that replace older developments are subject to NR 151. The performance standards the development would need to follow are suspended solids reduction, peak flow control, infiltration, and protective of area standards. The standards would be required to meet NR 151.122 to 151.125, or the City stormwater standards, whichever is more restrictive. Environmental impacts from brownfield sites should be considered and design considerations may need to include engineered controls to prevent further spread contaminant impacts or infiltration.

Table 1. Stormwater Quality Standards

Type of Development	Percent TSS Removal (%)	
	Less than 5 acres	5 acres or greater
New Development	80	80
Redevelopment	40	-

Stormwater Quantity Standards

Any development in the Target Area is subject to the stormwater discharge quantities defined by the Green Bay Code of Ordinances § 30.06(5)(a)1 or § 30.06(5)(a)3 depending on the size of the area developed.

Developments less than five acres in size shall not increase the peak flow rates of stormwater runoff for the design rainfall events with recurrence intervals of two, ten, and 100 years. The criteria can become more or less stringent if the downstream storm sewers can or cannot handle the site's runoff. The department of public works would determine more restrictive requirements.

Stormwater Quality Standards

Any development in the Target Area is subject to the stormwater discharge quality defined by the Green Bay Code of Ordinances § 30.06(6)(b) or § 30.06(6)(c) depending on the size of the area developed.

Floodplain Standards

New structures can be built if the first-floor elevation is at least 2 feet above the base flood elevation and have dry land access. If a structure exists and substantial improvements are planned, the first-floor elevation must be raised at least two feet above the base flood elevation. Substantial improvements are defined as construction costs greater than 50% of the structures equalized assessed value at the time of work. Existing structures must also comply with Division 8 of the Green Bay Code of Ordinances. All identified special flood hazard areas within the study area have a base flood elevation of 586 feet.

STORMWATER MANAGEMENT ANALYSIS

Flooding caused by stormwater is generally due to local runoff rates, storm sewer system capacity, and overland drainage conditions. River elevations, pump station conditions, and other outfall conditions may influence localized stormwater flooding.

Flood-prone areas extend from the proposed Shipyard to approximately the start of what was originally a large marshland northeast of Fort Howard. There is a much wider contributing stormwater basin than the marsh and the Target Area. Rather, it extends further north and west. The result of this large area is water collecting on a nearly 100% impervious environment with an undersized storm system. As water is unable to enter the storm system, it flows into the mild depression, which is the flood zone that extends into the Target Area.

The recommendations are based on the McMahon Group's mapping and documents provided by the City of Green Bay. Stantec did not perform any independent modeling or technical Analysis.

INVENTORY & ANALYSIS

McMahon Group evaluated the effect of the recorded flooding events within Storm Basins 106 to 108, which are a component of the Target Area. The Analysis performed was for both the existing conditions and Analysis after the adaptation of several recommendations. These recommendations included significant up sizing of existing storm piping, upgrades to the pump station at the Shipyard development, and the addition of two above-ground wet detention basins.

Stantec's general recommendation is that the Target Area is filled not to isolate any building pads. Roadways should be raised where necessary to provide access to all habitable lots. A depression or canal should be provided in a similar location to the stream present in the 1800s. This stream should be designed for an overland emergency overflow of the area known as the flood zone. Environmental impacts should be assessed in location of the proposed stream and design considerations may included engineered controls to prevent contaminant impacts if applicable. The storm system, including lift stations' status, should be evaluated through the entire floodplain and sizes increased as necessary to eliminate any significant flooding in areas that are unable to be controlled by installing the emergency overflow path.

There is a possibility that the flooded area could be drained to a detention basin, which could be drained overland to provide drainage to the Fox River. Care should be given to prevent the back-flow of river water up this canal and create new areas of flood zone AE. Freeboard, meaning the distance between the top of the water and the top of the bank, will strive to be one foot or more in all situations.

Due to the requirements of the LOMC and the limited space available for stormwater treatment, a regional approach for stormwater quality and volume control appears to be the most appropriate solution. One LOMC could be created for all city streets, and all properties redeveloped with habitable structures. An overland flow channel could be defined at one time, and regional stormwater management systems could be established. This would reduce redevelopment costs for private developers, and it would provide more developable space on each site. Regional systems provide less management because dozens of individual systems requiring inspections annually are avoided. These improvements could be planned and instituted by the city and cost-shared with individual property developers.

The general recommendation is the raising of the flood zone areas within the Target Area. However, this may not be practical and should be assessed on a block by block basis and be included as part of a broader redevelopment plan.

EXISTING UTILITY CONDITIONS

The City of Green Bay's Public Works maintains the Sanitary and Storm Sewer Utility Systems. Green Bay Water Utility provides the local water service to the City of Green Bay residents.

There are many areas and facilities that have been identified for improvement by the department of public works. In general it was stated that if a project included storm sewer upgrades that the project would be undertaken as a full reconstruction project in where sanitary systems, water systems, storm systems and road systems are fully reconstructed.

WATER UTILITY

The Green Bay Water Utility provided data on existing and proposed water mains. The information included main areas, areas where water mains may be added in the future, and areas where the water main will be updated when the roads are repaved.

The water main around the Target Area is a looped system. Mains on Broadway, Clinton Street, and School Street are greater than or equal to 12" in diameter. It is presumed that all mains can provide water supply per the 10 State Standards of greater than 35psi working pressure within the distribution system and maintain a minimum pressure of 20psi during all flow conditions. Flow testing of existing water main should be provided by the City or be performed as a due diligence service prior to moving forward with development.

Caution should be given to areas where the water main material is anything other than Polyvinyl Chloride (PVC) or Ductile Iron (DI). The City of Green Bay has already identified the streets where Cast Iron (CI) water piping exists within the Target Area as "Relay."

Fire hydrant coverage is reasonable and compliant with NFPA requirements. The condition of fixtures and valves should be recorded and resolved prior to development.

SANITARY UTILITY

Sanitary sewer service is provided by the City of Green Bay Department of Public Works. The City of Green Bay provided the sanitary sewer basins and system network near the Target Area.

The Target Area is within Sanitary Basin C. The sanitary sewer system splits to the north and the south. The north becomes a 15" main along Howard Street, and the South becomes a 12" main that becomes an 18" main as it goes east along Hwy 54. Both branches end at or near Pearl Street, and at this time, it is unknown what the sewer does. Based on other maps and historical details, it is presumed that both mains are collected and raised at sanitary lift stations at these locations.

The sanitary sewer main branches within the Target Area range from 8" to 12", which are compliant. Material and condition are unknown, as well are the status repairs and improvements. The GIS data collected from the City of Green Bay did not include laterals to properties. Given the information provided it is difficult to determine if all the Target Area is sufficiently serviced and if there is capacity in the existing system for redevelopment.

Without measure down data, slopes, lengths, existing flow rates, design criteria, and issues received from the City, it is difficult to state what conditions to be aware of or identify solutions for future development.

Design criteria for new or improved sanitary sewer will need to follow NR 110-10 of the Wisconsin Administrative Code.

STORM UTILITY

The Target Area is within the following stormwater basins: 106, 108, 110, 112, and 114.

Stormwater runoff flows from the west to the east toward the Fox River. The stormwater system follows

INVENTORY & ANALYSIS

the same path to the pump station on the shipyard property.

The GIS data collected from the City of Green Bay did not include information about the condition, slope, material, or capacity. Therefore, it is impossible to determine if all the Target Area is sufficiently serviced or capacity in the existing system for redevelopment.

The best recommendation that can be given at this time is to review the McMahon Group's report, address new development sites to be above the regional flood elevation per the Code, and maintain access to inhabitable areas. During this time, the existing storm system should be evaluated for location and capacity.

Without measure down data, slopes, lengths, existing flow rates, design criteria, and issues received from the City, it is difficult to state what conditions to be aware of or identify solutions for future development.

ELECTRICAL & TELECOMMUNICATION UTILITY

Overhead transmission and distribution power lines cross through the site. The relocation of said powerlines for any redevelopment is assumed to be a significant undertaking.

ROADWAYS & RAILROADS

Attention should be given to the portions of streets that lie within the flood plain and sections with cast iron water main. The roadway width is significant in depaving discussions and green infrastructure additions within terraces and curbs bump-outs. All roadways are considered to be in good or moderately good condition unless stated otherwise. There are few potholes, deformities, or blemishes apparent via Google Streetmap.

Approximately 1,850 feet of Wisconsin Central LTD railroad track travels through the south portion of the Target Area. The railroad mainline is to travel north and south, and the spur is the section that heads west and parallels West Mason Street. Wisconsin Central LTD, a subsidiary of the Canadian National Railroad (CN), was contacted to obtain track usage. CN stated that both the mainline and the spur host an average of four trains per day. The train's length, type of train, and plans for the track were not obtained. CN Railroad stated improvements or plans for the future had not been identified, but more information may be available about the region on their website's investor portion.

Table 2. Existing Street Information – West to East.			
Roadway (West to East)	Right-of-Way	Material	Status
Howard Street	60 ft	Concrete	Good
School Place	30 ft	Bituminous	Good
Bridge Street	45 ft	Bituminous	Poor
Arndt Street*	50 ft	Bituminous	Poor
Lake Street	24 ft	Bituminous	Poor
Clinton Street	60 ft	Concrete	Good
* Terrace			

Table 3. Existing Street Information - North to South.

Roadway (North to South)	Right-of-Way	Material	Status
S Chestnut Avenue*	80 ft	Bituminous	Poor
S Broadway	80 ft	Concrete	Good
S Pearl Street	30 ft	Bituminous	Poor
* Terrace			

Based on the historical mapping, it was expected that imported soils would be encountered in many locations throughout the Target Area. This expectation is confirmed in the preliminary geotechnical exploration report as many layers, and types of soils were found. Given the proximity to Green Bay and the Fox River, groundwater is and should be expected near the ground surface. Groundwater was confirmed within six feet of the ground surface in all locations observed according to the geotechnical report.

Bedrock was encountered at an elevation of 96 feet below ground level. The geotechnical engineer notes caution that further exploration should be performed to assess the underlying soil conditions more closely prior to redeveloping the site.

LAND USE & PROPERTY INFORMATION

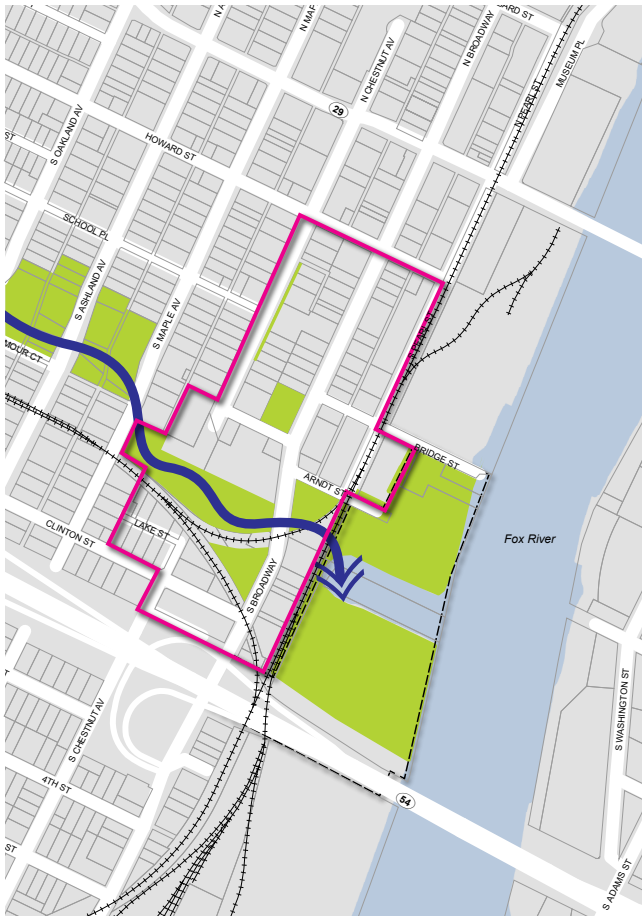
The land use within the Target Area varies. The southwest portions of the Target Area between Arndt, Broadway, and Commission Ct include industrial and transportation uses. The north west portion of the Target Area between Broadway and Chestnut includes Institutional/Governmental and Commercial. The north east portion between Broadway and Pearl includes a mixture of agriculture/silviculture, commercial, industrial, and transportation (parking lots).

Assessed property values are typically significantly lower than the current market rate and should be factored into any decision-making process accordingly.

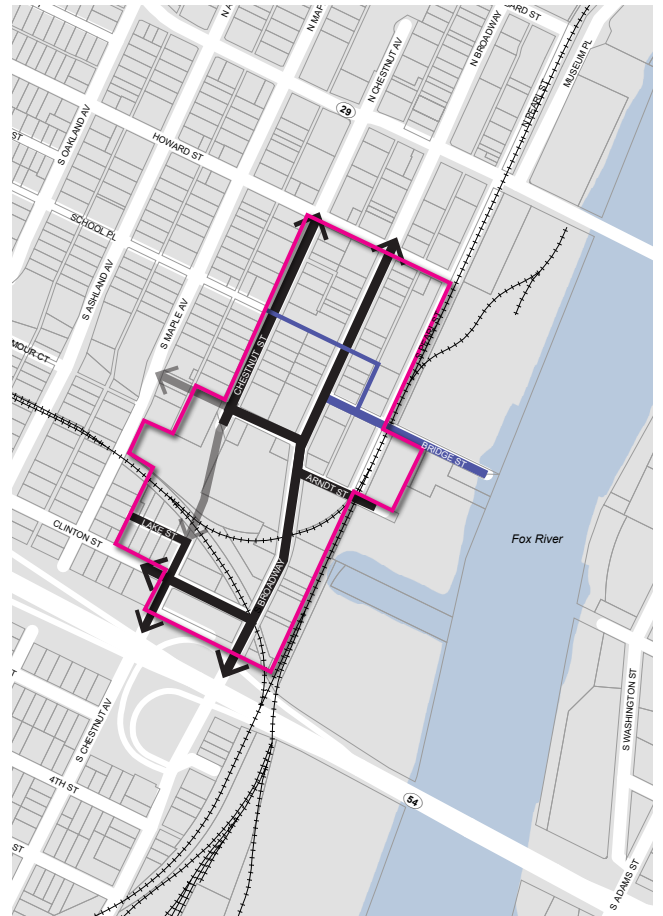
GEOTECHNICAL ANALYSIS

A preliminary geotechnical exploration report was completed for 419 S. Maple Ave and 420 S. Broadway by American Engineering Testing, Inc. The exploration area is commonly referred to as Badger Sheet Metal.

3.0



GREENWAY



STREET GRID CONNECTIONS

DEVELOPMENT PLAN

OPPORTUNITIES

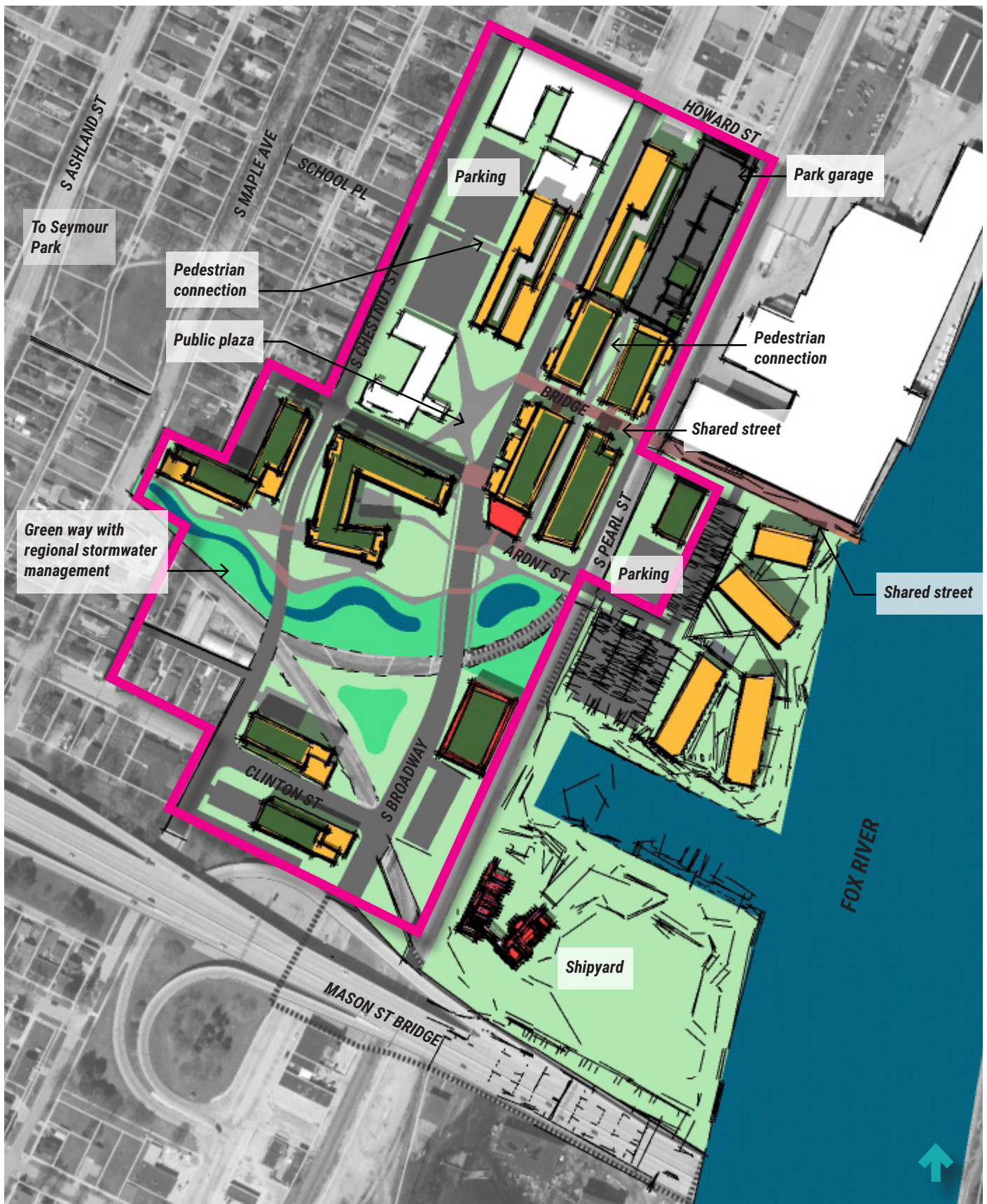
The development plan for the Shipyard Corridor is shaped by the opportunities that are present in the corridor. The overarching opportunity that shapes the area's potential is to build from anchor to anchor. The anchor at the north end of the Shipyard Corridor is the Broadway District, one of Green Bay's most vibrant neighborhood business Districts, and considered to be part of broader downtown Green Bay. The Broadway District has a legacy of original storefront architecture and an active program of marketing and events, led by On Broadway, Inc. On Broadway, Inc calls the Broadway District "Green Bay's cultural core for entrepreneurs, creatives, residents and visitors to engage and succeed in a welcoming environment."

The south end of the Shipyard Corridor will be anchored by The Shipyard itself, a highly distinctive destination park along the Fox Riverfront, boasting unique recreational opportunities, event space, and a container park micro-retail venue.

The connection between these attractive anchors is a few short blocks along South Broadway. The streetscaping and branding of the Broadway District can extend along these blocks to build continuity, cohesiveness and identity.

Other opportunities are surfaced in the development plan (see exhibits on previous page)

- **Green space, stormwater and trail corridor.** There is an opportunity to extend an open space and trail connection extending along the railroad line from Frank B. Seymour Park to The Shipyard.
- **Street grid reconnections.** The neighborhood suffers from missing a number of street connections in the blocks between Ashland Avenue and South Broadway.
 - There is an opportunity to extend Arndt Street from Chestnut Avenue to Maple Avenue, and possibly between Chestnut Avenue and Ashland Avenue as well.
 - It might be possible to reconnect Chestnut Avenue from Arndt Street to Lake Street, although it's very possible the railroad may not support an additional crossing of the railroad line.
 - The interrupted block of School Place could be reconnected between Chestnut Avenue and South Broadway for pedestrians.



Areawide Plan

- | | |
|--|---|
| Mixed Use | Public/Semi Public |
| Residential | Green roof |
| Park | |
| Parking | |

DEVELOPMENT PLAN

MARKET CONTEXT

The Shipyard corridor has strong potential for redevelopment from a market perspective. Although existing property conditions do not currently provide an attractive context for new development investment, the corridor is anchored by significant present and future amenities at its north and south ends. And modest land values along the corridor are such that a critical mass of land for redevelopment could potentially be assembled, with the result that the new development and public realm features become the defining market context of the area, as opposed to current property conditions.

RETAIL

The market context for new retail development is challenging. The retail market has undergone a shock due to the Coronavirus pandemic. Moreover, the retailers that have been particularly hard hit are locally owned small businesses, store based retail (as opposed to online retail), restaurants and bars. A full recovery will take a couple of years at a minimum, and in the meantime the pandemic will likely have shaped consumer preferences and habits in some ways that are long-lasting. An aspect of that change may be to exacerbate the movement that was already occurring away from store-based retail to various online ordering and delivery models.

This retail market backdrop—and the importance of protecting the ongoing health and vibrancy of existing businesses in the Broadway District, and fostering a new micro-retail presence at The Shipyard—suggests that the development plan for the Shipyard corridor should have limited ambitions for new retail development. New housing development, on the other hand would strengthen the existing retail businesses and the proposed container park businesses by providing an expanded customer base within walking distance.

A limited amount of retail space is included in this development plan, generally located on the ground floor of new development. It is located proximate to the existing Broadway District, near the Broadway and Howard intersection. And it is situated near the Shipyard's container park, with the intention that it would function in a complementary way to the container park.

MULTIFAMILY

New medium density housing development offers a myriad of benefits to the area, including activating the streets, improving the perception of safety, and providing a base of customers for local retail stores and restaurants.

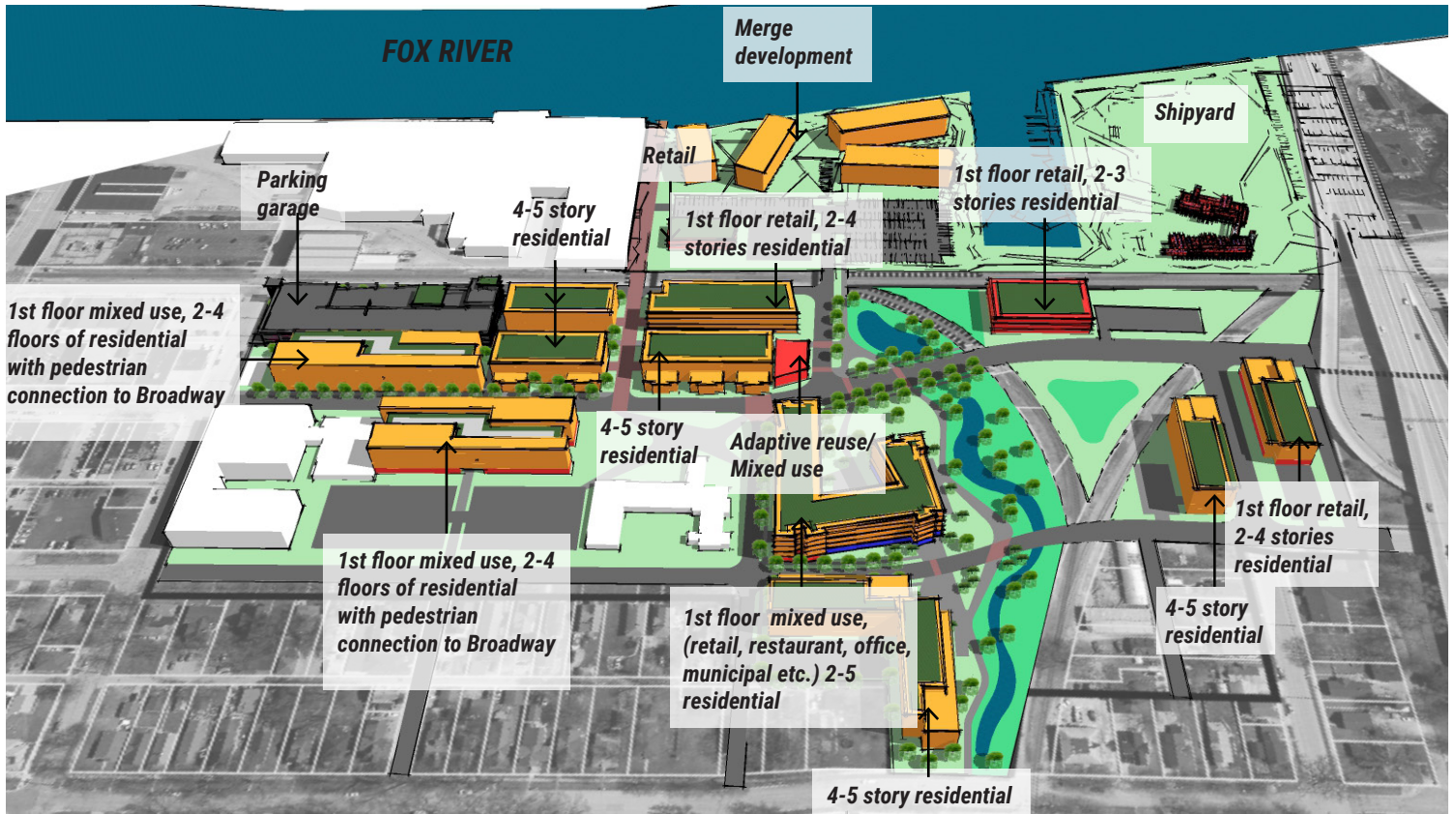
The market demand for downtown and near-downtown residential development in Green Bay has been demonstrated through a succession of new housing developments. Although the market for multifamily development between the Broadway business District and the Shipyard wasn't specifically analyzed for this plan, we expect based on previous studies and Green Bay housing trends that the demand for near-downtown housing in Green Bay will be ongoing at a reasonable pace of absorption, culminating with the full build out of these blocks of the Shipyard Corridor.

Fostering housing development will require improvements to conditions in the area, but each new development will strengthen the special character of the District that is emerging, and thus pave the way for subsequent developments.

OFFICE

Office development adds daytime population to an area, which can activate the urban environment and have a particularly beneficial impact on local restaurants.

The immediate context for the office development has been upended by the Coronavirus pandemic, similar to the retail market. Many office workers are working from home, and their employers may have learned that they can shrink their physical office footprint when the pandemic has passed. So projections for office demand are weak in the near to medium term. Having said that, this is an area that will have an emerging identity that may be compatible with the brand of particular companies. For that reason, a business of the appropriate scale might be interested in establishing office space in the Shipyard District, and pursue acquisition and development of a site.

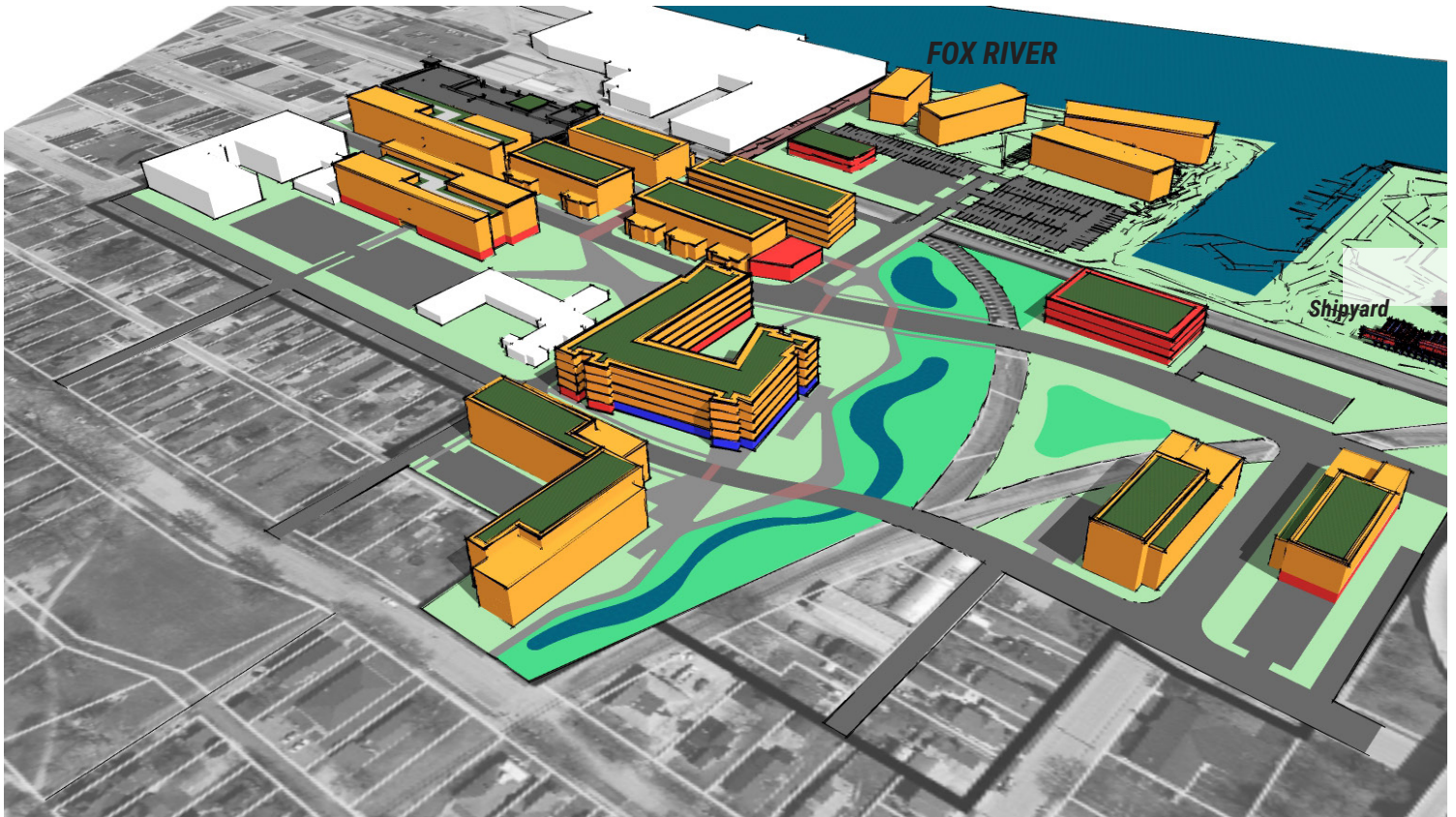


View looking east

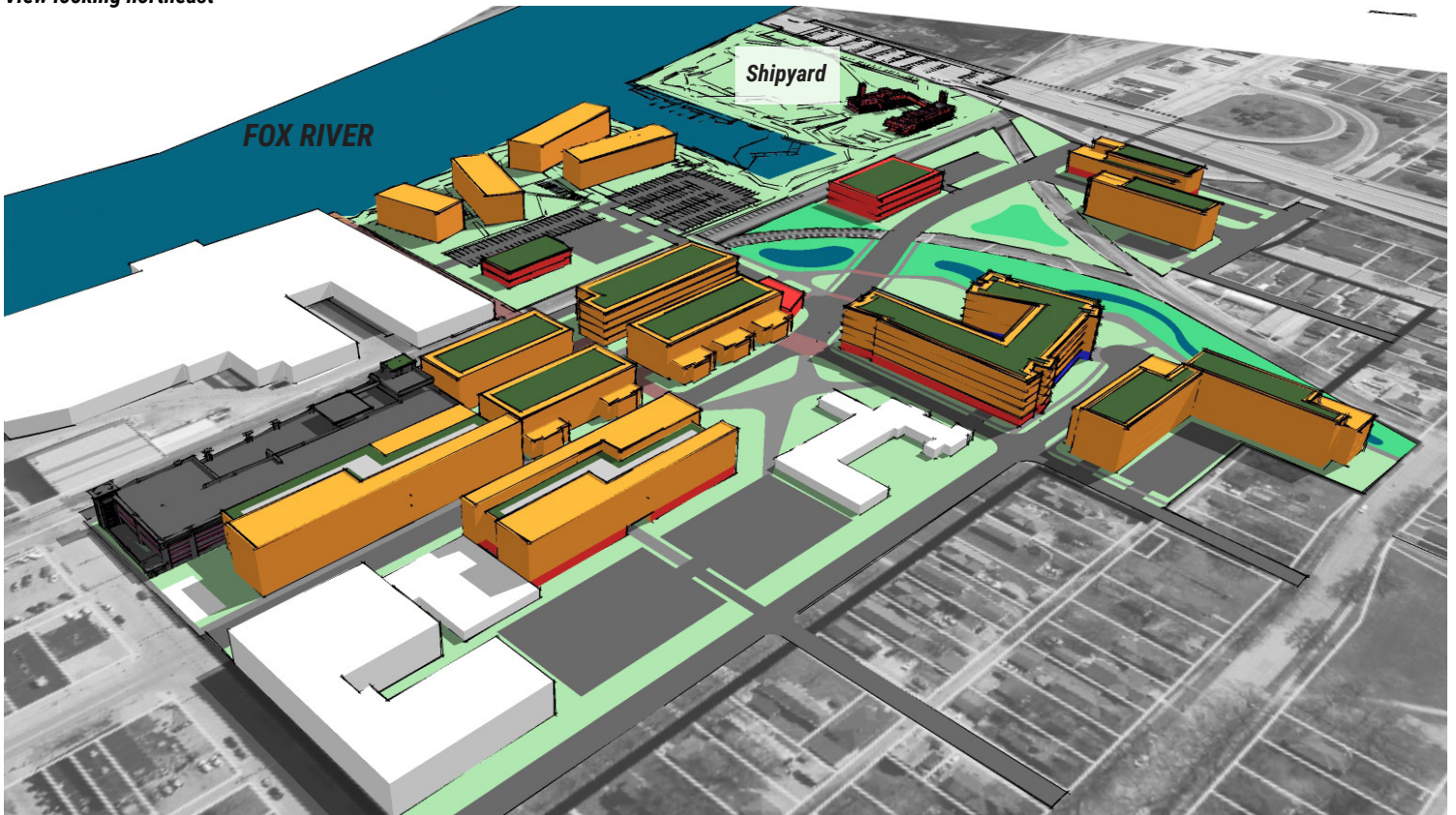


View looking west

 Mixed Use	 Park	 Public/Semi Public
 Residential	 Parking	 Green roof



View looking northeast

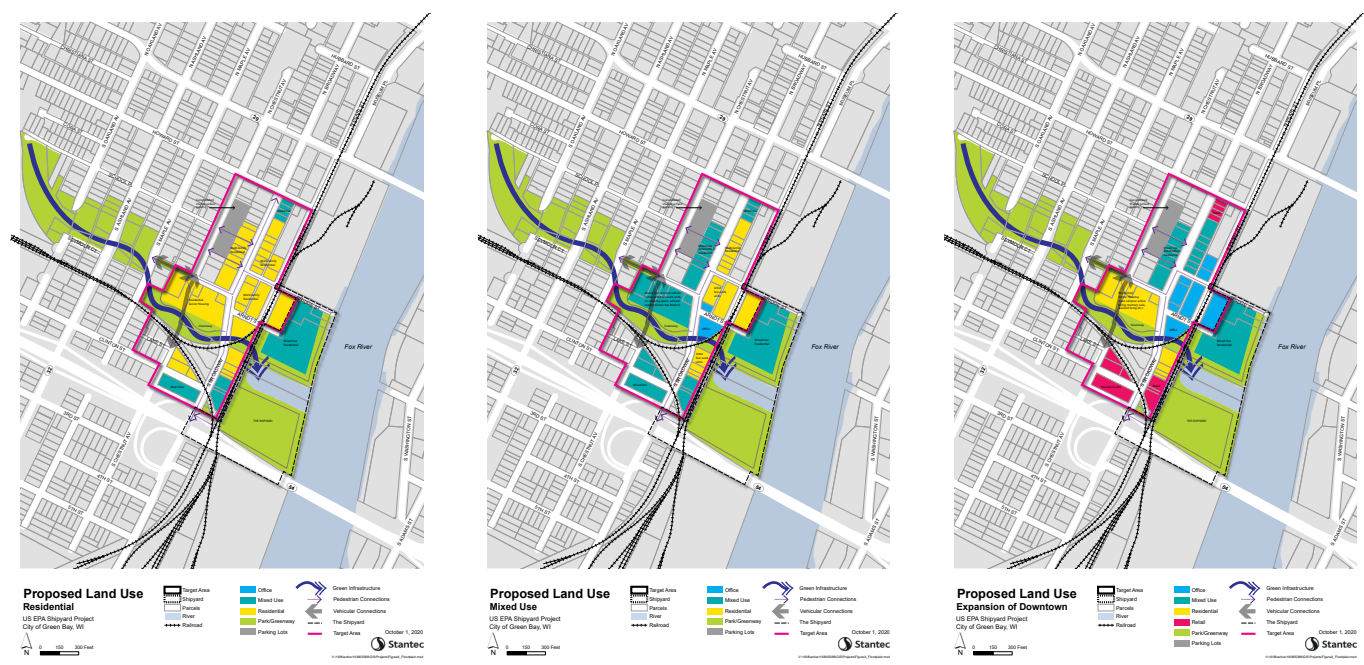


View looking southeast

- | | | |
|--|--|---|
| Mixed Use | Park | Public/Semi Public |
| Residential | Parking | Green roof |

DEVELOPMENT PLAN

SCENARIO PLANNING



RESIDENTIAL

MIXED USE

EXPANSION OF DOWNTOWN

DEVELOPMENT PLAN

LAND USE

Three land use scenarios were created, based on the area's opportunities and market context. They were evaluated by a client stakeholder group consisting of the US EPA staff and City of Green Bay staff. The scenarios represented three themes: 1) Residential, 2) Mixed Use, and 3) Expansion of Downtown. Feedback received from the client stakeholder group was used to narrow the alternatives to two scenarios. The Residential and Mixed-Use options were presented to a stakeholder group for evaluation. The stakeholder group decided to

move forward with the Mixed-Use land use alternative as it afforded the greatest flexibility for future development. Some revisions were made based on input from the stakeholder group, and the colors on the map were adjusted to be compatible with the colors used in Green Bay's city-wide Future Land Use map.

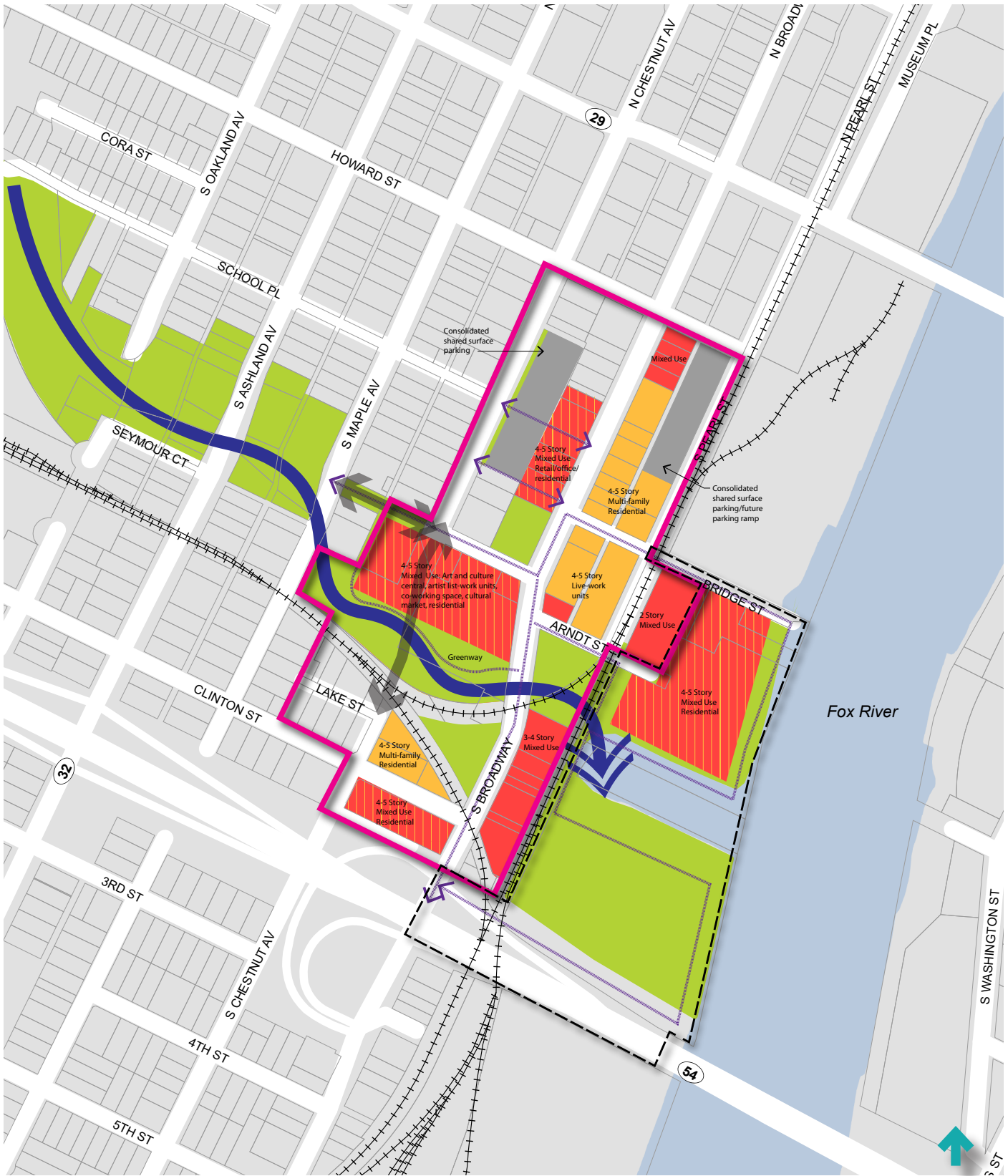
The Shipyard Corridor Land Use Map can be found on the following page followed by descriptions of the map's land use categories in the map.



RESIDENTIAL



MIXED USE



Proposed Land Use Plan

- Target Area
- Shipyard
- Parcels
- River
- Railroad

- Mixed Use
- Medium Intensity Retail, Offi
- High Density Housing
- Medium/High Density Residi
- Park
- Parking Lots
- No change in land use

- Green Infrastructure
- Pedestrian Connections
- Vehicular Connections
- The Shipyard
- Target Area

DEVELOPMENT PLAN

FUTURE LAND USE CATEGORIES

The Land Use Plan map in Green Bay's comprehensive plan provides guidance for development in Green Bay. The following land use categories from Green Bay's comprehensive plan are utilized in the Future Land Use map for the Shipyard Corridor.

- Medium / High Density Housing
- Medium Intensity Retail, Office or Housing
- Parks

MEDIUM / HIGH DENSITY HOUSING

The description of this category in the City's comprehensive plan is as follows.

Townhouses. 4-, 6- and 8-unit buildings with individual exterior entrances, and all forms of apartment buildings are included in this category, which has been located where there is good traffic access, between Low-Density Housing and nonresidential land uses, and at high-amenity locations such as the greenways or parkways. The density is expected to be greater than 8 housing units per net acre.

In this plan, this land use category is suggesting housing development that is three to six stories in height. Parking might be underground, where the water table and soil conditions support that, and/or on the ground level within the building structure, and/or on a surface parking lot.

MEDIUM INTENSITY RETAIL, OFFICE, OR HIGH DENSITY HOUSING

The description of this category in the City's comprehensive plan is as follows.

This mixed category indicates that a variety of commercial and/or mid-or high-density housing may be appropriate at major intersections and along certain road corridors. Consistent with the plan policy of generally increasing the compactness of urban development, housing may be combined in the same building or closely integrated on the same site with retail or office space.

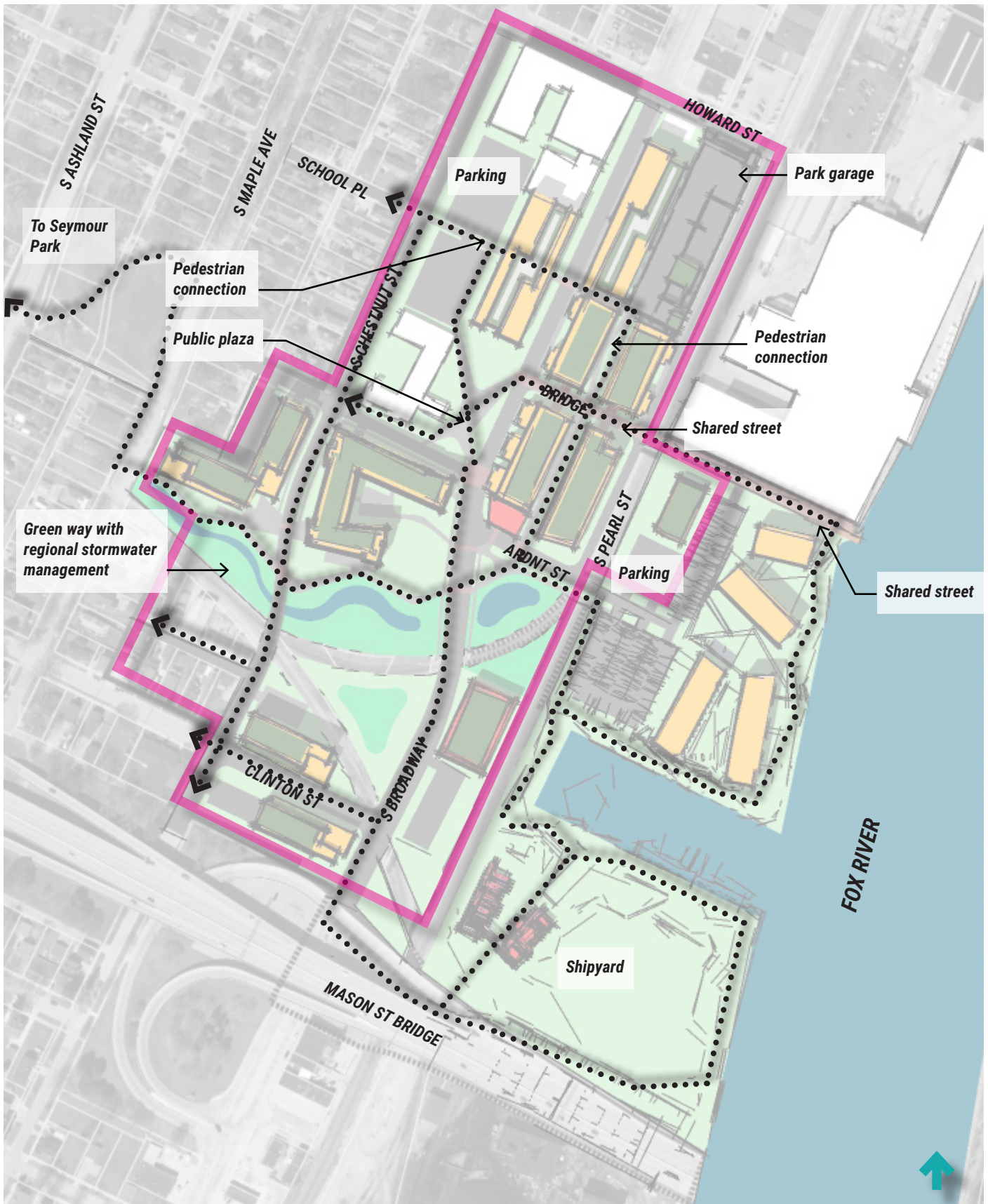
In this plan, this land use category generally suggests retail, civic or community space on the ground floor, with residential development above that.

PUBLIC PARKS

The description of this category in the City's comprehensive plan is as follows.

Parks and Public Open Space: Public parks and public land devoted to outdoor recreation (such as a nature preserve).

In this plan, this land use category is used for the Shipyard park, as well as the open space corridor that connects from Frank B. Seymour Park to The Shipyard.



Pedestrian Connections/ Walk-ability

DEVELOPMENT PLAN

The development plan for the Shipyard Corridor envisions urban-scale redevelopment along much of South Broadway. It protects a few local businesses, organizations, and distinctive buildings, but for the most part property values are such that acquisition for redevelopment is potentially feasible throughout the study area, to the extent that existing property owner interests are willing sellers or partners in the development. The following are key features of the plan.

STORMWATER AND TRAIL CORRIDOR

The plan envisions a stormwater feature draining to the Fox River, following the alignment of the railroad line. A multiuse trail would run parallel to it. That green corridor would buffer new development from the railroad tracks.

ARNDT AND CHESTNUT STREETS

A block of Arndt Street is proposed to be restored between Chestnut and Maple Avenue. It is proposed that S Chestnut also be connected across the rail road tracks.

BRIDGE STREET: A SHARED STREET

A block of Bridge Street is proposed to be restored between Broadway and Pearl, providing access to parking in the apartment developments on either side of the street. That block and the additional block of Bridge Street that extends east to the Fox River are proposed to be constructed as pedestrian streets. Car traffic would be allowed as needed to allow access to parking, but the design of the street would be that of a pedestrian plaza, inviting pedestrian use as fully as automobile use.

PEDESTRIAN CONNECTIONS

The plan envisions a network of pedestrian connections. In addition to the trail along the railroad line, and the Bridge Street pedestrian street, the plan proposes a midblock pedestrianway that extends School Place to South Broadway, and a pedestrianway replacing part of the existing alley between South Broadway and Pearl Street. A full pedestrian connections plan is illustrated below.

DESIGN CONTINUITY

While new development along South Broadway will serve as an extension of the Broadway District, in building form and use it will be different. It won't have continuous retail businesses on the ground floor, and the average height of buildings will be greater than that in the Broadway District. Given these differences extra care and effort needs to be made to build as much design continuity as possible between the two areas. It will be important to extend the Broadway District streetscape for the length of the corridor. The walkability of the Shipyard Corridor can be ensured by establishing standards for wide sidewalks. New development should be near front property lines. Residential buildings should be encouraged to have ground floor housing units with front doors on South Broadway. Buildings can be articulated in ways that break up their mass at similar intervals to those in the Broadway District. The use of design standards such as these can promote compatibility and continuity between the Shipyard Corridor and the Broadway District, and support its operation as a unified neighborhood destination.

DEVELOPMENT PLAN

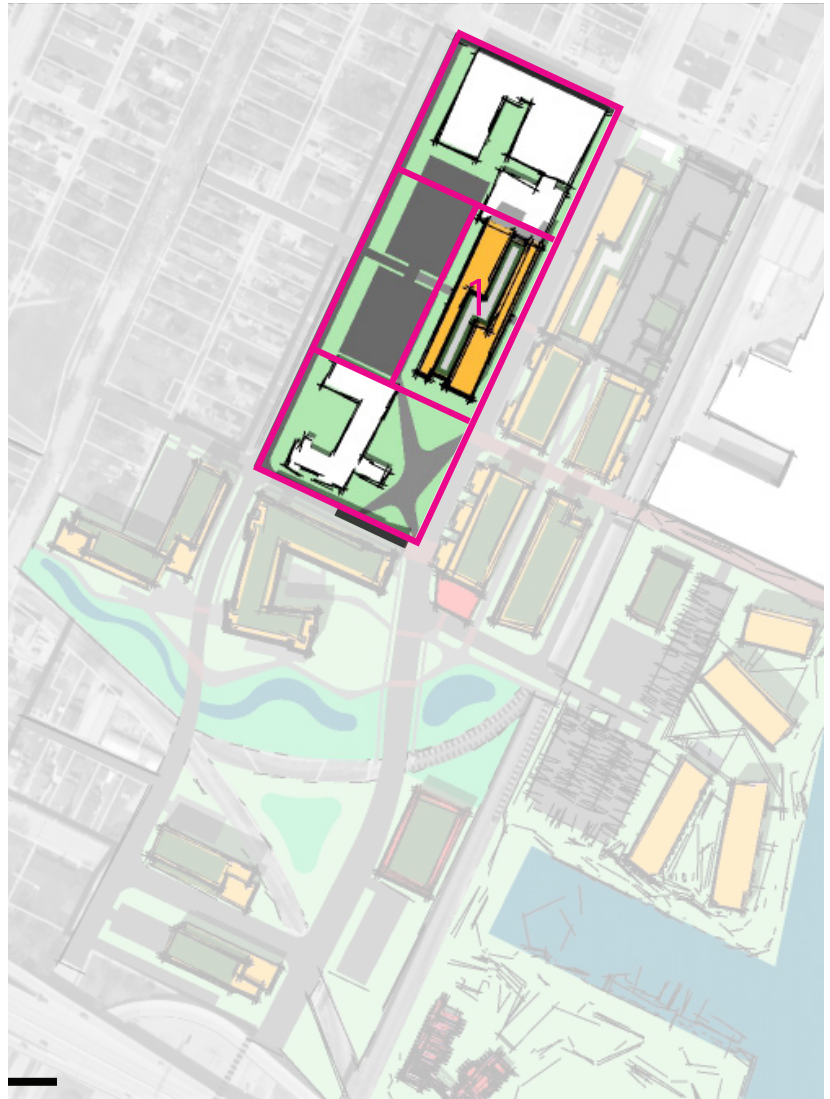
BLOCK 1: TRINITY LUTHERAN CHURCH/ GREEN BAY AREA PUBLIC SCHOOLS BLOCK

OPPORTUNITY #1

The development potential of this block is based on the observation that much of the block is dedicated to surface parking lots, but are owned by three parties that have highly complementary business hours—Trinity Lutheran Church, Green Bay Area School District, and the former Cup O Joy music venue, now being used by the School District. The School District's staff are on site during regular business hours. The church congregation are parking predominantly on evenings and weekends. If the property owners created a shared use parking lot at the rear of the block, much of the South Broadway frontage could be opened up for new development. There would be a benefit to the property owners beyond the sale value of the land, in that the ongoing maintenance and upkeep of the new parking lot would be a shared cost as opposed to each being responsible for their own parking lot.

By creating a shared lot on the Chestnut Avenue side of the block, site assembly on the Broadway side could result in as much as 660 feet of South Broadway frontage for new multifamily development—perhaps with a limited retail footprint on the ground floor. The shared parking lot would also be of sufficient size to replace the School District owned parking lot on the opposite side of South Broadway, freeing that up for redevelopment as well.

The development plan envisions breaking up the long block with a mid-block pedestrian way that would serve for pedestrians as an extension of School Place from Chestnut Avenue to South Broadway



Development Opportunity #1

KNOWN ENVIRONMENTAL IMPACTS

The brownfield inventory identified three potential brownfield sites on Block 2 which includes one closed WDNR case with continuing obligations. The brownfields are all located along the northeast end of Block 2. The closed WDNR case is listed at 200 S. Broadway and indicates that groundwater impacts were remaining at the time of closure. Groundwater would need to properly managed if dewatering occurs in the future. Further evaluation of the other two properties would be recommended prior to development.

RECOMMENDED DEVELOPMENT

Multifamily residential with underground parking and limited ground-floor retail and/or restaurant space.

BLOCK 2: EAST SIDE OF BROADWAY BETWEEN HOWARD AND BRIDGE STREET

OPPORTUNITY #2, #3, #4 & #5

Much of the frontage along South Broadway is presently used for surface parking, including a School District parking lot that could potentially be relocated, as described in the Block 1 section above. The east side of the block also includes a large underutilized surface parking lot.

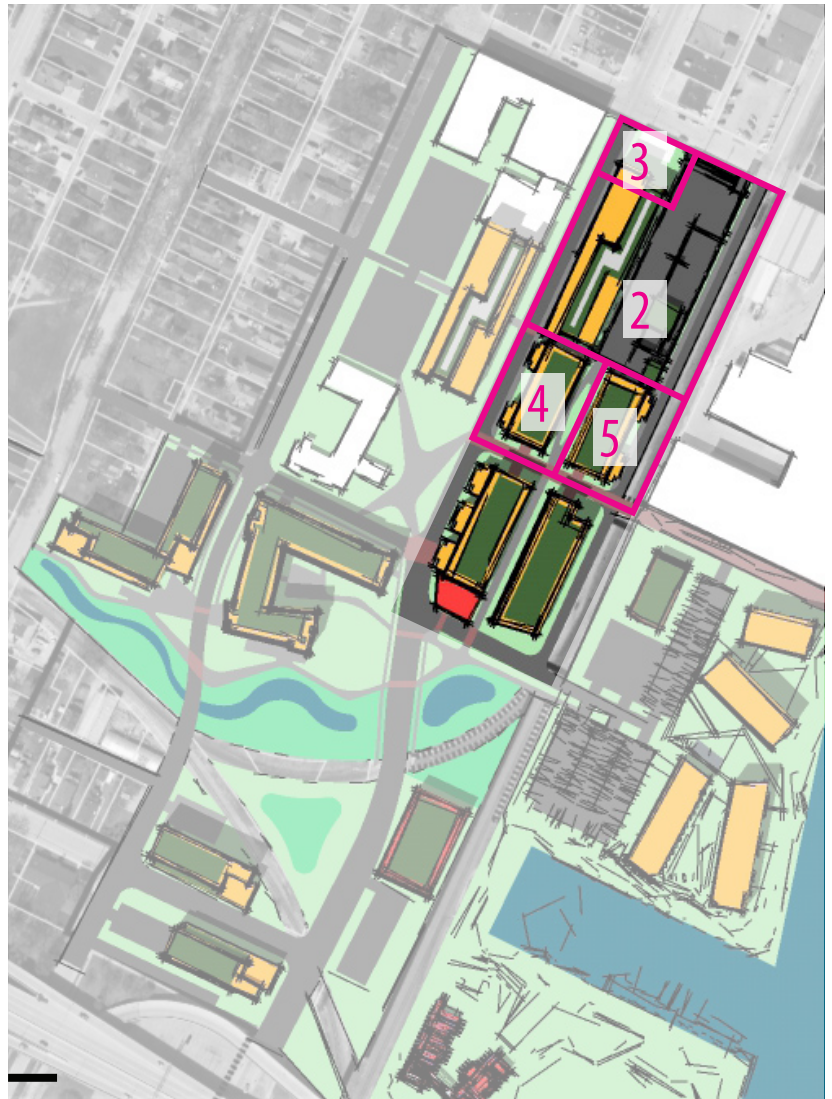
The development plan leaves the White Dog Black Cat Café anchoring the corner of south Broadway and Howard Street. That valued local business could alternatively be located in a ground floor space in a new development. A parking garage is envisioned, which could accommodate the parking needs of most of the development on the block, including the café or other ground floor retailers or restaurants. Pedestrian ways provide pedestrian access through the block.

KNOWN ENVIRONMENTAL IMPACTS

The brownfield inventory identified six potential brownfield sites on Block 2 based on current or historic use. Assessment of these properties prior to development is recommended to evaluate potential impacts to future development. There are no known environmental impacts on this block at this time.

RECOMMENDED DEVELOPMENT

This site is considered a catalyst site, and so is discussed in more detail in Chapter 4.



Development Opportunity #2,#3,#4,#5

DEVELOPMENT PLAN

BLOCK 3: EAST SIDE OF BROADWAY BETWEEN BRIDGE AND ARDNT STREETS

OPPORTUNITY #6 & #8

The block bounded by Arndt Street, Pearl Street, Bridge Street and South Broadway has a mix of existing development. It is in unified ownership except for the distinctive two-story building at the Broadway/Arndt corner. The frontage along South Broadway would be attractive for residential development, but the condition and appearance of industrial buildings at the rear of the block might be a barrier to development. Redevelopment of both sides of the block would remove that impediment.

OPPORTUNITY #7

The existing two-story building at the corner of Broadway & Arndt is distinctive in appearance, and seems to be in use as creative offices. Depending on its condition, further restoration or rehabilitation as apartments or office space may be of interest to a developer.

OPPORTUNITY #9

The Ultra Plating site adjacent to the Merge and Shipyard development sites is in a prime location for redevelopment. Site contamination would require cleanup and may make it unsuitable for residential development. A commercial redevelopment with surface parking is proposed.

KNOWN ENVIRONMENTAL IMPACTS

The brownfield inventory identified three potential brownfield sites on Block 3 in addition to known releases at Ultra Plating Corp at 345 South Pearl Street. The Ultra Plating Corp is located on the eastern end of Block 3 and is listed as both a closed and open WDNR case. WDNR records indicated a historic release was



Development Opportunity #6, #7, #8, #9

discovered in 1990 during a repair of the sanitary sewer utility adjacent to the Property. Chromium contaminated soil was discovered adjacent to the pipe in association with metal plating solutions discharged from the Property. The release was investigated with remedial efforts completed on the Property. During 2009, the WDNR granted closure of the site noting that residual metal contaminated soil and groundwater remained at the site.

During July 2018, a Phase II ESA was completed at Ultra Plating Corp. As part of the Phase II ESA, "historic urban fill" was found to be widespread across the Property consisting of sand and gravel fill with various amounts of coal, glass, and brick present up to eight feet below ground surface (bgs). Foundry slag was also observed in various boreholes to depths of up to six feet bgs. Laboratory analysis of soil samples collected during the Phase II ESA contained select

Resource Conservation Recovery Act (RCRA) metals, hexavalent chromium, volatile organic compounds (VOCs), semi-volatile organic compounds, and cyanide exceeding their Chapter NR 720 Wisconsin Administrative Code RCLs for protection of groundwater. Various polynuclear aromatic hydrocarbons (PAHs), arsenic, lead, and hexavalent chromium were also detected in the samples exceeding the respective non-industrial or industrial direct contact RCLs. Groundwater analysis of water samples detected various metals including hexavalent chromium exceeding their respective NR140 preventive action limits (PALs). Cyanide, nitrate, and sulfate were also identified within multiple wells above their respective PALs. Total chromium, hexavalent chromium, and sulfate were the only constituents exceeding their respective NR 140 enforcement standard and found to extend off-site to the east. Site investigation and remedial action activities are currently ongoing at the property. Based on available at this time, active remediation is warranted at the Site to address the known contamination in both soil and groundwater. Prior to redevelopment of the Ultra Plating Corp property, consideration needs to be considered regarding the contaminant concentrations remaining which will drive the future use of the property. It is also assumed that a cap will required at the site. Future use of this property is conditional on the levels of contamination remaining at that time. Further evaluation of the other three potential brownfield properties identified in this block during the assessment is recommended prior to development.

RECOMMENDED DEVELOPMENT

Multifamily buildings on the block between South Broadway and Pearl Street. Commercial development with surface parking on the Ultra Plating site.

DEVELOPMENT PLAN

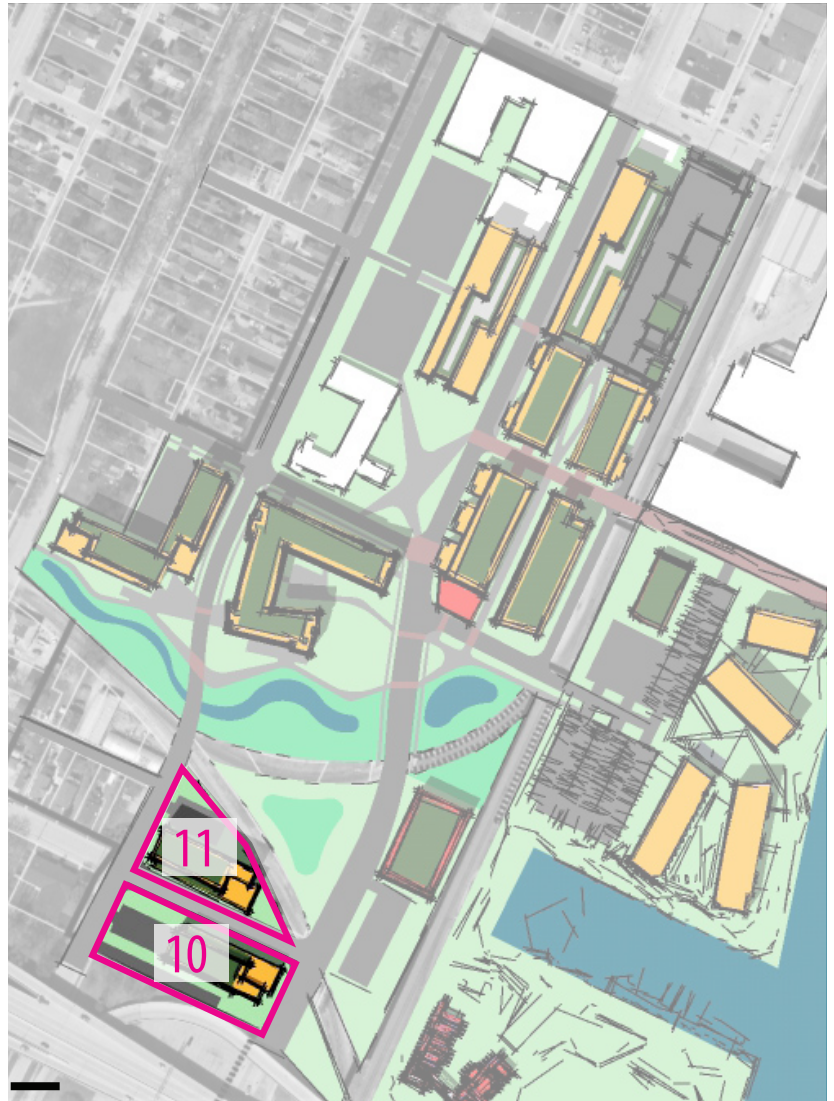
BLOCK 4: PROPERTIES FRONTING ON CLINTON

OPPORTUNITY #10 & #11

The properties fronting on Clinton Street at the south end of the study area serve as a gateway to the Shipyard. As such they have an important impact on perceptions of the area. They are highly visible from the Mason Street bridge, which is an asset for new development. As the new character of the area emerges they are likely to be attractive for additional housing development. Opportunity #10 could conceivably be a boutique hotel or office development. One can imagine a local company with a youthful workforce finding the cachet of the area compatible with its image.

KNOWN ENVIRONMENTAL IMPACTS

The brownfield inventory identified potential brownfield sites across the entire block consisting of three closed WDNR cases at 606 South Broadway Street; 416-424 Clinton Street; and 410 Clinton Street. Gagnon Clay Products at 410 Clinton Street was granted WDNR closure with continuing obligations to address remaining soil contamination with a requirement for a gravel cap. Union State Bank at 416-424 Clinton Street was granted WDNR closure with continuing obligations for remaining soil contamination with a requirement that a cover or barrier needs to remain to address direct contact and protection of groundwater. The property at 606 South Broadway was granted WDNR closure with continuing obligations for remaining soil contamination with a requirement for a cover or barrier to remain to address direct contact and protection of groundwater. All three sites were noted to have historic fill present on site. The known environmental impacts are not expected to hinder future redevelopment but will need to be taken into consideration when developing the sites and proper WDNR approvals taken before completing any excavation on the sites.



Development Opportunity #10, #11

RECOMMENDED DEVELOPMENT

Multifamily apartment developments, which could include ground floor retail in the southern building.

BLOCK 5: FRONT DOOR TO SHIPYARD

OPPORTUNITY #12

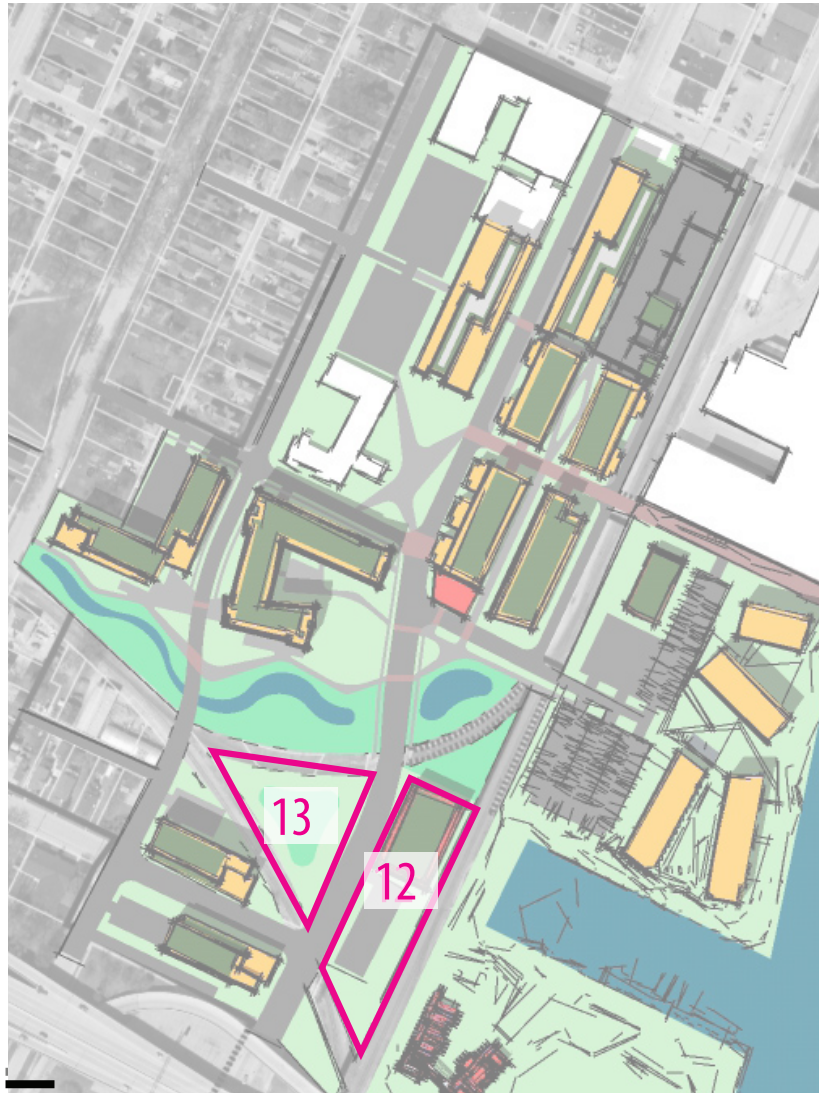
The existing restaurant near the Shipyard is compatible with the Shipyard in terms of development type, and in terms of allowing visibility to the Shipyard from the Clinton Street terminus. If this property is ever redeveloped, a primary concern will be redeveloping the site in a way that doesn't block visibility to the Shipyard. Maintaining the viewshed down Clinton Street to the Shipyard is particularly important. An additional priority is that new development is complementary to the Shipyard and the proposed Container Park at the Shipyard. Known environmental impacts would need to be managed during site development including but not limited to site capping and proper handling of impacted soil.

OPPORTUNITY #13

This triangular shaped lot is situated between two railroad spurs, owned by Canadian National (CN) railroad. It is unlikely to become available for redevelopment. However, its visual prominence along South Broadway argues for having conversations with the railroad to explore use, maintenance and beautification strategies. Given that it is a low spot in the area's topography, and it historically holds rainwater, the development plan shows its use for a stormwater management feature.

KNOWN ENVIRONMENTAL IMPACTS

The brownfield inventory identified potential brownfield sites across the entire block. Three WDNR cases were identified on the block with one of the sites receiving WDNR closure. Tom's Marathon Service at 505 South Broadway was closed with continuing obligations to address soil and groundwater impacts and a cap to address potential direct contact concerns in soil. Two open WDNR cases are present at 505 South Broadway and 525 South Broadway in association with soil impacts. Groundwater impacts were also found at 505 South Broadway. A cap will be required at both sites in association with



Development Opportunity #12, #13

any future development. The known environmental impacts are not expected to hinder future redevelopment but will need to be taken into consideration when developing the sites and proper WDNR approvals taken before completing any excavation or dewatering on the sites. Environmental impacts are unknown on the western side of the block but assessment is recommended prior to development. Historic fill is expected to be present across the entire block due to the proximity of the former slough and other areas of identified historic fill.

RECOMMENDED DEVELOPMENT

Mixed use housing over ground floor retail with surface parking. Stormwater retention feature.

DEVELOPMENT PLAN

BLOCK 6: BADGER SHEET METAL PROPERTY

OPPORTUNITY #14

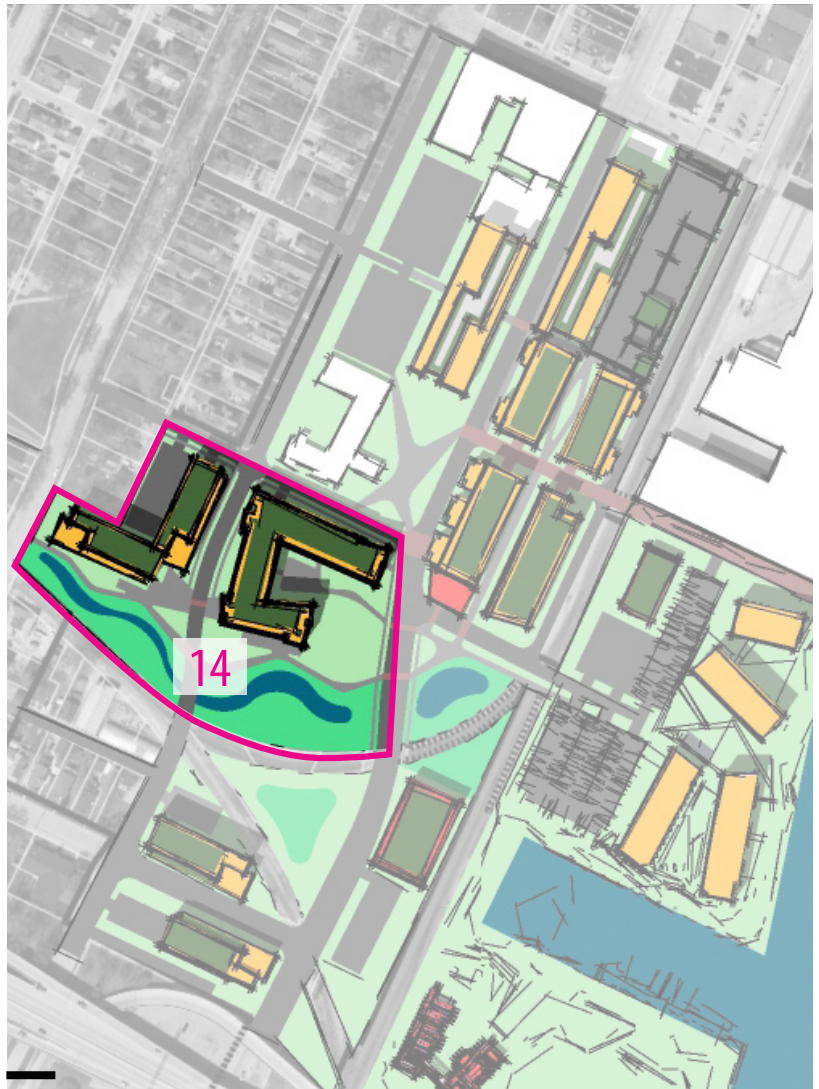
This block has unique development potential associated with the large scale of the site, which provides for more development flexibility than other sites. There are flooding and water table concerns that may pose challenges for the development and make underground parking infeasible. There are known environmental impacts at the site. Managing excavated soil that is impacted and capping of the site to prevent direct contact concerns will be one of the many challenges faced in association with developing the site.

KNOWN ENVIRONMENTAL IMPACTS

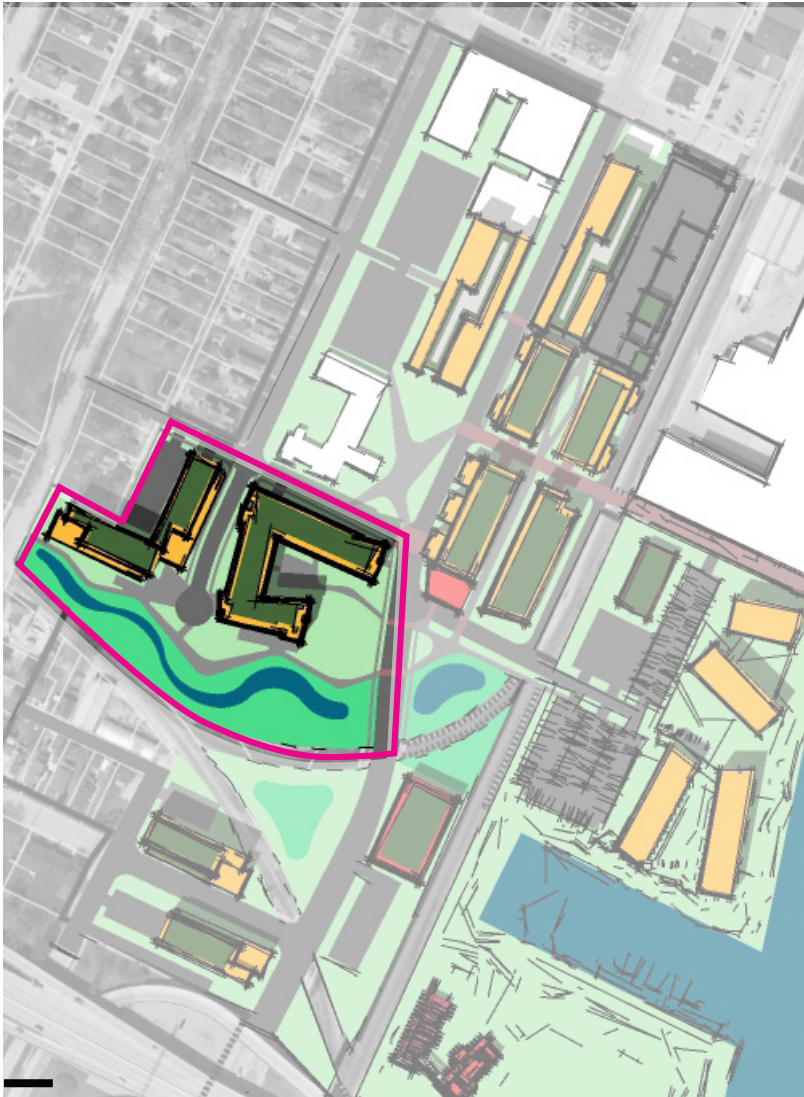
Environmental impacts are known to be present on-site and further investigation is needed to fully understand the extent of the contaminants and impact on the recommended improvements. Based on available information at this time, at a minimum the site will need to be covered with a WDNR approved cap (ie.; impermeable surface, engineered cap, or clean soil) to address areas with direct contact concerns. Excavated soil containing volatile organic compounds (VOCs) impacts will need to be disposed of off-site at a licensed solid waste disposal facility. A portion of the other soil containing low level impacts may be acceptable for reuse on-site followed by capping.

RECOMMENDED DEVELOPMENT

This site is considered a catalyst site, and so is discussed in detail in Chapter 4.



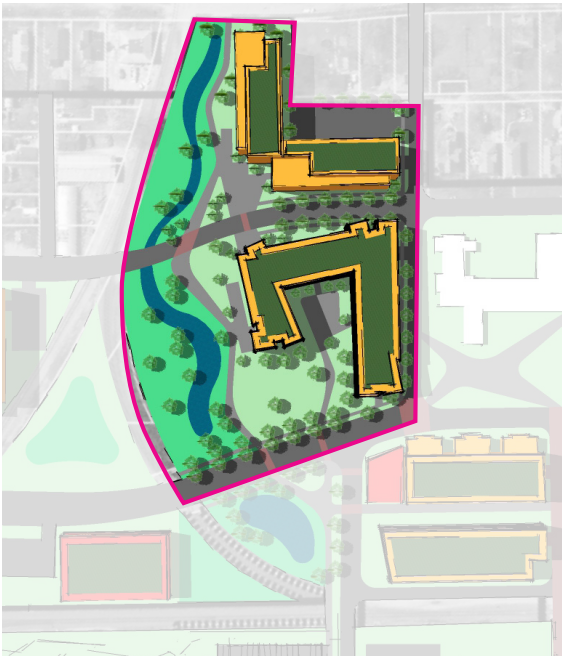
Development Opportunity #14



Development Opportunity #14, Phase 1: Chestnut Street Cul-de-sac

4.0

CATALYST PROJECTS



FORMER BADGER SHEET METAL



200 BLOCK OF SOUTH BROADWAY

CATALYST SITES

CATALYST SITES

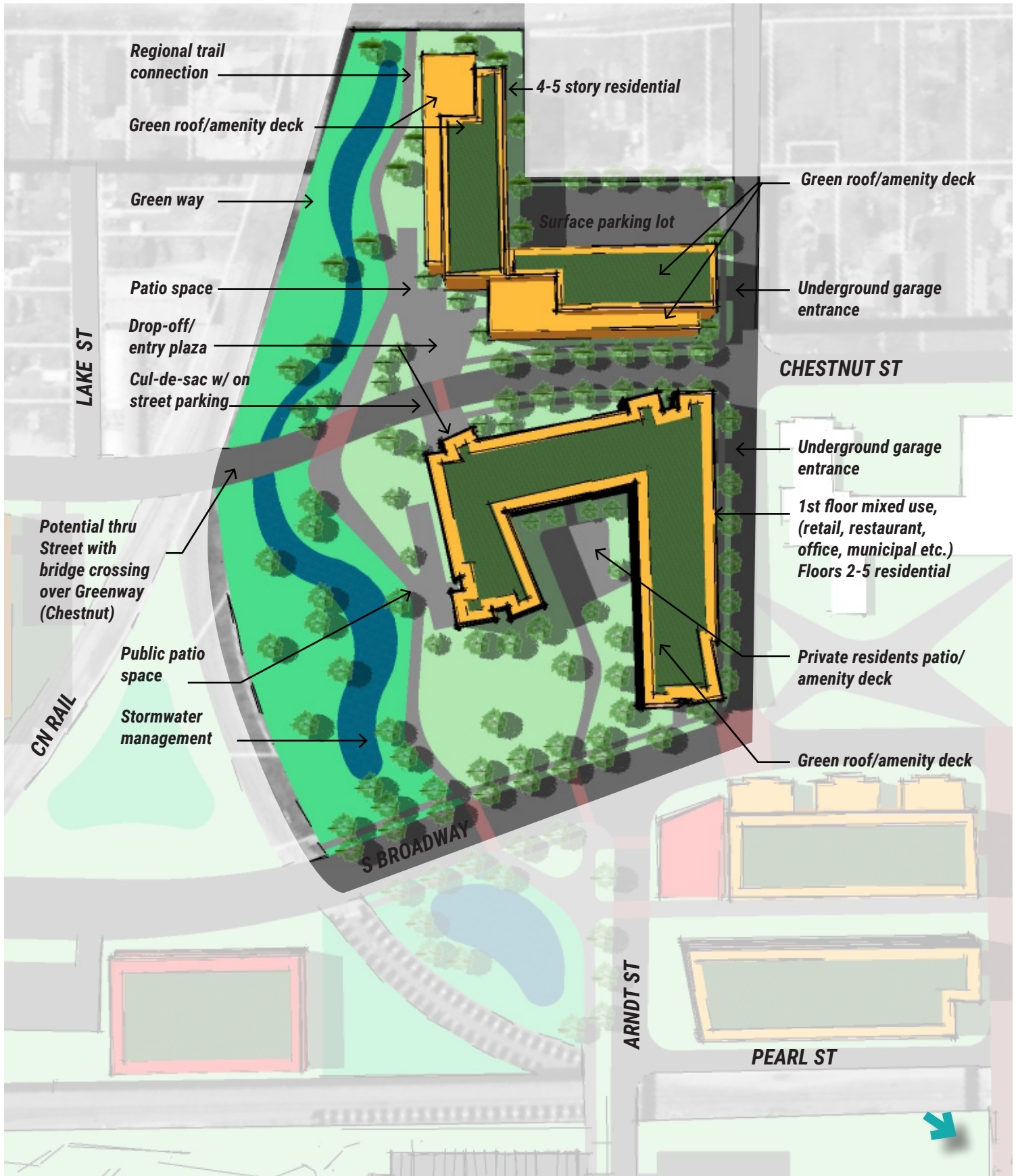
The City of Green Bay selected two catalyst sites for more detailed conceptual planning. The two include the former Badger Sheet Metal property located at Broadway and Ardnt Street and the other is the 200 Block of South Broadway the block closest downtown.

A slightly more detailed site plan was developed for each catalyst site. The opportunity is identified and recommendations for redevelopment. Known environmental concerns for each of the catalyst sites are listed in the Block 2 and Block 6 overviews in Chapter 3.0.

POTENTIAL USES

The potential uses desired in the Target Area will need to support planned uses for the Shipyard and compliment those uses already in the Broadway District. Precedent images at the end of the Catalyst chapter highlight some of the types of uses that should be considered. Potential uses are recommended in the following categories:

- Housing
- Mixed Use
 - Recreation
 - Experience
 - Service
 - Public
- Public Space
- Streetscape



Catalyst Site 1: Badger Sheet Metal

CATALYST SITES

OPPORTUNITY: FORMER BADGER SHEET METAL PROPERTY

The former Badger Sheet Metal property is a City owned, brownfield site that is prime for redevelopment. The proposed development is a multifamily housing complex with some of the ground floor space dedicated to commercial or public use.

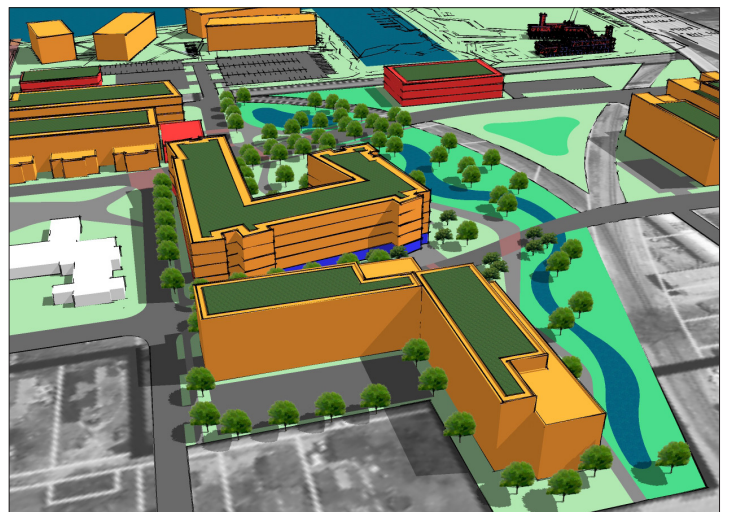
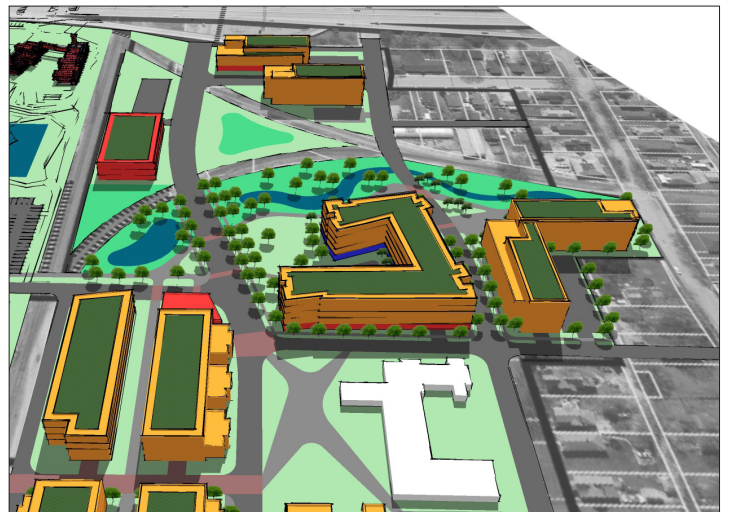
RECOMMENDED IMPROVEMENTS

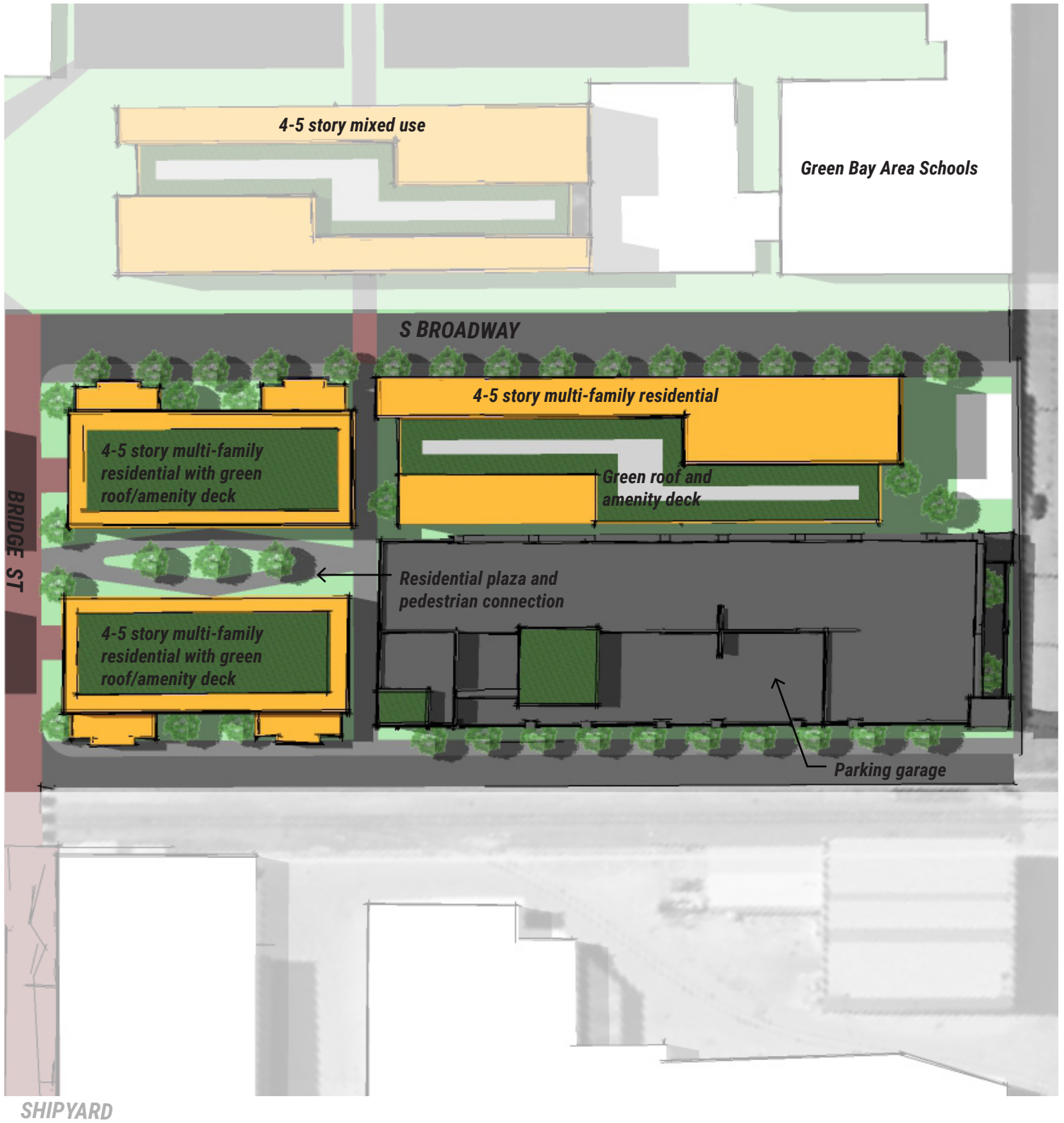
The housing development would be suitable to address a broad range of local housing needs. It could incorporate market rate and affordable components. It could also be a strong location for active living senior housing, being walking distance from the Broadway District, and having access to bus service on South Broadway. Greenway facing businesses could benefit from outdoor seating for dining or cafes. Small gyms (yoga, boxing, dance studios etc) could provide indoor/outdoor space etc. or offices could make use of outdoor patios for meetings, lunch or office events. Alternatively, the development could incorporate a public use such as a community center, library, police or fire station or municipal offices.

The Greenway would serve to alleviate some of the regional stormwater management issues by providing needed green infrastructure. It would also offer an improved pedestrian connection, and an amenity to be appreciated by the adjacent development. An engineered cap will likely be needed to address environmental impacts associated with direct contact and/or prevent ground/surface water impacts. The soil that is excavated for site development containing low hazard impacts could potentially be used to create berms that would further screen the railroad and minimize off-site disposal costs.

In addition to the abundance of outdoor public space, the development could offer plaza and patio space, as well as roof top amenity decks with green roofs, providing a highly amenitized environment and addressing City goals related to green infrastructure.

The conceptual plan shows a connection of Chestnut St across the railroad tracks. Railroad approval would be required for this to be realized. The conceptual plan on page 53 shows an alternative for a cul-de-sac as a first phase or in the case that the railroad does not allow an additional crossing in this location.





Catalyst Site 2: 200 Block of South Broadway

CATALYST SITES

OPPORTUNITY: 200 BLOCK OF SOUTH BROADWAY

Block 2 is the block east of Broadway between Howard and Bridge Streets. It offers the nearest development opportunities to the existing vibrant Broadway District, and as such it represents the potential to extend a high-quality development pattern to the south from there.

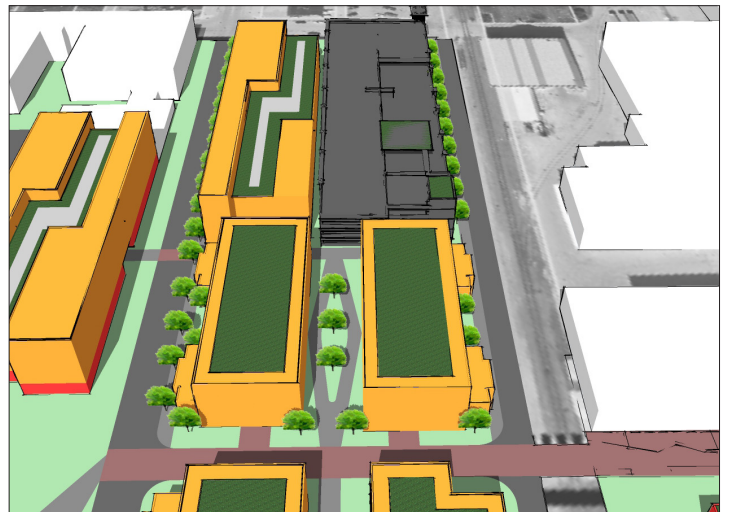
RECOMMENDED IMPROVEMENTS

Block 2 is the block east of Broadway between Howard Development of this block plays an extremely important role in building continuity between the Broadway District and the Shipyard because it offers a continuous facade along South Broadway that can set a high-quality design tone. The Broadway District streetscaping would be extended along the block. Ample sidewalk width would support walkability. Building design standards would ensure breaking up the massing of the building and encourage ground floor living units with entrances that open directly onto the South Broadway sidewalk.

A portion of the ground floor space would be made available for retail stores or restaurants.

The development on the block would be supported by a structured parking ramp, which would take the pressure off the retail businesses and some of the housing development to provide that parking within those developments.

The development proposal envisions pedestrian connections that connect through the block along the former alley and connecting back to South Broadway in line with the School Place right of way.



POTENTIAL USES: HOUSING



Mixed Use Development



POTENTIAL USES: HOUSING



Mixed Use Development



POTENTIAL USES: MIXED USE

RECREATION



Barre



Boxing studio



Yoga studio



Rock climbing gym



Kids gym



Dance studio

POTENTIAL USES: MIXED USE

EXPERIENCE



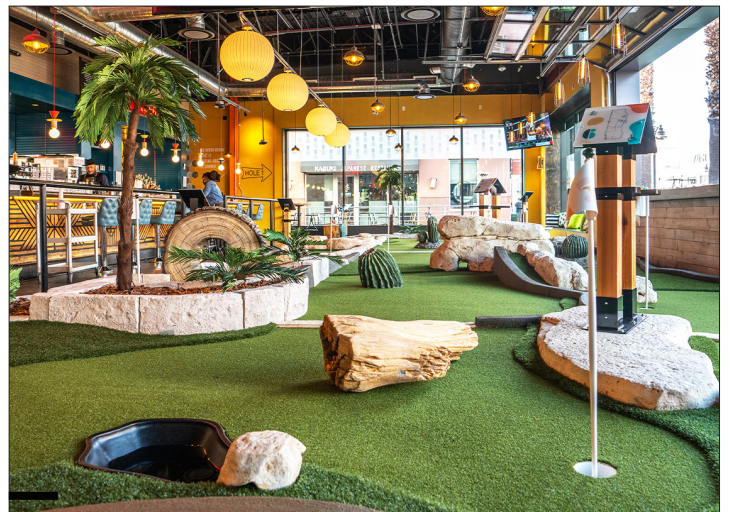
Axe throwing



Smash room



Small event venue



Game play (Punch bowl social)



Escape room



Cooking classes

POTENTIAL USES: MIXED USE

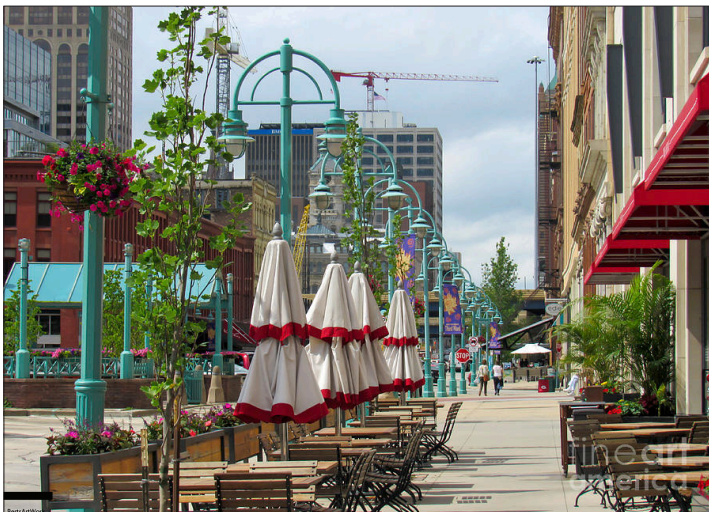
SERVICE



Small, urban grocery store



Riverfront/Cove Restaurant



Restaurant with outdoor dining



Pet store



Salon and spa



Retail

POTENTIAL USES: MIXED USE

PUBLIC



Library



Fire Station



Community Center or gym



Public market



Municipal office

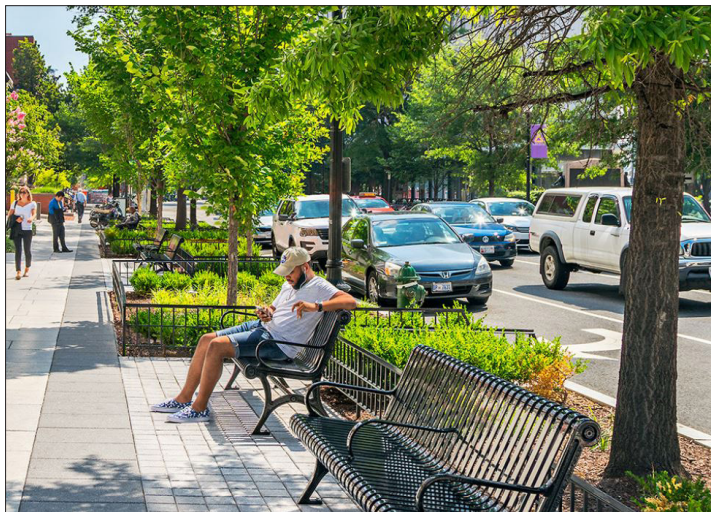
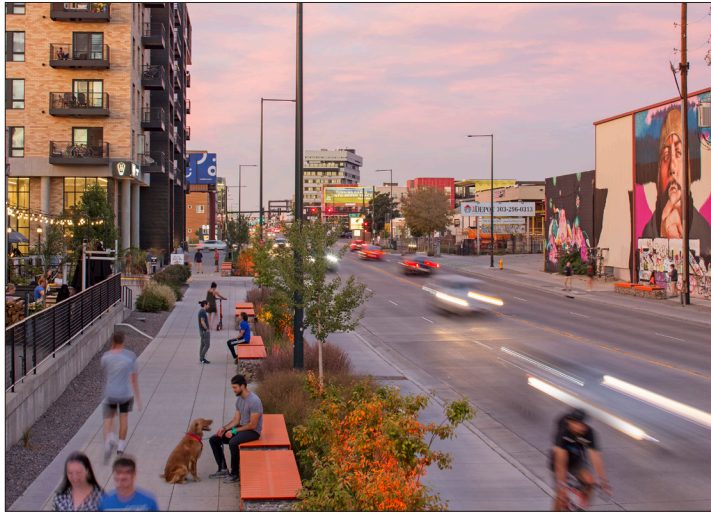


University Extension or satellite campus and/or healthcare facilities

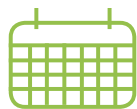
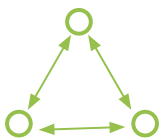
PUBLIC SPACES



STREETSCAPE



5.0



IMPLEMENTATION ACTION

REZONING

The existing zoning of property may or may not be 100% consistent with and supportive of this development plan. Reviewing and updating the zoning of property sets the stage for redevelopment, and invites developer interest. The City's Comprehensive Plan should also be updated to reflect changes as a result of this study.

DEVELOPMENT GUIDELINES

The Shipyard Corridor will serve as a southward extension of the Broadway District, but new development in the Corridor will necessarily be different from the Broadway District's earlier generation of development—different in its mix of uses and different in scale. To ensure compatibility between new and old, and to maintain a high quality, walkable, pedestrian friendly environment, a set of guidelines for development should be established. Development guidelines would address characteristics of development such as setbacks, sidewalk widths, breaking up the massing of larger buildings, entryways onto the sidewalk.

DEVELOPMENT STRATEGIES

Building the market. The neighborhood that will be built in the Shipyard Corridor will be extremely attractive, a few minutes from downtown Green Bay, an extension of the vibrant Broadway District, anchored on The Shipyard and the Fox River, and offering new open space, trails and other amenities. As this future emerges, it will become increasingly attractive to developers. But in earlier phases of change, development projects will be seen as more pioneering, and require additional public support.

Because development likes to build from existing strength, one strategy would be to take steps to attract new development starting at the north end of the Shipyard Corridor, adjacent to the existing Broadway District. That would, however, entail property assembly that is contingent on the needs and desires of existing property owners, so it may not come together right away.

If first development projects are further south, on property that is already in City of Green Bay ownership, developers will see the project as more isolated and

thus more risky. They will essentially be taking a risk that further redevelopment occurs in the area around their development. The City of Green Bay can play a role in settling these understandable concerns by demonstrating commitment to the vision. Continued steps toward creating the Shipyard park itself will be reassuring to the developer community. Road reconfiguration or streetscaping improvements or rezoning of property would also demonstrate commitment—and verbal assurances of commitment will be important as well.

SITE ASSEMBLY

Much of the property in the Shipyard Corridor is in private ownership, and those property owners will make choices based on their long-term needs. Assembling land for redevelopment will require relationship building with multiple property owners, and an understanding of mutual needs and desires.

On the Trinity Lutheran Church/School District block, a key initial action is to initiate outreach and discussions with the three parking lot owners to explore their willingness to move toward a shared parking scenario that would open up South Broadway frontage for new development.

Public financial support. Public financial support is likely to be required for initial projects, for projects that require site preparation investments such as building demolition or environmental cleanup, and for housing development with structured parking formats.

ENVIRONMENTAL LIABILITY PROTECTION

When assembling and redeveloping brownfield sites, a key concern is typically the potential for future environmental liability. A qualified environmental professional should be involved in all aspects of property acquisition, assessment, remediation, property transfer and redevelopment. This will assure that proposed future property use, value, cost and conditions of site closure with the Wisconsin Department of Natural

Resources (i.e., no restrictions, use of engineering and institutional controls, etc.) are compatible with the risk tolerance of the property owner, lender and/or lessee. Through this process it can be determined if further assessment, remedial action and/or soil management is needed as part of the redevelopment plans.

LEVERAGING BROWNFIELDS TO CATALYZE CLEANUP AND INVESTMENT

By targeting brownfield sites for redevelopment opportunities, limited brownfield resources can be utilized to their greatest effect. The City has historically leveraged many funding sources, including both state and EPA funding to assess, cleanup, and redevelop brownfield sites such as those parcels prevalent in the Target Area. The City and private developers should continue to use these resources to maintain an on-going and effective cleanup program while building new opportunities throughout the corridor. Based on the known historic and current uses in the Target Area, future remediation measures do appear feasible for most of the brownfield sites.

INFRASTRUCTURE AND STORMWATER

Redevelopment of the Shipyard Corridor should first address flood control by prioritizing infrastructure and stormwater improvements, followed by implementing new street/walkway networks and building site improvements. Final redevelopment planning of the Target Area should progress on a block by block approach which ultimately addresses massing and the land use studies. This coordinated approach should help increase property value by producing functional redevelopment in a location where people want to eat and shop, take a walk, build their business, or live out their future.

Flood control and flood mitigation must be performed as an essential concept in the redevelopment process. Without this, the City and investors could potentially be stuck with land only adequate for park space. The RDA

must focus on the challenges presented by the existing flood zone and potential infrastructure shortcomings. Improvements must be made to allow for half of the Target Area to be removed from FEMA floodplain mapping. Regardless of modifications to the existing topography, it should not be overlooked that basements and underground parking garages may not be a viable option for future construction. Therefore, thought must be given to improve public transportation systems, off site parking availability, and methods of including above-ground parking.

Infrastructure improvements within the Target Area must be coordinated with the Department of Public Work's future development plans and the existing system's capacities. The assessment of the Target Area's existing utilities should be addressed in both the overall infrastructure planning and coordinated with the block-level improvement plans. Specific use of buildings must be considered and evaluated based on the existence, size, status of the existing sanitary water, and storm infrastructure. The existing water and sanitary systems are not expected to be inadequate for future development but should receive a closer look. Modeling of both the water and sanitary systems will likely be necessary to confirm future plans.

One final challenge to stormwater management is RDA control and ownership of properties in the Target Area. Difficulties arise in redevelopment if not all properties can be purchased by the RDA or participating developers. Macro level stormwater and flood management would be required for non participating land owners, especially if they are located within a low point in the redevelopment.

GREEN INFRASTRUCTURE

Best Management Practices (or BMPs) are structural practices accepted by the local municipality to perform stormwater management functions for quality and/or volume control.

GREEN INFRASTRUCTURE BEST MANAGEMENT PRACTICES

Various green infrastructure technologies can be used as BMPs for stormwater management. Each technology has advantages and limitations to manage the stormwater runoff in the city. Green Infrastructure can be used in conjunction with traditional stormwater management measures to maximize benefits of flood control, water quality improvement and aesthetics. A cross-section of green infrastructure opportunities is listed and described below.

Terrace Bioswales

Bioswales within streetscape terrace can slow down, infiltrate and filter stormwater runoff from the streets and sidewalks. A bioswale includes a vegetated channel that can treat and retain stormwater as it moves stormwater from one place to another. This BMP is useful along streets and parking lots as they are typically linear in shape. Maintenance requirements for swale's include removal of weeds and litter that accumulate to ensure proper drainage.

Localized Bioretention Basin (Rain Garden)

Localized bioretention basin can be used to collect and absorb runoff from rooftops, sidewalks, and streets. The bioretention basins, frequently called rain gardens, are a shallow basin with native vegetation. Maintenance requirements for rain gardens include removal of weeds and litter that accumulate to ensure proper drainage. Care should be taken not place basins in areas of known environmental impacts.

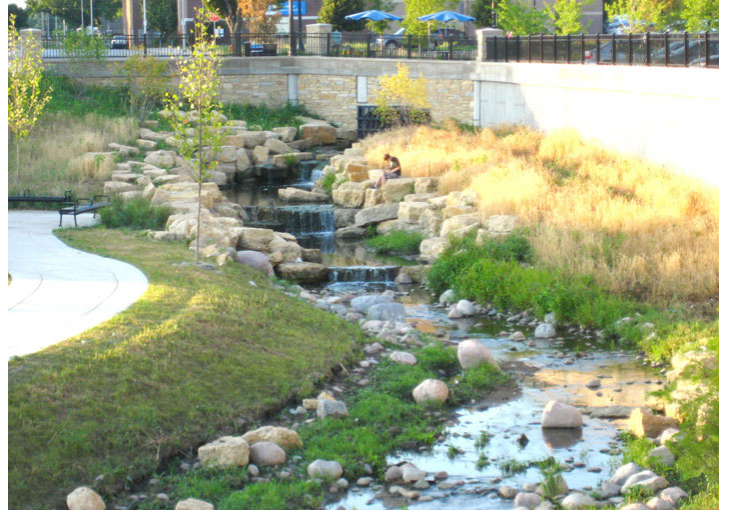
Street Tree Canopy

Trees can be added to street terraces. Trees soak up stormwater through their roots and evaporate rainwater directly from the tree leaves and branches. This BMP shall be installed in engineered soil or structural cell system that optimizes the soil composition and compaction to increase stormwater uptake and maximum tree growth and health.

GREEN INFRASTRUCTURE



Green way/ Regional stormwater management



Native plantings

GREEN INFRASTRUCTURE



Green roof



Permeable paving



Stormwater storage



Artificial wetland/park/amenity

Permeable Pavement

Permeable pavement can be used to infiltrate, treat, and store rainwater as it falls. There are various types of permeable pavement such as pervious concrete, porous asphalt, permeable interlocking pavers, and several other materials. This BMP is useful in areas with little or no space for green space or stormwater detention or where flooding is a problem. Typical maintenance for the pavement involves vacuuming debris or particles from the openings between the pavements. Specialized equipment may be required to perform this required maintenance.

Depaving

Depaving can be used where there is a high number of impervious surfaces reduce runoff and allow water to naturally infiltrate. Depaving involves removing impervious surfaces and replacing them with absorbent landscaping or other BMPs that add pervious surfaces. In areas where soil contaminants pose a direct contact concern, pavement could potentially be replaced with a WDNR approved cap typically consisting of up to two feet of clean soil.

Intensive And Extensive Green Roofs

Green Roofs can be used to capture rainwater on the roofs of buildings. A green roof involves covering the roof with vegetation that enables rainfall infiltration and evapotranspiration of stored rainwater. This BMP is useful for properties where stormwater management requirements are high, and land availability for other methods is low. There are two types of green roofs, intensive and extensive, each have different costs and benefits that should be evaluated on a case by case basis.

Rainwater Harvesting

Rainwater can be captured from roofs and reused as gray water for irrigation or flushing toilets. This BMP also helps to reduce the volume of stormwater runoff that goes to the storm sewer system. A roof water

reuse can be done by connecting the roof gutters to a cistern or rain barrel. This BMP is often used in residential areas but can be used in other land-use types as well. Typical maintenance involves emptying the cistern or rain barrel during dry periods to leave room in the cistern or rain barrel during the next storm event.

Inlet Sumps

Inlet sumps generally provide a 3' deep storage in the inlet box, under the outlet invert. Manhole catch basins can provide sumps, but they are generally shallower than inlets.

Inlet sumps are commonly used BMP in cities around the world as the primary treatment of runoff. Sumps are designed to allow large pieces of debris to settle to the bottom of the inlet rather than continue to flow through the pipes and potentially cause clogs downstream.

Frequently inlet sumps are used in conjunction with a SNOUT or similar system. These systems mount over the effluent pipe inside of the structure. They skim floatables, oils, trash, and sediment to settle to the bottom before the water flows out. Performance data on some products show a TSS reduction of over 50%.

TRADITIONAL BEST MANAGEMENT PRACTICES

Traditional best management practices include detention basins, grass swales, dry basins, stone cribs, and vegetative buffer strips. Bioretention basins can also be considered traditional as they have been the primary method to remove oil and grease from pavements in recent years. Arguably, the biggest difference between traditional and green infrastructure is the BMP size. Traditional BMPs require a greater amount of real estate to employ, which is not the case for most green infrastructure technology. The developer should take this into consideration while taking on site development projects and utilize the best and most efficient solutions possible.

GREEN VISION & INNOVATION

The Shipyard Corridor should serve the City of Green Bay as a showpiece of integrated green infrastructure and resiliency. The vision is to create a green corridor connecting Seymour Park to the Shipyard that serves two primary functions, one as regional stormwater management area and second as a pedestrian corridor. This centralized approach to stormwater management has the potential to eliminate historic flooding in the area while also providing an attractive amenity for residents and visitors. This approach to stormwater management does not necessarily replace on site requirements. Private development should also strive to incorporate Green Infrastructure BMPs like green roofs, permeable paving and other elements onsite to meet the City's vision for the Target Area.

Flooding in and around the Target Area could be mitigated through this system of connected green infrastructure BMPs. The centralized BMP could be a dry or wet channel designed and built as a bioswale extending from Seymour Park, through the Badger Sheet Metal site and eventually connecting to the Fox River. Restoration of a basin similar to the historic stream once present onsite could be duplicated. This basin would provide overflow for large-scale events while also offering routine storm event treatment with plantings, engineered media, stone cribs, and a system of underdrains that ultimately discharges into the city storm sewer system. This process would create a significant delay in releasing water to the storm system, which would reduce the size pipes necessary to convey water through the storm system.

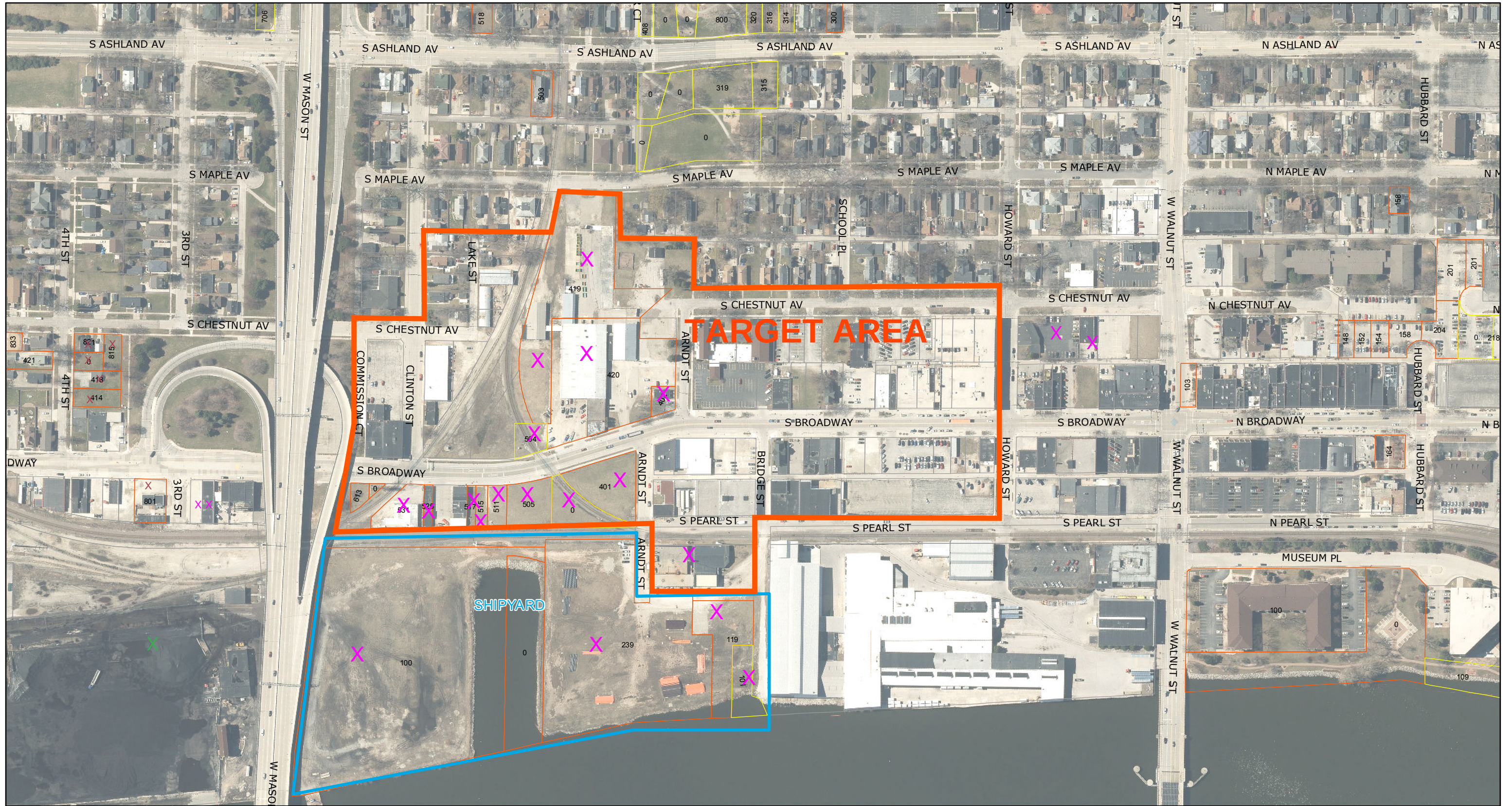
The addition of street trees with a sufficient canopy to treat and absorb water from initial rainfalls in other locations is an important component to this system. Stormwater planters could be constructed in terraces, and pervious pavements could be used for bike paths or sidewalks. The use of pavers with a sand base and underdrain could move runoff to the storm system at a delayed rate. In locations where it is practical to

perform significant green infrastructure improvements, curb extensions are a great option to reduce impervious areas, provide stormwater management services and create an attractive environment.

A

APPENDIX A

INVENTORY & ANALYSIS MAPPING



Shipyard Area City and Redevelopment Authority Properties

X - Other Env. Services

X - Phase I/ II ESA and/or Remedial Action Activities

X - Phase I ESA

City Owned Properties RDA Owned Properties

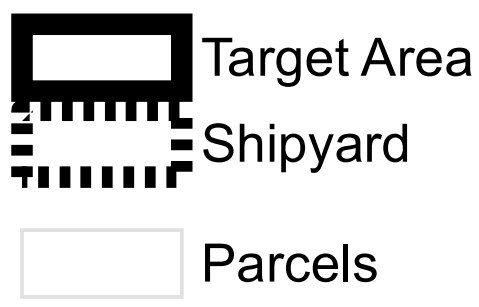
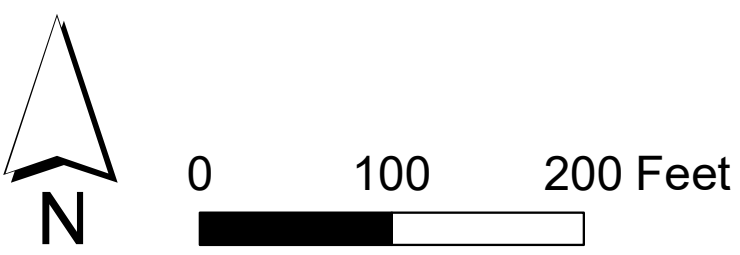


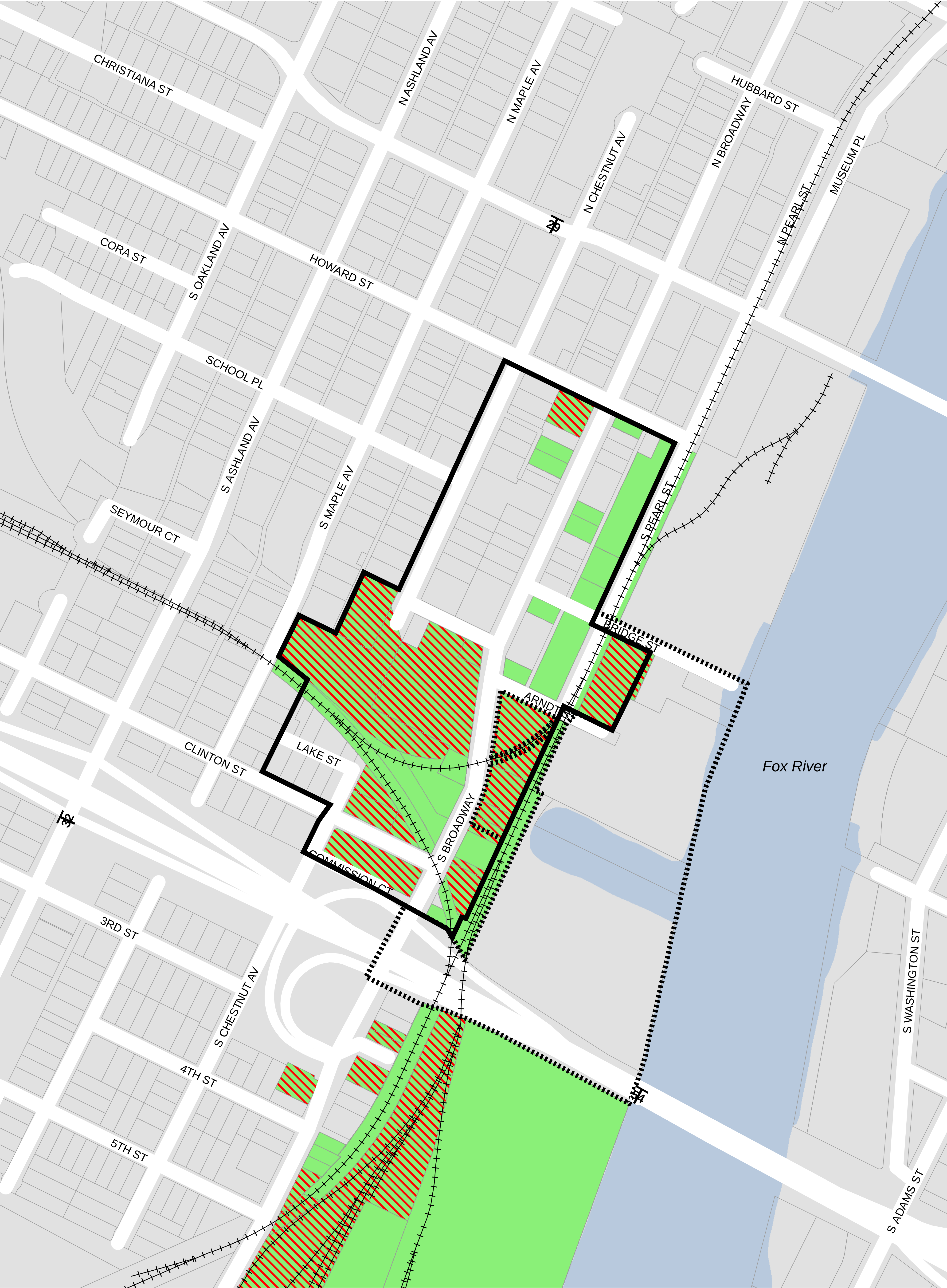
This is a compilation of records and data located in various City of Green Bay offices and is to be used for reference purposes only. The City of Green Bay is not responsible for any inaccuracies or unauthorized use of the information contained within. No warranties are implied. Map prepared by City of Green Bay Department of Community and Economic Development. E.R. 24 Jun 2020 X:\Planning\Work Order Requests\2020\20.01 Shipyardownership_june.mxd



Site Map

US EPA Shipyard Project
City of Green Bay, WI



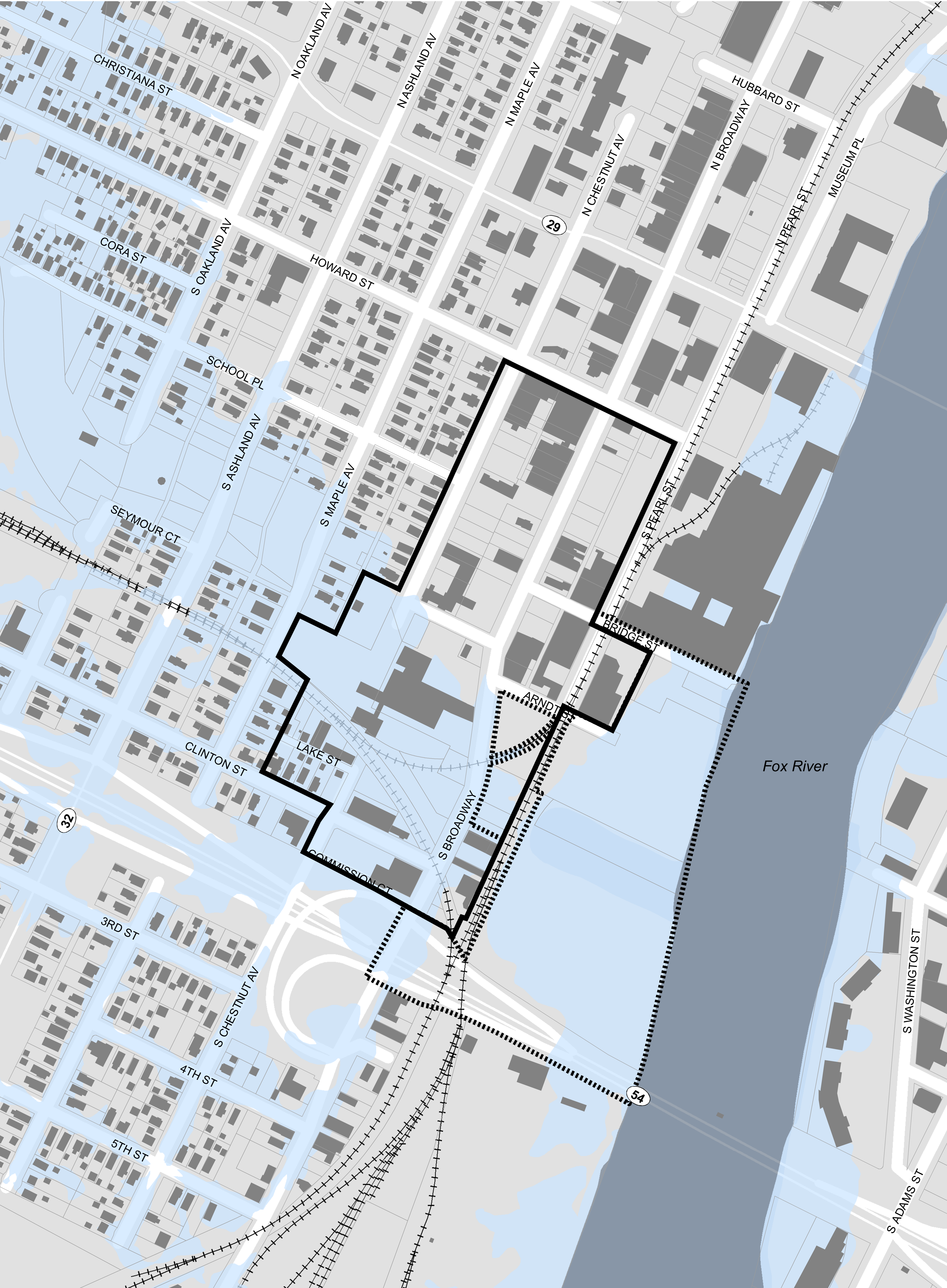


Brownfield Information

US EPA Shipyard Project
City of Green Bay, WI

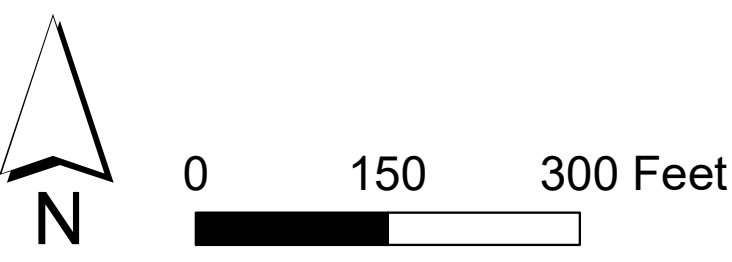


- Target Area
- Shipyard
- Parcels
- River
- Railroad
- Known or Potential Brownfield Site
- Sites with Environmental Assessment Completed or Ongoing



Floodplain

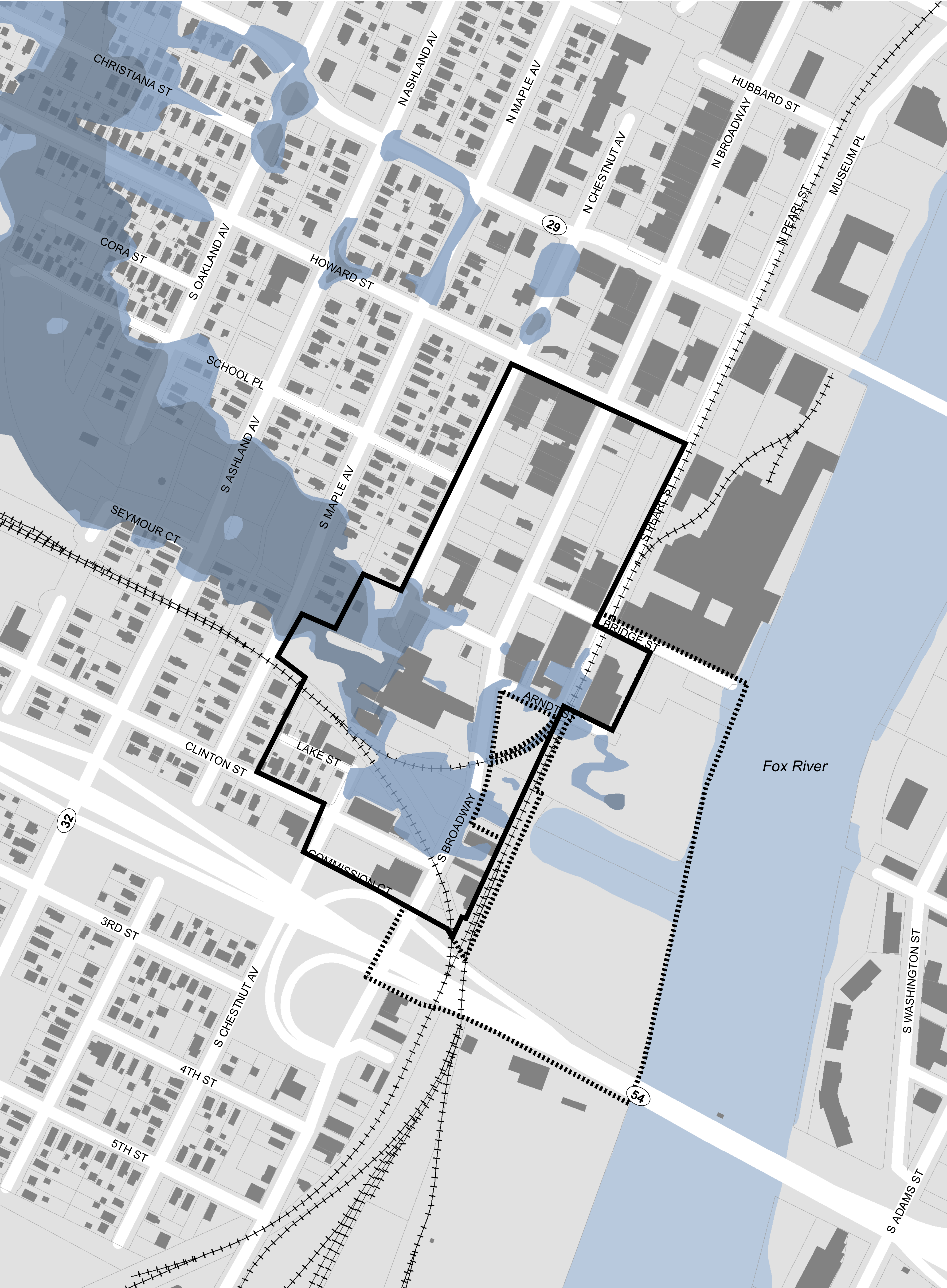
US EPA Shipyard Project
City of Green Bay, WI



- Target
- Shipyard
- Parcels
- Building
- River
- Railroad
- 100 Year Floodfringe
- 100 Year Floodway

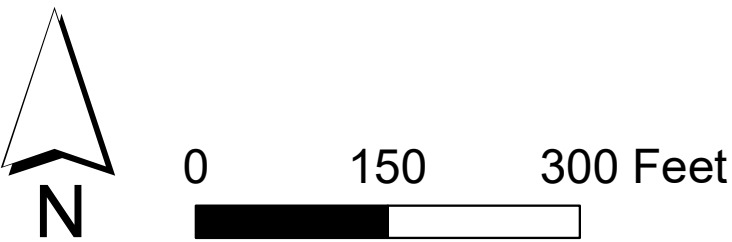
October 2, 2020





Flood Prone Areas / Issue Areas

US EPA Shipyard Project
City of Green Bay, WI



- Target

Shipyard

Parcels

Building

River

Railroad
- 100 Year Storm Flood

0.1 ft to 1 ft

> 1 ft

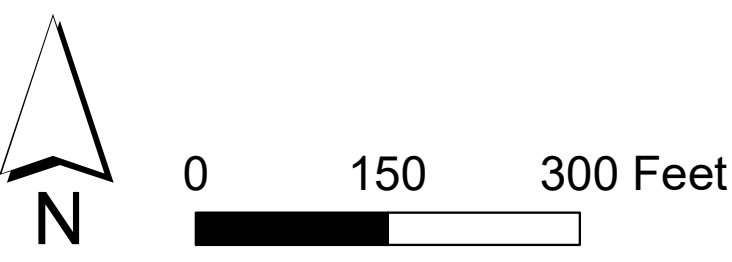
September 25, 2020



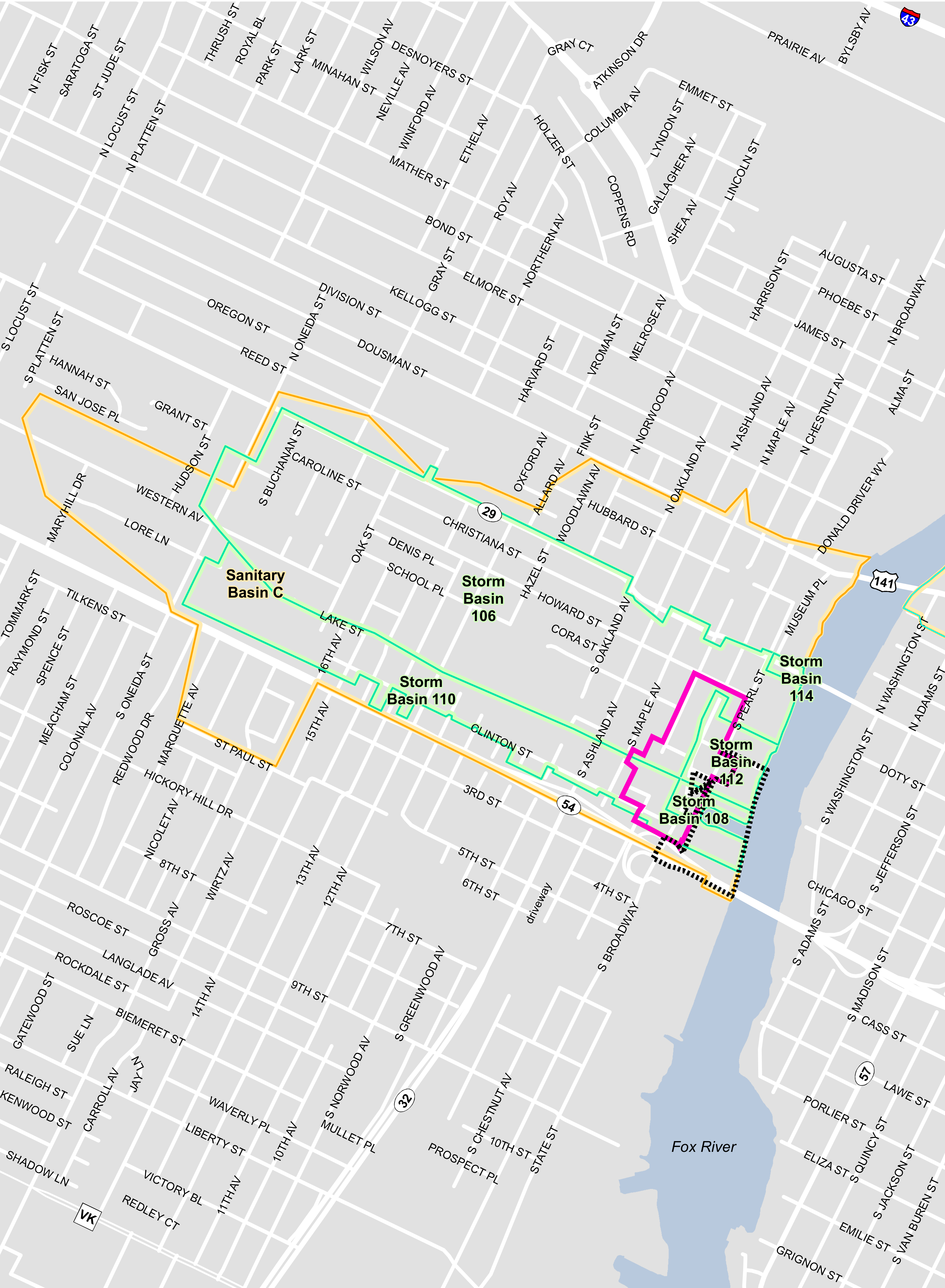


Land Use

US EPA Shipyard Project
City of Green Bay, WI

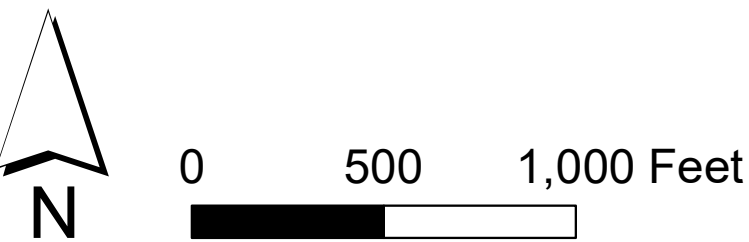


- | | | | |
|--|-------------|--|----------------------------|
| | Target Area | | Agriculture/Silviculture |
| | Shipyard | | Commercial |
| | Parcels | | Communication/Utilities |
| | River | | Industrial |
| | Railroad | | Institutional/Governmental |
| | | | Outdoor Recreation |
| | | | Residential |
| | | | Transportation |



Storm and Sanitary Basin

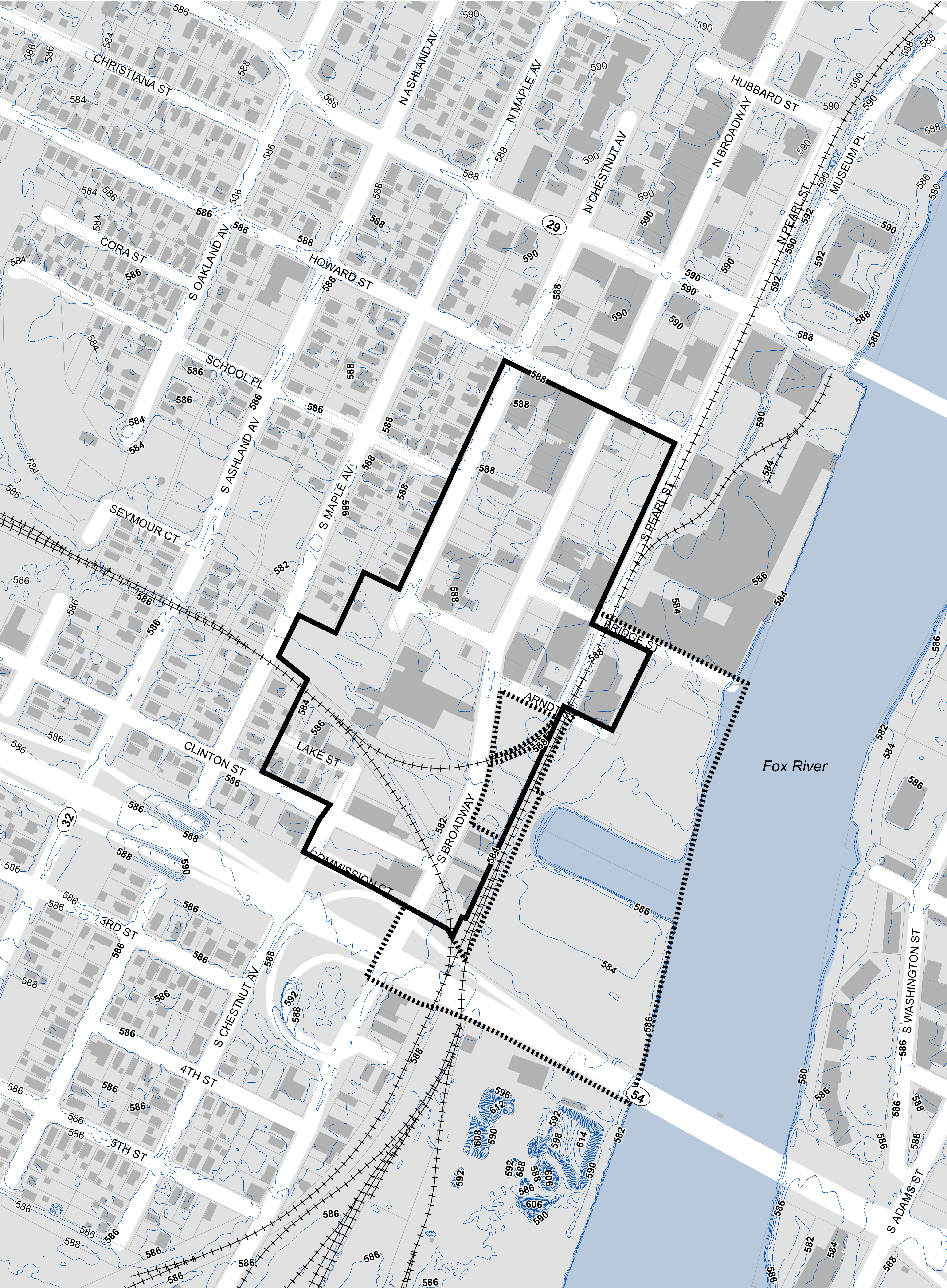
US EPA Shipyard Project
City of Green Bay, WI



- Target Area
- Shipyard
- River
- Storm Basin
- Sanitary Basin

October 2, 2020





Topography

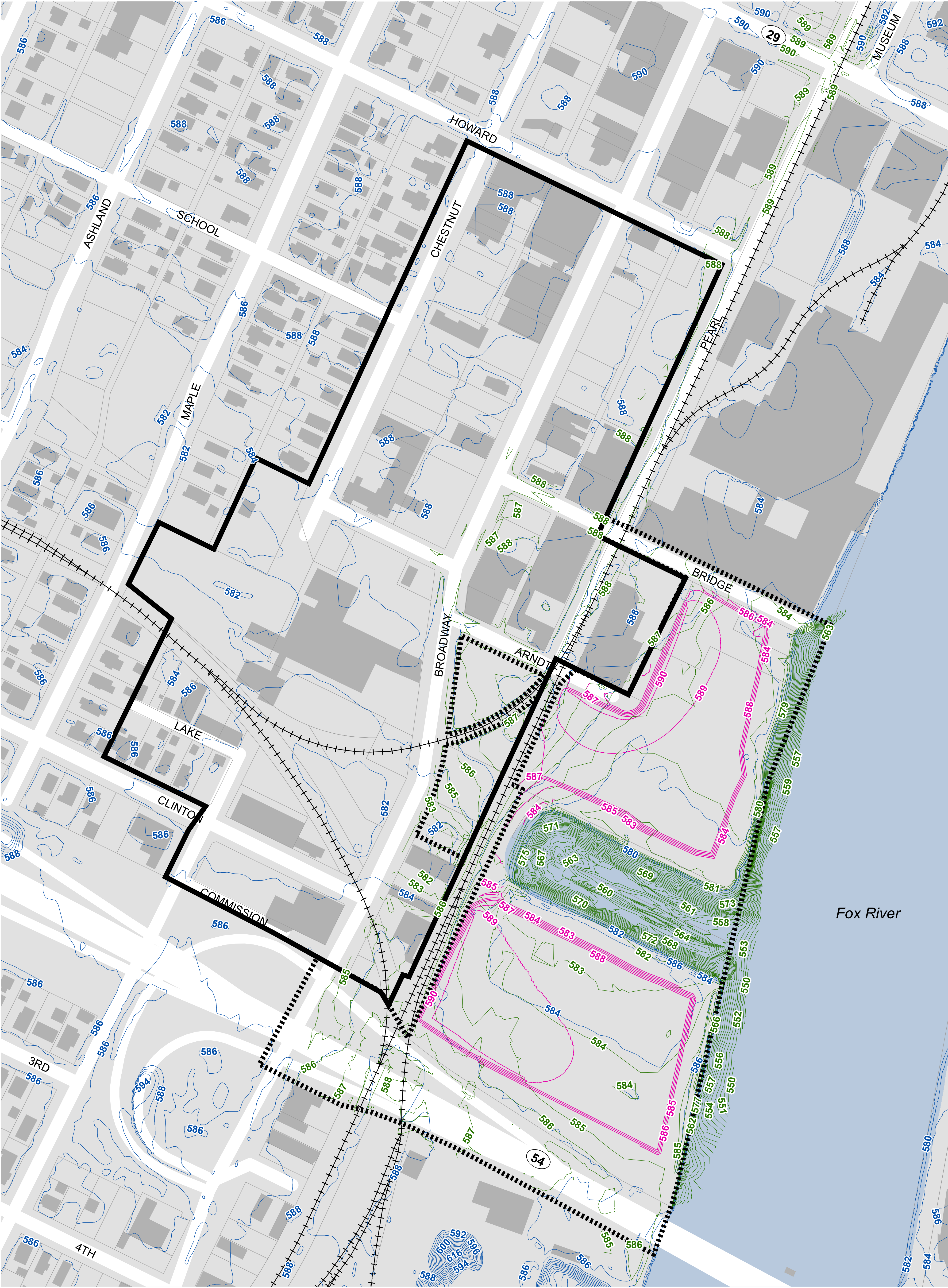
US EPA Shipyard Project
City of Green Bay, WI



- Target Area
- Shipyard
- Parcels
- Building
- River
- Railroad
- 2 ft Contours

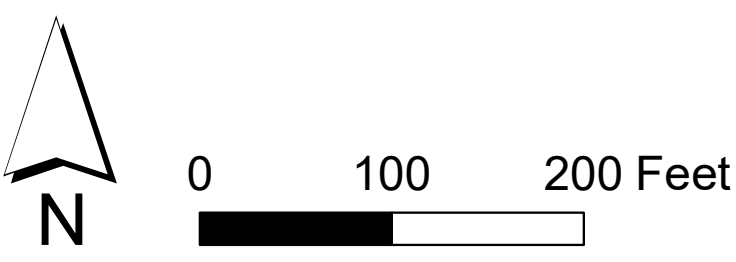
October 2, 2020





Topography - Shipyard

US EPA Shipyard Project
City of Green Bay, WI



- Target Area
- Shipyard
- Parcels
- Building
- River
- Railroad
- 2 ft Contours
- Existing Shipyard Contours (1 ft)
- Proposed Shipyard Contours (1 ft)

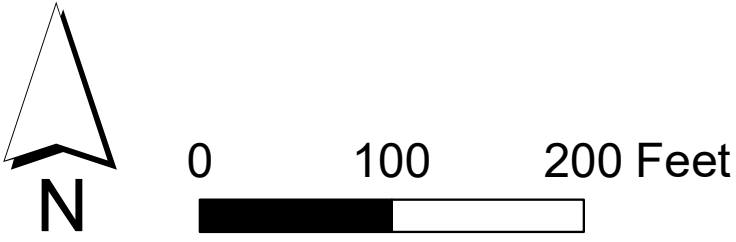
October 2, 2020





Utility - Electrical and Telecommunication

US EPA Shipyard Project
City of Green Bay, WI

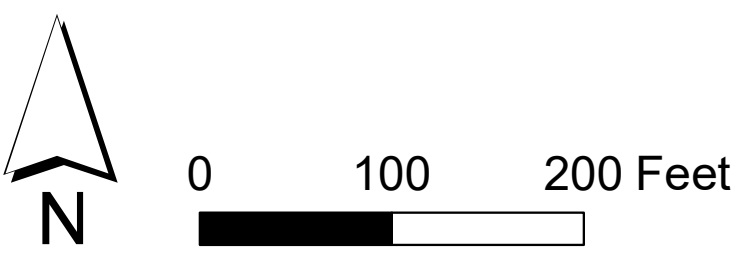


- Target
- Shipyard
- Parcels
- Building
- River
- Railroad
- Electrical Overhead
- Electrical Underground
- Telecommunications Fiber



Utility - Sanitary Sewer System

US EPA Shipyard Project
City of Green Bay, WI



- Target Area
- Shipyard
- Parcels
- Building
- River
- Railroad
- Sanitary Sewer Pipe
- Sanitary Sewer Structure
- Sanitary Holding Tank

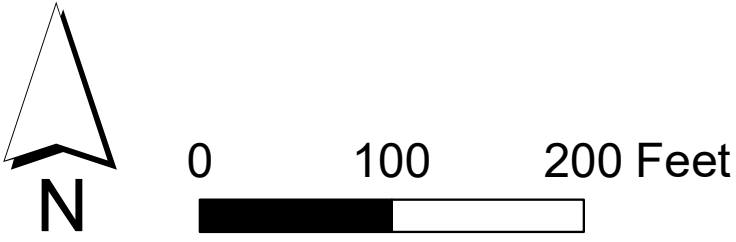
October 2, 2020





Utility - Storm Sewer System

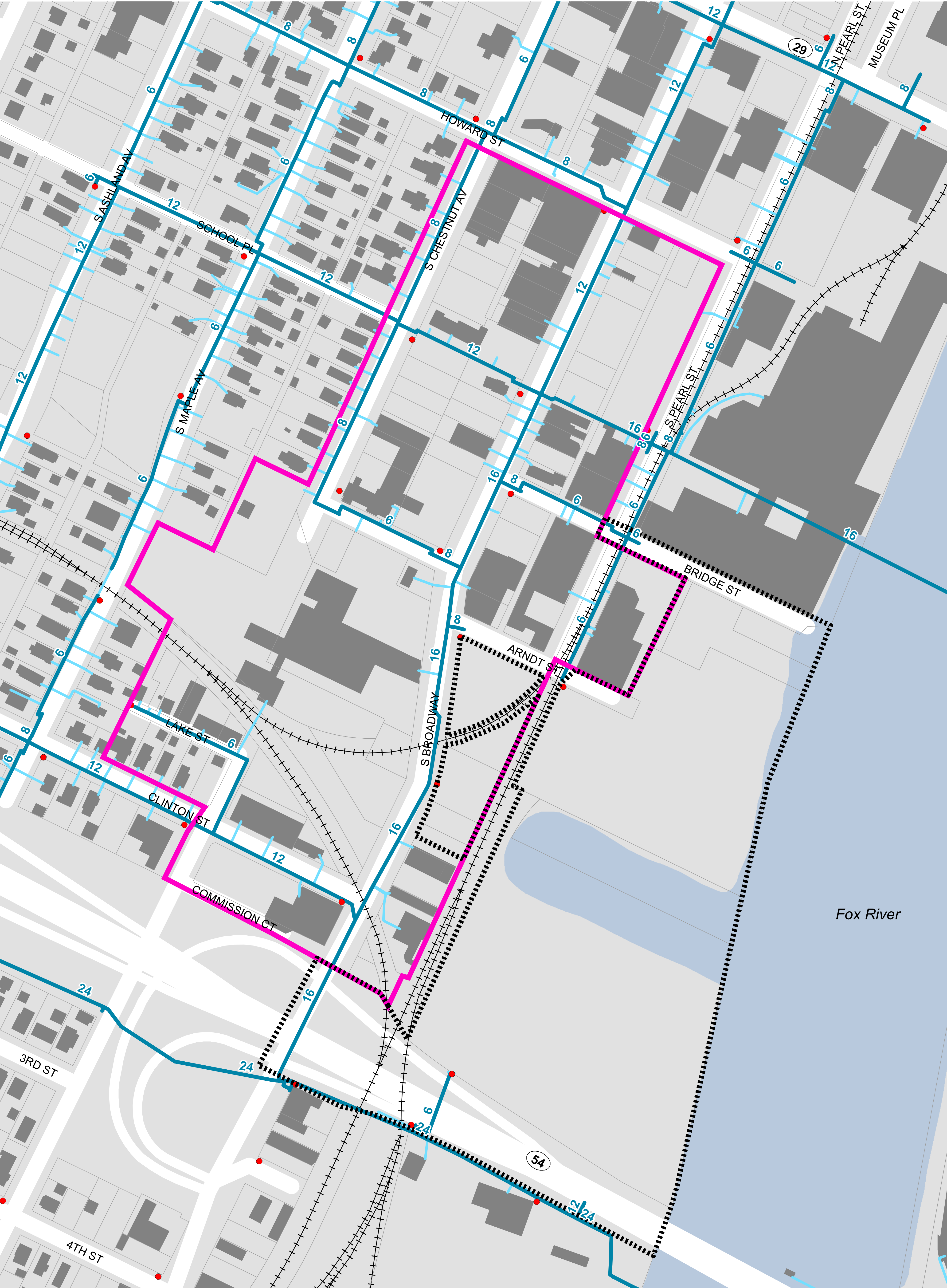
US EPA Shipyard Project
City of Green Bay, WI



- Target Area
- Shipyard
- Parcels
- Building
- River
- Railroad
- Storm Sewer Pipe
- Storm Sewer Structure
- Storm Pump Station
- Storm Holding Tank

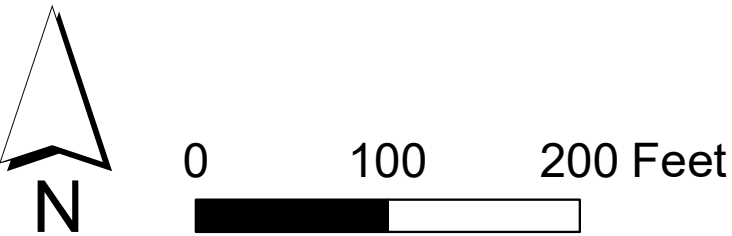
October 2, 2020





Utility - Watermain System

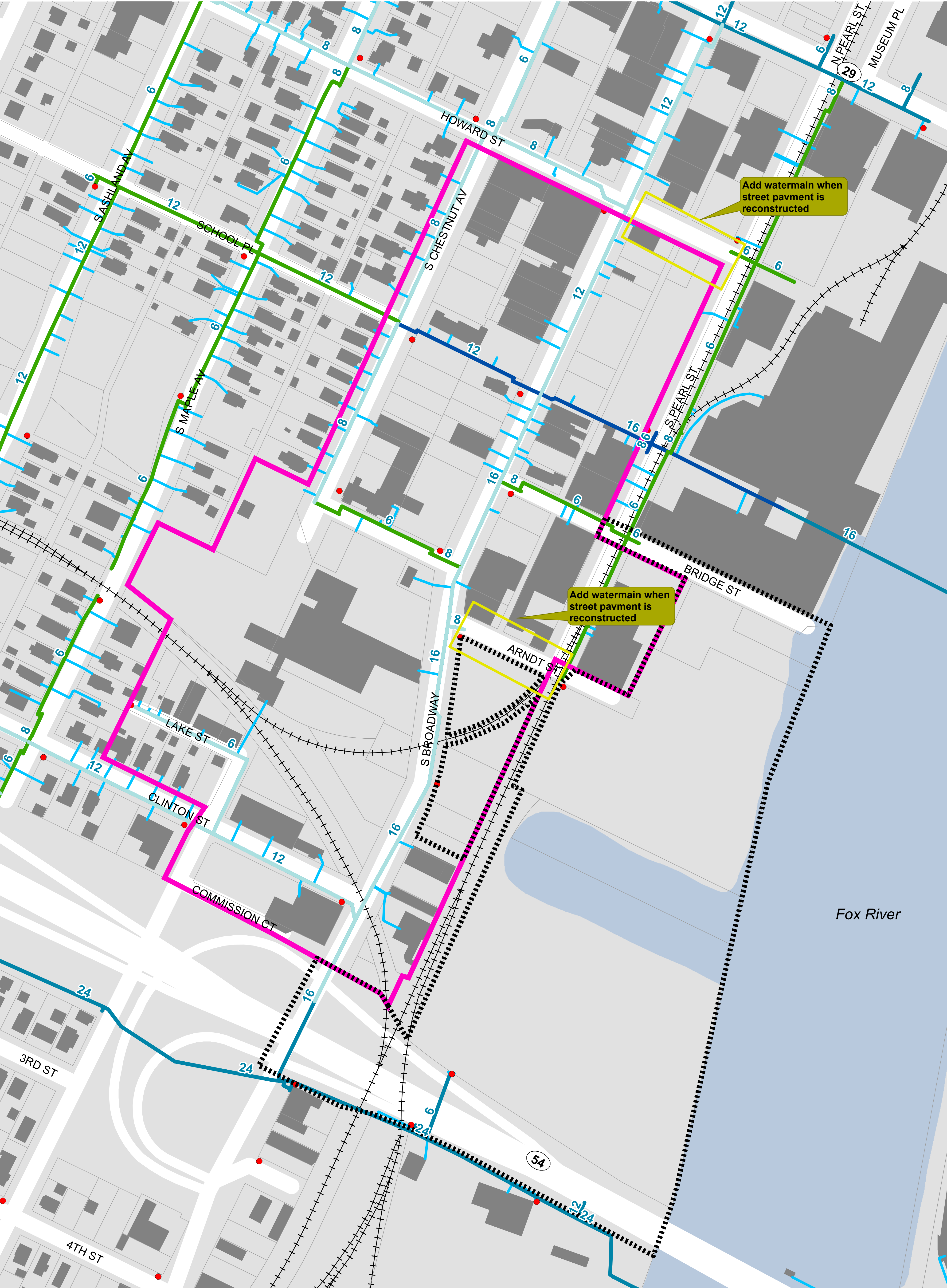
US EPA Shipyard Project
City of Green Bay, WI



- Target Area
- Shipyard
- Parcels
- Building
- River
- Railroad
- Watermain
- Service Laterals
- Hydrants

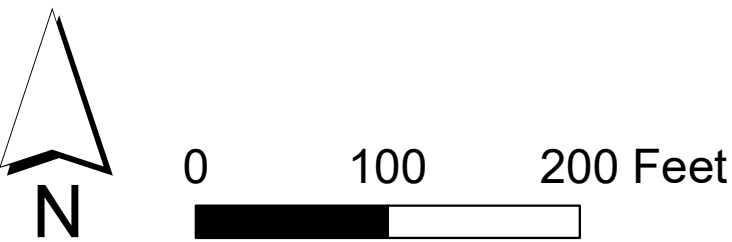
October 2, 2020





Utility - Watermain System Improvements

US EPA Shipyard Project
City of Green Bay, WI



- Target Area
- Shipyard
- Parcels
- Building
- River
- Railroad
- Watermain
- No work needed at this time
- Relay watermain - street pavement replaced
- Relay watermain in future
- Service Laterals
- Hydrants

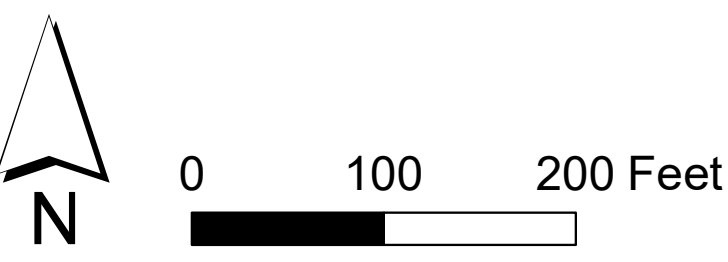
October 2, 2020





Property Value Per S.F. Land Area

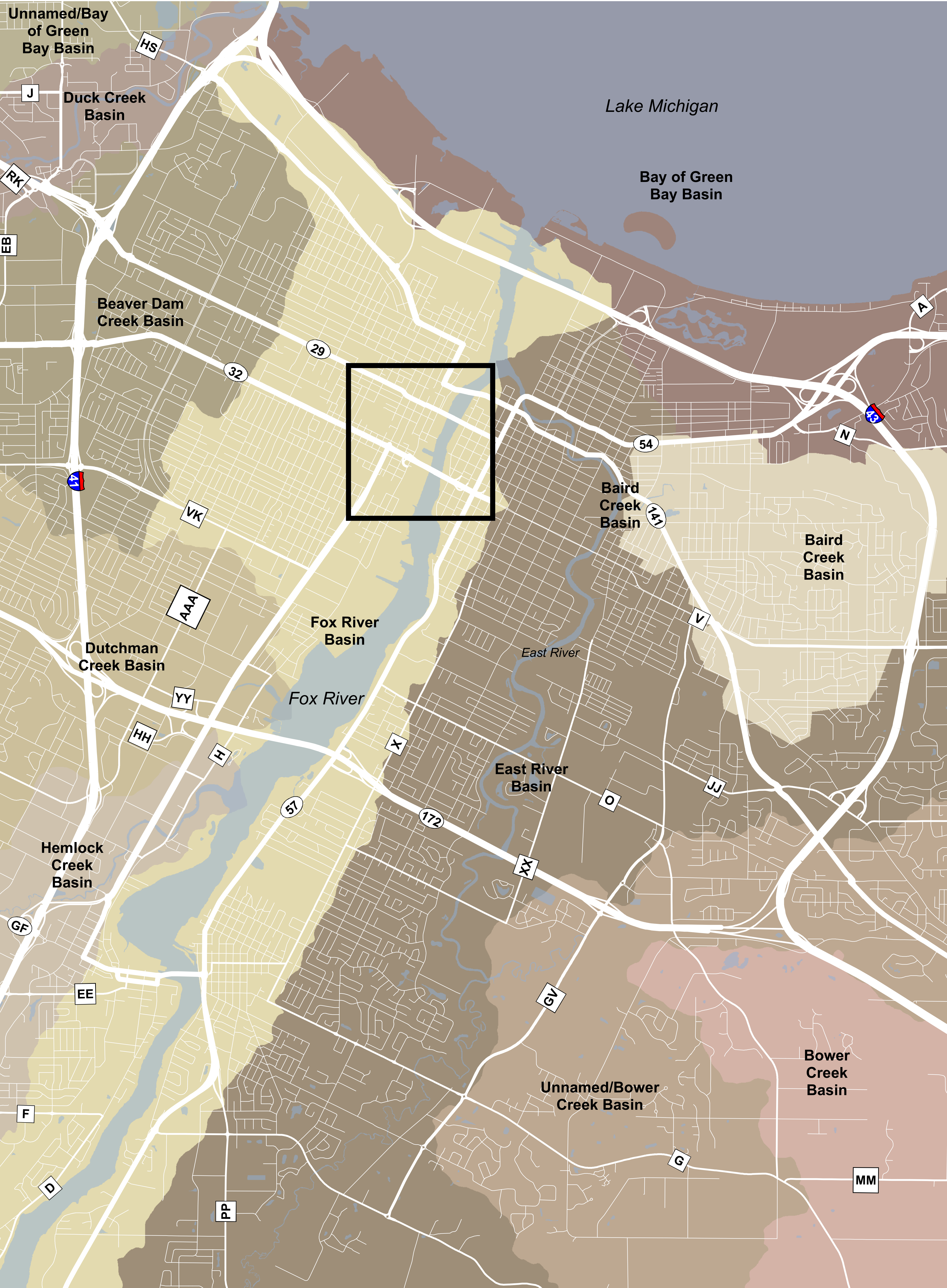
US EPA Shipyard Project
City of Green Bay, WI



- Target
- Shipyard
- River
- Railroad
- Tax Exempt Properties
- \$15 or Less
- \$15 to \$30
- \$30 to \$75
- \$75 or More

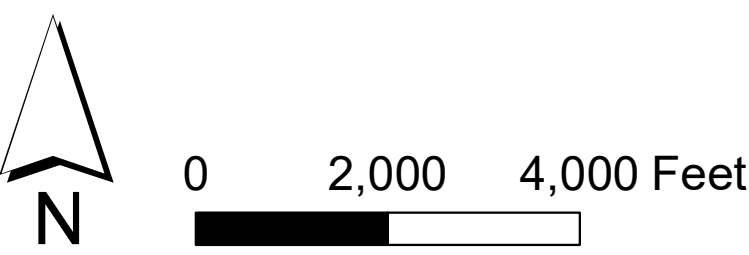
October 2, 2020





Watershed Boundary

US EPA Shipyard Project
City of Green Bay, WI



- | | | | |
|--|------------------|--|--------------------------|
| | Site Boundary | | Fox River |
| | Water Body | | Hemlock Creek |
| | Baird Creek | | Unnamed/Bay of Green Bay |
| | Bay of Green Bay | | Unnamed/Bower Creek |
| | Beaver Dam Creek | | |
| | Bower Creek | | |
| | Duck Creek | | |
| | Dutchman Creek | | |
| | East River | | |

October 2, 2020





Report to the
Economic Development Authority
of the City of Green Bay

MEETING DATE

February 18, 2021

PREPARED BY

Matt Buchanan, Staff

AGENDA ITEM # H.I

EDA Workshop presented by Staff.

BACKGROUND

This workshop aims to provide opportunity for education and open discussion regarding the purpose of the Economic Development Authority, and the roles and responsibilities of its appointed members. City staff will share ways that EDA members may participate in local economic development events and projects. Additionally, this workshop provides opportunity for EDA members to share input to staff.

RECOMMENDATION

FISCAL IMPACT

ATTACHMENTS

- I. EDA Municipal Code

Sec. 1.54. - Economic development authority.

- (1) *Appointment and organization.* The Green Bay Economic Development Authority, consisting of six citizens of the city, shall be appointed by the mayor, subject to confirmation by the council, for terms of three years. There shall also be one council representative on the authority who shall be appointed annually by the mayor, subject to confirmation by the council. In case of vacancy by death, resignation, or removal from the city, the unexpired term shall be filled in the same manner as appointments are originally made.
- (2) *Officers: meetings.* The Green Bay Economic Development Authority shall hold regular meetings at least once a month. A president, vice president, and secretary shall be elected from the membership.
- (3) *Powers and duties.* The authority shall devote itself to the study of methods and manner of developing industrial and commercial activities for the betterment and future growth of the city. To achieve this purpose, the authority may make use of facilities of other city departments. All recommendations of the authority shall be presented to the council for consideration.
- (4) *Finances.* The authority may incur indebtedness within its annual budget as set by the council. All expenditures from such budget shall only be made upon approval of the expenditures from such budget of the authority. Before an order is drawn for any expenditure by the city clerk, bills shall be submitted to the authority for approval and certified by the president and secretary to the city clerk, together with vouchers for the same

https://library.municode.com/wi/green_bay/codes/code_of_ordinances?nodeId=CH1GEGO_BOCO_S1.54ECDEAU