

Hardman Triangle Masterplan

Conceptual Masterplan & District Stormwater Guide



Hardman Triangle Masterplan

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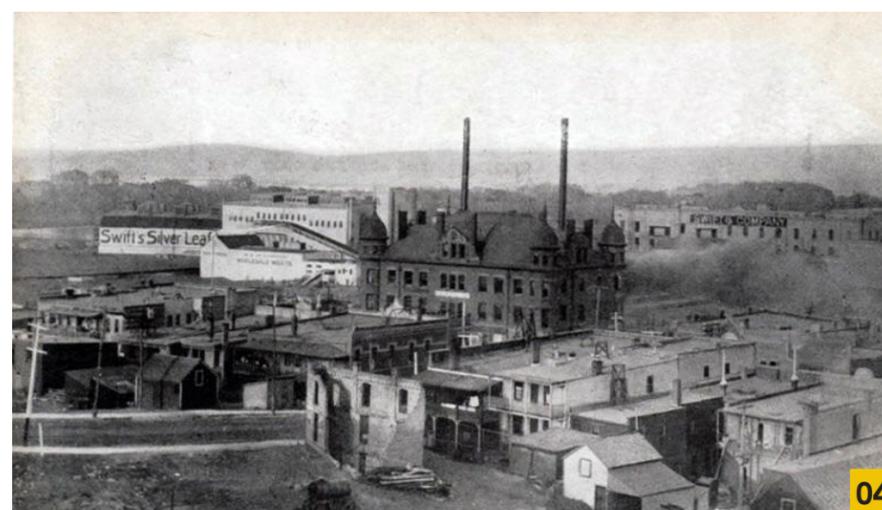
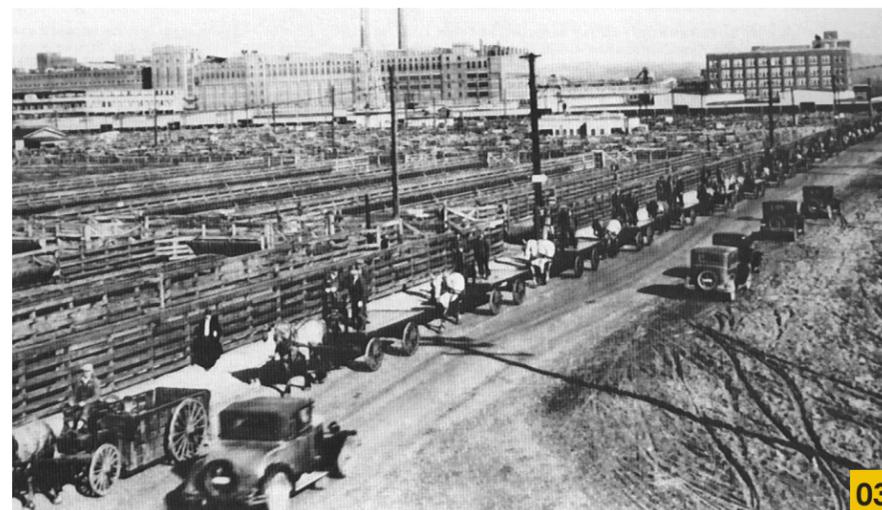
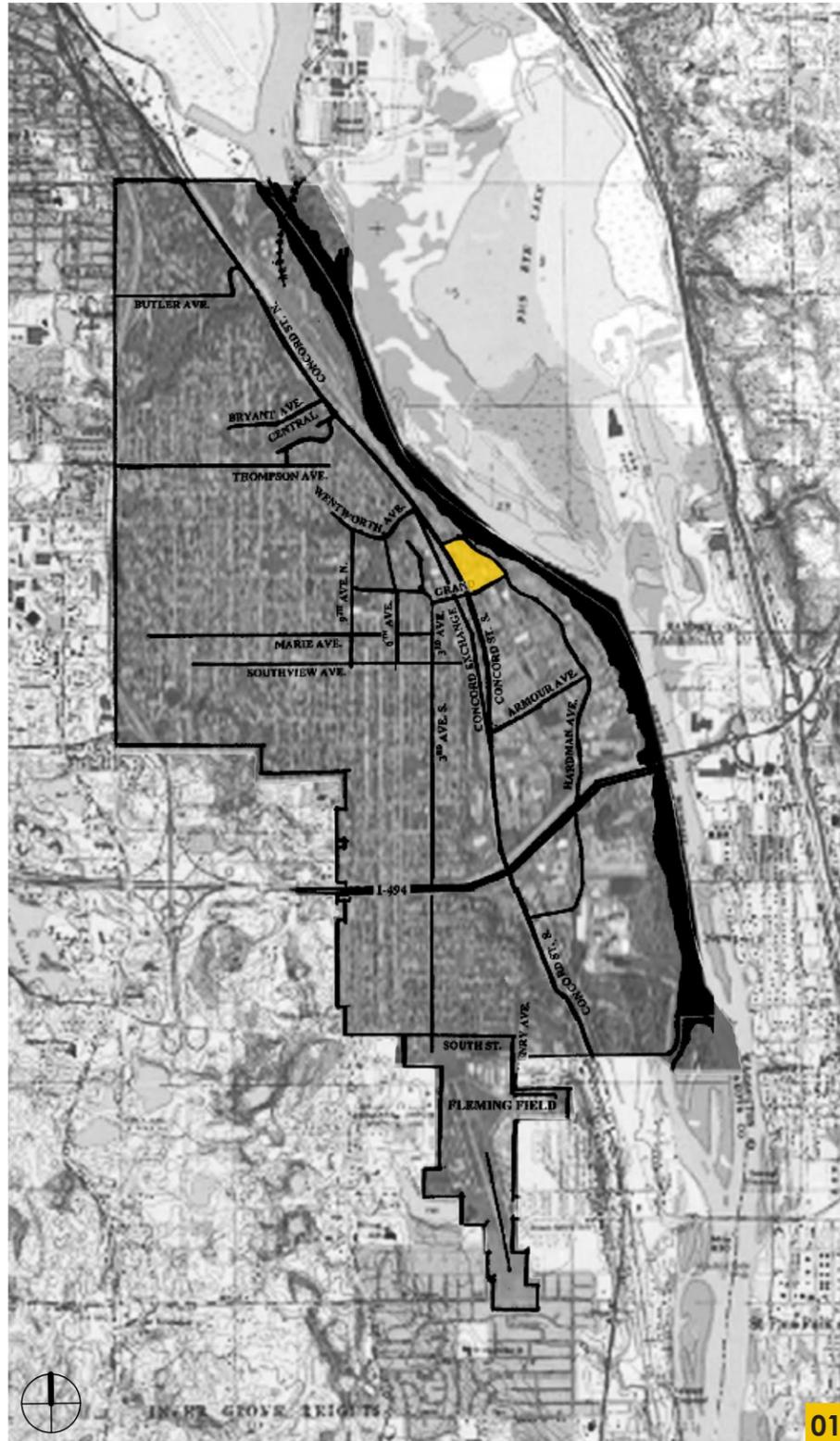
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Hardman Triangle Masterplan

Section 01 | **Hardman Triangle Site**



01 Hardman Triangle Site | Site Background



History

The Hardman Triangle is a small but historically significant area in South St. Paul, Minnesota. Located at the intersection of Concord Street, Grand Avenue, and Hardman Avenue, it lies in the heart of the city.

In the late 19th and early 20th centuries, South St. Paul was a major industrial hub, driven by the meatpacking industry and railroads. For many years, Hardman Triangle played a key role in the city's economic activity, housing a variety of businesses, industrial firms, and transportation services. However, as industrial activity shifted elsewhere, the area experienced a decline.

Today, Hardman Triangle represents a unique blend of South St. Paul's industrial heritage and its evolving modern landscape. The area has transformed into a mixed-use neighborhood, reflecting the city's shift from heavy industry to a more diverse, vibrant community.

- 01** Dakota County Historical Society Historic SSP Map (W. G. Wolston)
Overlaid Dakota County GIS
- 02** South St Paul Historic Road Photo, Early 1920s
(Lois Glewwe - South St Paul Voice, 2005)
- 03** Hardman Site Historic Aerial Photo,
("South St Paul Future" Site)
- 04** Swift Packing Plant, South St Paul, Early 1910s,
(LakesnWoods - Dakota County Photo Gallery, Postcard Collection)

01 Hardman Triangle Site | Architectural Context



01



02



03



04



05



Surrounding Architecture

Hardman Triangle's origins trace back to the early 20th century when south St. Paul was an industrial powerhouse. The area was once filled with warehouses, factories, and commercial buildings that supported the city's role as a major hub, especially in meatpacking and the stockyards. The architecture of the time was typically of early-20th century industrial design---large, utilitarian brick buildings, wide loading docks, and steel framed structures that served the needs of the industrial economy.

In recent years, Hardman Triangle has undergone a transformation. Efforts to revitalize the site have turned it into a modern, mixed-use urban space. The new architecture blends restored historical buildings with sleek, contemporary design. Modern buildings featuring clean lines, glass facades, and open layouts now sit alongside the older industrial structures creating a dynamic contrast that honors the past while embracing the future.

The area's development emphasizes pedestrian-friendly spaces, including parks, public squares, and gathering areas that foster community interaction. This transformation is part of a larger trend of re-purposing industrial areas for modern needs, while preserving their historical character and identity.

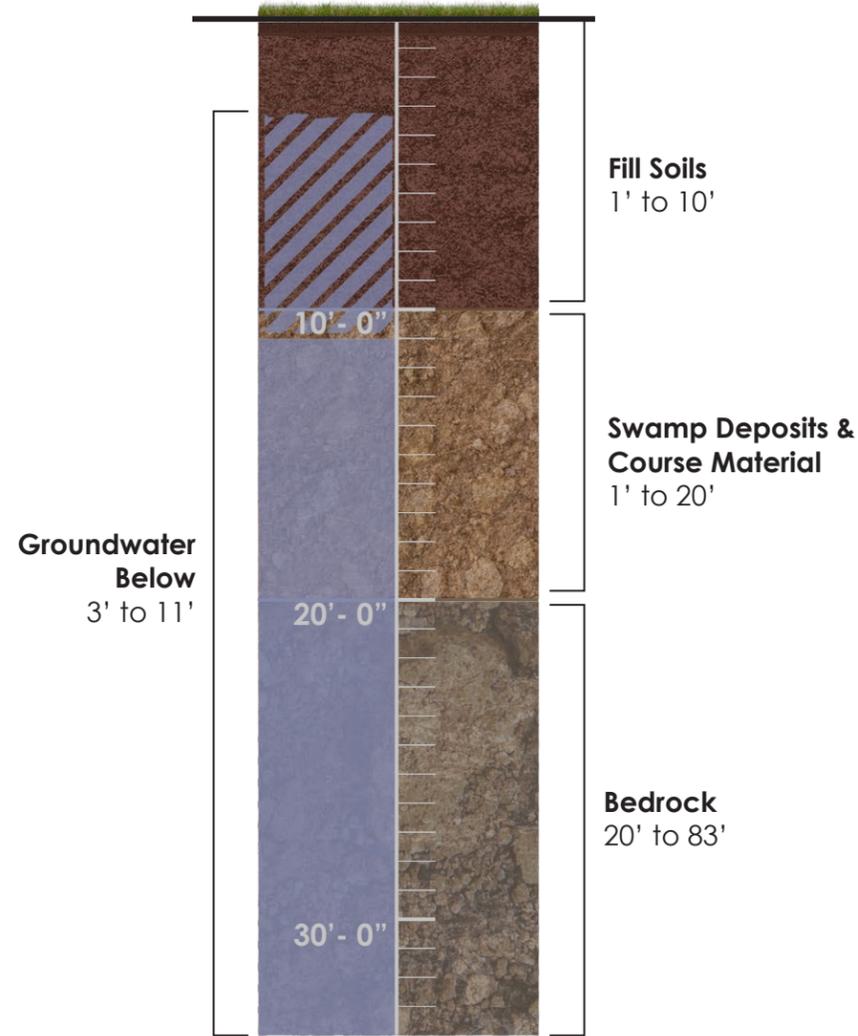
Today, Hardman Triangle is vibrant mix of South St. Paul's industrial legacy and its modern aspirations---transforming from an industrial zone to a sustainable, community-focused urban space that integrates both old and new architecture.

- 01 Former Armour Site 1919, St Paul Pioneer Press, Feb. 2021
- 02 Concord Exchange Building, Google Street View, May 2023
- 03 Former Concord Exchange Building Addition 1939, Library of Congress
- 04 151 Grand Ave W, The Yards, Google Street View, May 2023
- 05 130 Hardman Ave N, Google Street View, May 2023

01 Hardman Triangle Site | Existing Subsurface Conditions



Geotechnical Exploration 2022, 2024



Soil

The Hardman Triangle site consists of a mix of fill soils, including silty sands, clayey sands, and sands with silt, with depths ranging from 1 to 10 ½ feet. These soils are weak, slow-draining, and prone to freeze-thaw cycles. Beneath the fill, swamp deposits are highly compressible, low-strength, and slow-draining. Below these, coarser materials like silty sands, sands, and sands with silt have moderately low strength and moderate compressibility, with varying drainage speeds and frost susceptibility. Interspersed clayey sands and sandy lean clays have low to moderate strength, high compressibility, and moderate frost risk. At deeper levels (20-83 feet), high-strength, low-compressibility Dolostone bedrock is present, which is very slow-draining.

Groundwater

Groundwater is present across the site at depths ranging from 3 to 11 feet. Due to the layering of slow-draining soils and faster-draining materials, perched water levels are probable.

Building Footing Considerations

Given these conditions, excavation and refilling for building support structures would require extensive and costly efforts. To ensure structure stability, deep foundations extending to the bedrock would be ideal for supporting future building footings and slabs across the Hardman Triangle site. Site surcharging as a ground preparation technique can be a viable option for site support of lighter buildings in lieu of deep foundation options.

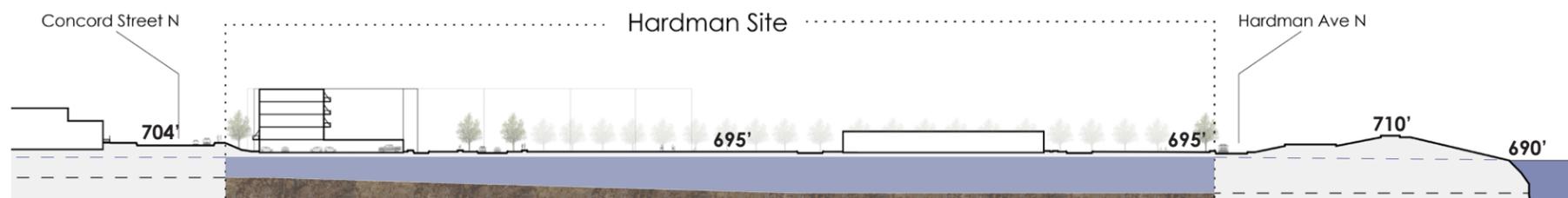
Takeaways

1. Foundations: Options Include foundation systems of driven piles, micropile foundations, rammed aggregate piers, with structural slabs at grade, site surcharging for lighter buildings.

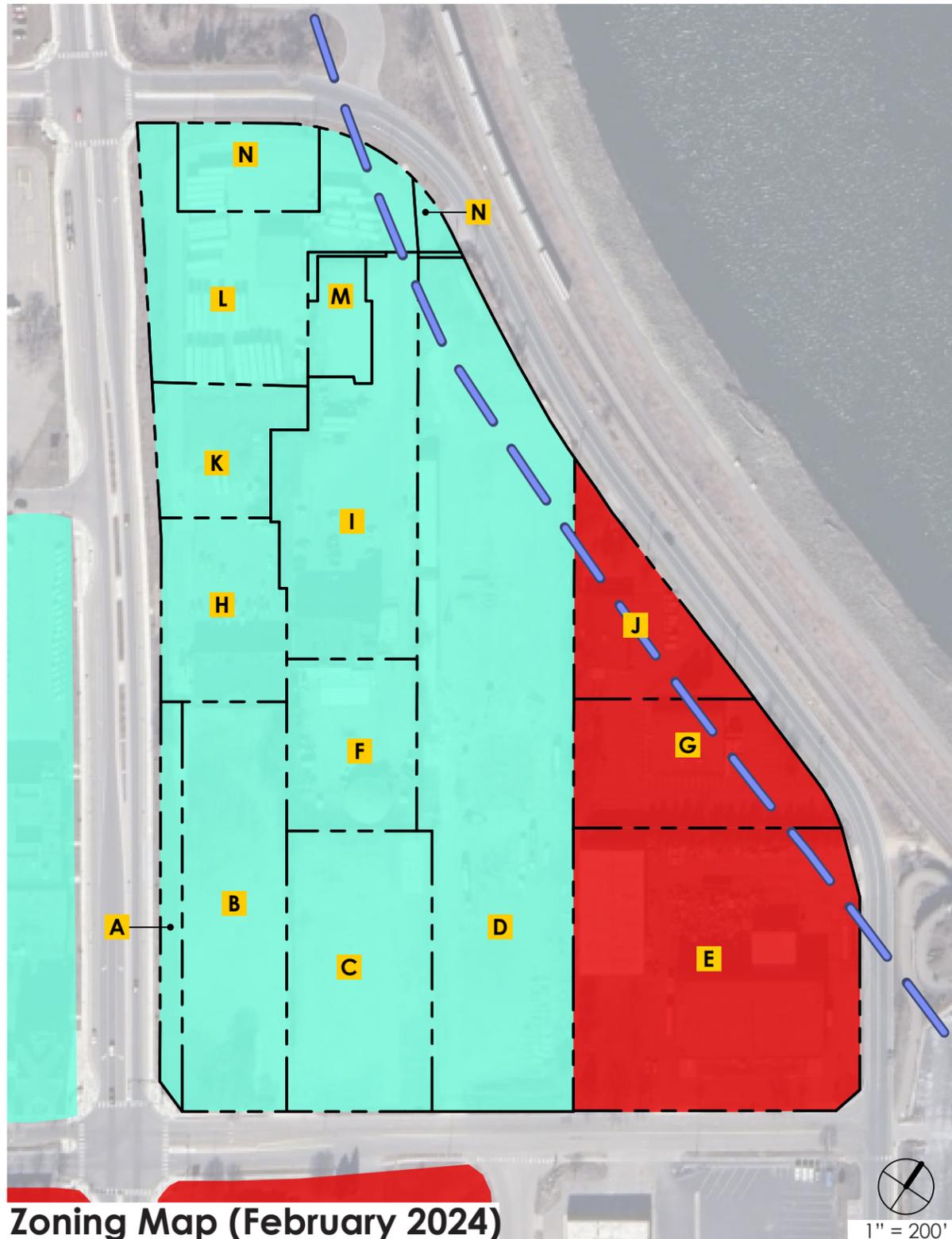
2. Groundwater: Given groundwater depths of 3-11', underground parking opportunities will be limited, if possible at all, and special consideration will need to be taken at elevator pits, drain tile and footing design.

3. Bedrock: Generally, bedrock is highest at the west boundary of the Hardman Triangle, approx. 19' below grade (boring 3), and lowest 85' at the east of the site (boring 11).

- | | | | | |
|--|---|---|---|--|
| 1 Groundwater 3.5'
Bedrock 22' | 4 Groundwater 9.5'
Bedrock 23.25' | 7 Groundwater 7.5'
Bedrock 23' | 10 Groundwater 11'
Bedrock 57' | 13 Groundwater 4'
Bedrock 31.75' |
| 2 Groundwater 4'
Bedrock 19.5' | 5 Groundwater 5.5'
Bedrock 24.5' | 8 Groundwater 14'
Bedrock 28' | 11 Groundwater 9.5'
Bedrock 83' | |
| 3 Groundwater 3'
Bedrock 19.5' | 6 Groundwater 4'
Bedrock 31.75' | 9 Groundwater 11.5'
Bedrock 29.5' | 12 Groundwater 5'
Bedrock 42' | |



01 Hardman Triangle Site | Existing Parcels & Zoning



Zoning Map (February 2024)

A	N/A SSP Development Vacant
B	N/A SSP Development Vacant
C	135 Grand Ave E SSP Development Vacant
D	139 Grand Ave E SSP Development Vacant
E	200 Hardman Ave N SRM Prop. INC Occupied
F	134 Hardman Ave Long Cheng Prop. INC Occupied
G	266 Hardman Ave United Food & Comm Workers Occupied
H	240 Concord St N SSP Development Vacant
I	130 Hardman Ave Pao C Yang Occupied
J	222 Hardman Ave Binder & Binder LLC Occupied
K	N/A SSP Development Vacant
L	302 Hardman Ave N Cory Prop. LLC Occupied
M	N/A SSP Development Vacant
N	Hardman Ave N City of South St. Paul ROW

- CGMU1 - Concord Gateway Mixed Use
- GB - General Business
- ⊙ Shoreland Overlay (300' to Mississippi River, OHWL)

Concord Gateway Mixed-Use

The purpose of the Concord Gateway mixed-use (CGMU) district is to facilitate compact, mixed-use development made mutually compatible through careful planning, urban design and coordinated public and private investment. The mixture of land uses within the district is essential to establishing the level of vitality and intensity needed to support retail and service uses. The placement of building edges and the treatment of building, parking, landscaping, and pedestrian spaces is essential to creating the pedestrian-friendly environment envisioned for the CGMU.
City Code Section 118-125.a

Takeaways

- Increased density aligns with the forecasted city growth in population, households and employment.**
- 75 units/acre (other city mixed use: 60 units/acre)
 - *City approval required for density transfer options exceeding 75 units/ acre
 - Build-to-line setbacks apply to front and side yard
 - At least 60% of the street frontage of any lot shall be occupied by the building facades meeting the build-to line (0-10 feet)
 - Building height: 50' maximum, except as allowed by conditional use permit, 24' minimum (MRCCA - 65' maximum or as allowed by conditional use permit)
 - Shoreland Overlay: The total area of all impervious surfaces on a lot shall not exceed 30% of the total lot area, and no structure shall exceed 35 feet in height, unless such structures are approved as part of a planned unit development.
- City has approved several with ~70% impervious area without DNR opposition

01 Hardman Triangle Site | Conceptual Masterplan Objectives



Marketable Site Boundaries

Identify and plan potential future property parcels on the Hardman Triangle site, strategically positioned and sized to support a mix of residential and commercial development. A centrally located park will be incorporated to seamlessly connect both residential and commercial areas, while also serving as a key site for stormwater management.

Right-of-Way

Right-of-way planning will accommodate vehicle circulation, additional site parking, pedestrian movement, and necessary utilities throughout the Hardman Triangle site. Most of the site's right-of-way will feature residential or commercial developments on one side, with open space and parks on the opposite side, fostering a strong community connection within the overall development.

Stormwater

The stormwater collection system across Harman Triangle will be designed to efficiently manage and filter runoff, ensuring compliance with city standards. The park's centralized design will integrate various methods of stormwater collection and filtration, enhancing both functionality and environmental sustainability. These features will be seamlessly incorporated into the park's public spaces, providing an interactive experience for visitors while promoting ecological responsibility.

Phasing

The proposed parcels, right-of-way, and stormwater management infrastructure are designed to accommodate phased development opportunities. The stormwater plan outlined ensures sufficient capacity, allowing for either full installation or a phased approach that meets applicable standards while aligning with the city's development goals and the future parcels needs.

Hardman Triangle Masterplan

Section 02 | **Conceptual Masterplan**



02 Conceptual Masterplan | Masterplan



Conceptual Masterplan

- 1 Multifamily Residential**
1.376 acres
110,800 FSF
123 units shown | 103 units allowed*
117 - 149 parking stalls | 1.21 ratio
 - 2 Retail**
1.701 acres
52 - 127 parking stalls
 - 3 Multifamily Residential**
2.089 acres
139,000 FSF
145 units shown | 169 units allowed*
157 - 210 parking stalls | 1.45 ratio
 - 4 Retail**
1.841 acres
53 parking stalls
 - 5 City Park | Stormwater Management**
3.374 acres
40 parking stalls
 - 6 Mixed Use | Multifamily Residential**
2.389 acres
162,900 FSF
176 units shown | 179 units allowed*
170 - 200 parking stalls | 1.12 ratio
 - 7 Mixed Use | Multifamily Residential**
3.052 acres
180,000 FSF
128 units shown | 228 units allowed*
172 - 210 parking stalls | 1.64 ratio
 - 8 Public Right of Way**
3.063 acres
32 parking stalls
- * City approval required for density transfer options exceeding 75 units/ acre

679 residential units possible on developable parcels per Comprehensive Plan update to 75 units per acre*

Marketable Land

Proposed re-platting of the 18.7 acre Hardman Triangle site creates a 12.5 acres of developable land across 6 parcels. Mixed use, residential and retails uses align with the permitted uses in the zoning district.

Greenspace

A centralized 3.5 acre park becomes a dedicated space acting as both a canvas for stormwater management and community interaction.

Right-of-Way

A city owned right-of-way corridor through the Hardman Triangle site with access from Grand Avenue and Hardman Avenue is at the core of the development. This right-of-way corridor will be home to the public utilities to each parcel.

“Most of the growth will occur through redevelopment as there are very few vacant, developable properties remaining in the city.”
-Comprehensive Plan Amendment 10-B

02 Conceptual Masterplan | Proposed Parcel Boundaries/Plats



Marketable Plat Plan

1" = 200'

- 1 Multifamily Residential
1.376 acres
- 2 Retail
1.701 acres
- 3 Multifamily Residential
2.089 acres
- 4 Retail
1.841 acres
- 5 City Park | Stormwater Management
3.374 acres
- 6 Mixed Use | Multifamily Residential
2.389 acres
- 7 Mixed Use | Multifamily Residential
3.052 acres
- 8 Public Right of Way
3.063 acres

- Future Development Area
- City Park & Stormwater Management
- Shoreland Overlay
(300' to Mississippi River, OHWL)

“The placement of building edges and the treatment of building, parking, landscaping, and pedestrian spaces is essential to creating the pedestrian-friendly environment envisioned for the Concord Gateway Mixed Use District.”
-City Code (Section 118-125)

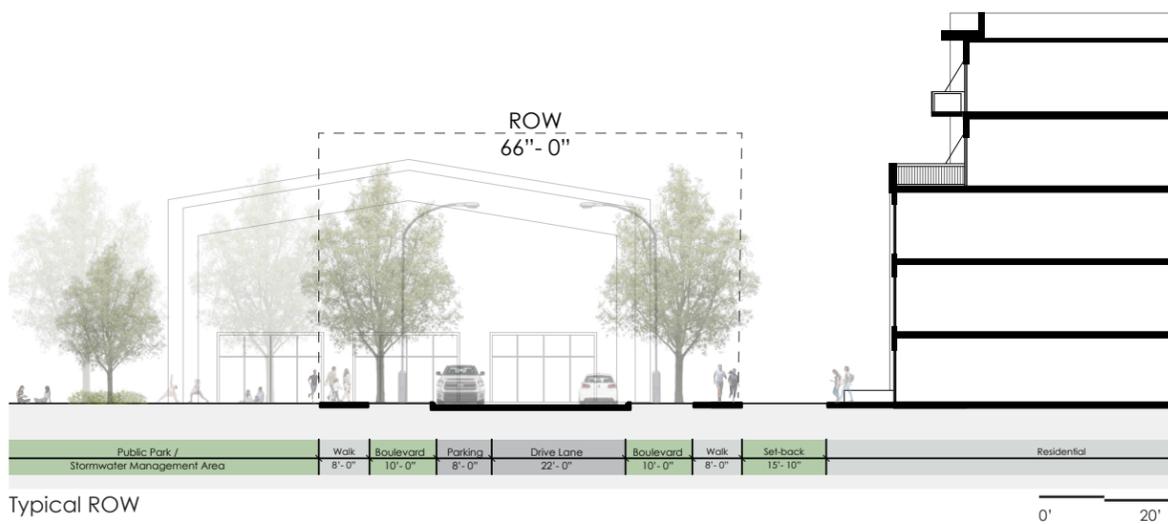
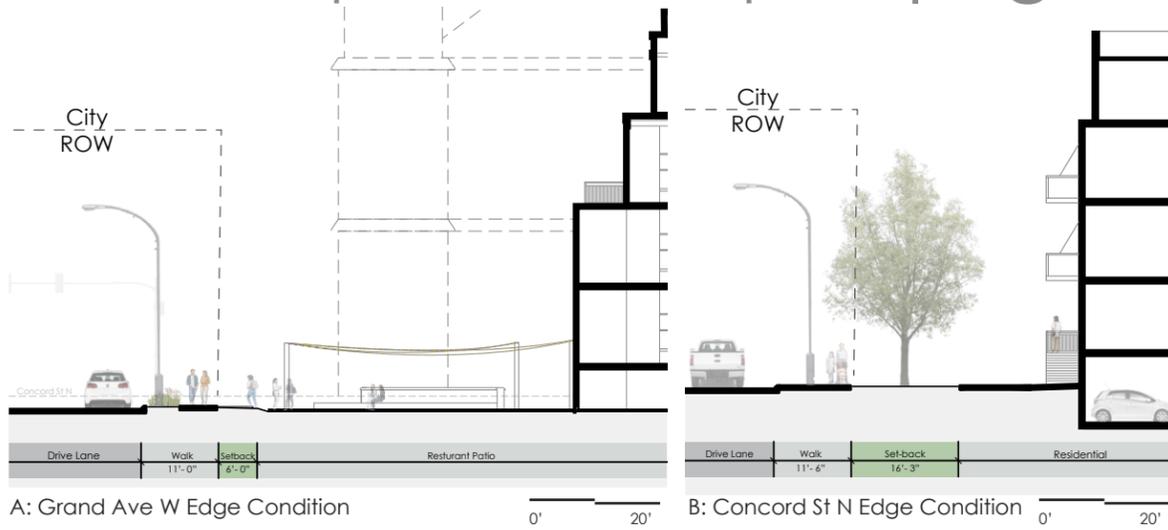
● City Owned ● Letter of Intent ● Privately Owned As of Jan. 2025



Current Ownership Conditions

1" = 300'

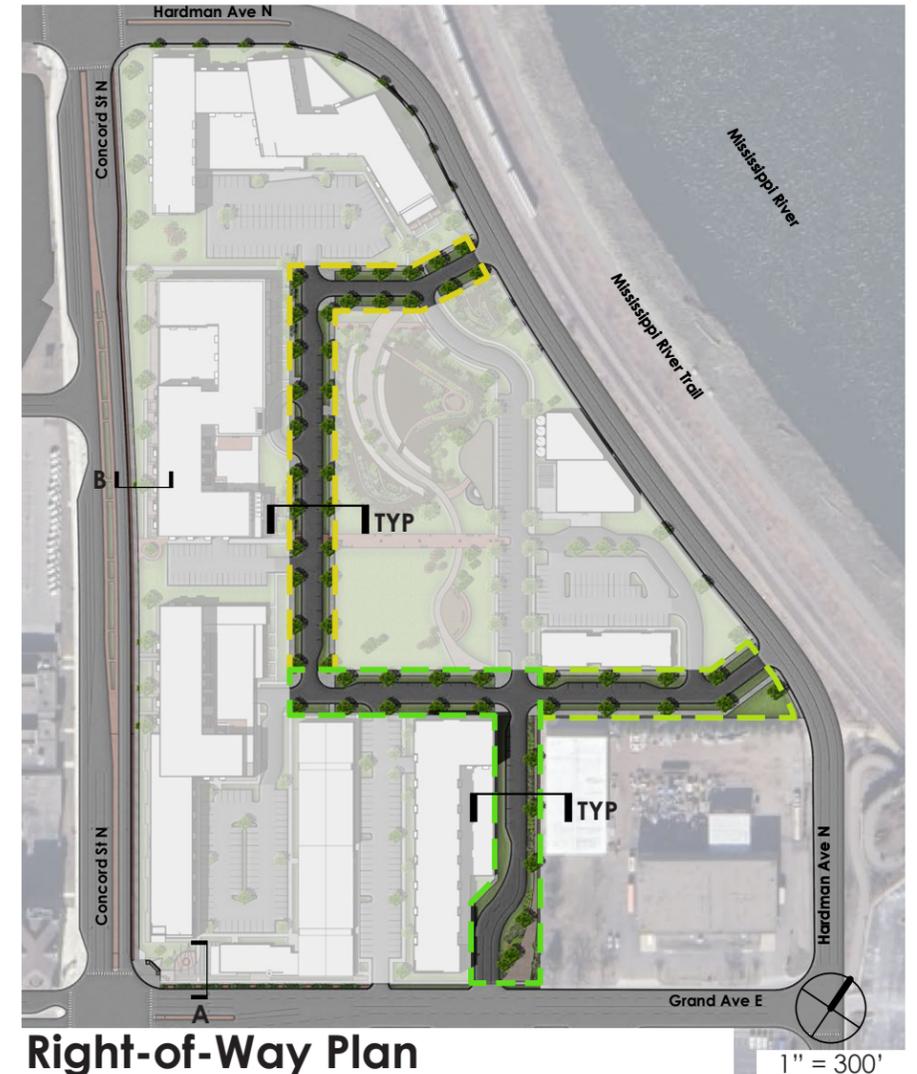
02 Conceptual Masterplan | Right-of-way



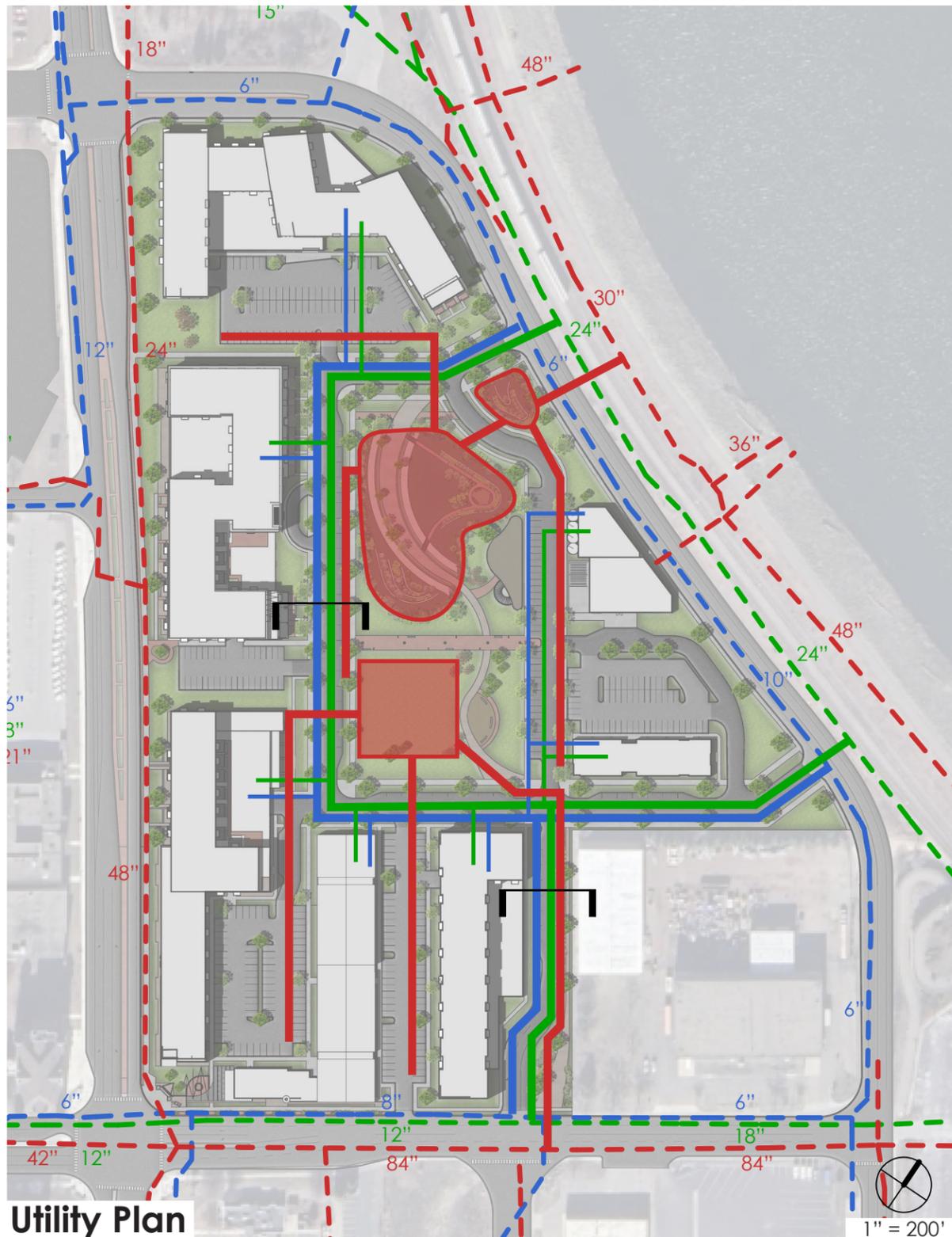
Public Site Connection

The right-of-way through Harman Triangle will accommodate essential public utilities, facilitating connections across the site. It will also serve as a dedicated area for transportation and parking, strategically located between the building perimeters and public spaces. This design ensures seamless circulation and efficient access while integrating functional infrastructure into the overall layout.

● Phase 1 ● Phase 2 ● Phase 3



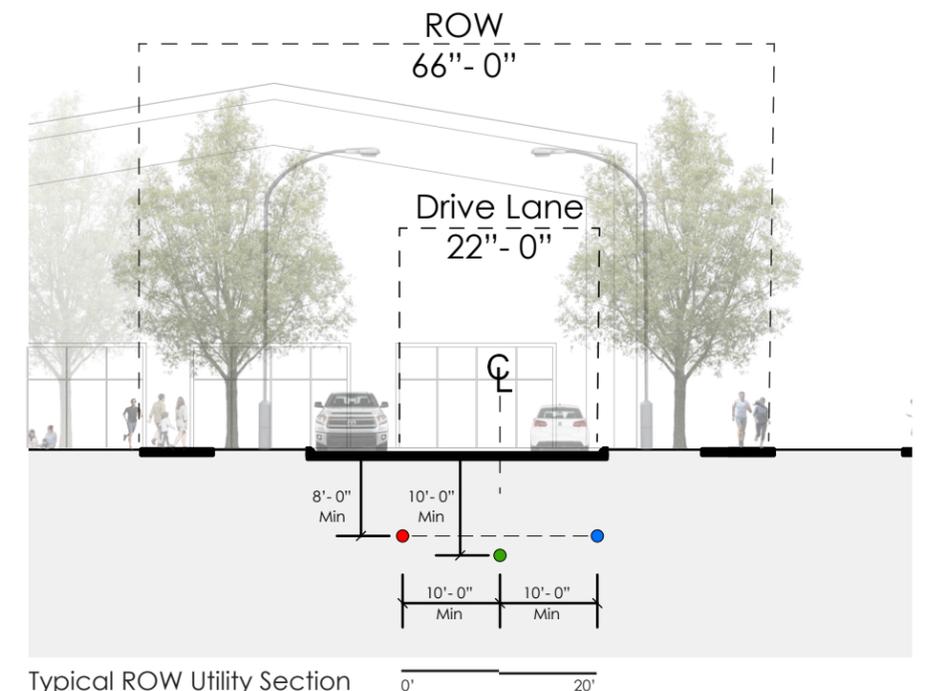
02 Conceptual Masterplan | Concept Utility Plan



Utilities

The proposed developments will be connected via Grand Avenue and Hardman Avenue through a planned right-of-way. Service connections can be phased to ensure access to all utility services located to the south and east of the Hardman Triangle site. This approach will facilitate seamless infrastructure integration for the development.

● Water Mains ● Sewer Mains ● Stormwater Mains



02 Conceptual Masterplan | Stormwater



1	1.376 acres 0.234 acres Pervious 1.143 acres Impervious
2	1.633 acres 0.289 acres Pervious 1.412 acres Impervious
3	2.256 acres 0.275 acres Pervious 1.814 acres Impervious
4	1.841 acres 0.500 acres Pervious 1.341 acres Impervious
5	3.374 acres 2.374 acres Pervious 1.061 acres Impervious
6	2.389 acres 0.383 acres Pervious 1.903 acres Impervious
7	3.052 acres 0.849 acres Pervious 2.071 acres Impervious
8	3.063 acres 0.882 acres Pervious 2.124 acres Impervious

- Stormwater Main
- Phase 1
- Phase 2
- Phase 3

City Park / Stormwater Plan

1" = 200'

City Park / Stormwater Management

Given the subsurface groundwater elevations and the relatively level grades at the Hardman Triangle site, it is recommended to implement above-ground best management practices (BMPs) to effectively control stormwater across the entire park parcel

Phased BMP treatment of the entire Hardman Triangle site can be accomplished with phasing of the site stormwater as new developments come online.



Underground Storage & Treatment



Surface Filtration

02 Conceptual Masterplan | Proposed Site Massing



Render: View of NW portion of District Stormwater/ Public Park



Render: Aerial View of District Stormwater/ Public Park

Hardman Triangle Masterplan

Section 03 | Conceptual Stormwater



03 Conceptual Stormwater | Types of BMPs

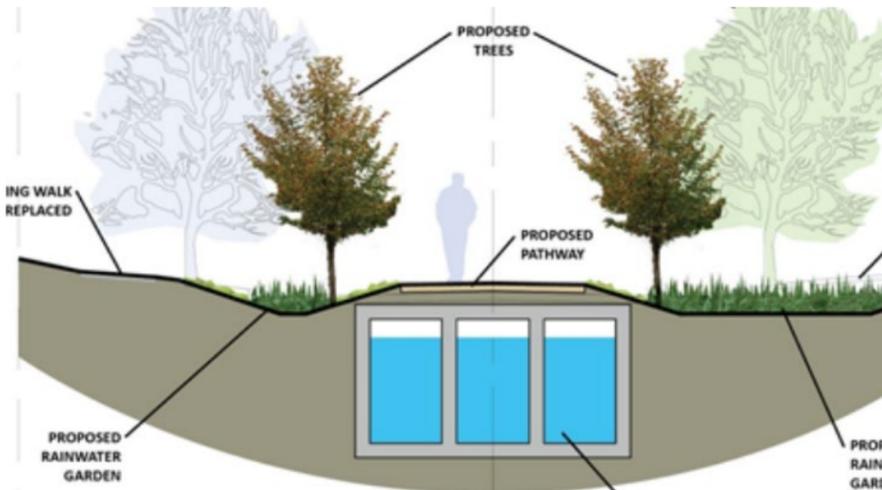
Underground Storage and Treatment:

Stormwater is collected in an underground chamber and routed through filters.

Underground Storage and Treatment Examples



37th Ave. - Minneapolis



Surface Filtration:

Basin carved into surface landscape collects water that is filtered through media and routed downstream.

Surface Filtration Examples



Lynmar Basin, Edina MN



Hassenbank Stormwater Park – Woodbury, MN

Enhanced Filtration:

Enhanced filter media is needed to achieve >50% total phosphorus reduction.

Media physically traps particulate phosphorus bound to sediment.

Media chemically reacts to bind dissolved phosphorus in stormwater (e.g., iron, calcium carbonate).

Enhanced Filtration Examples



Seasons Park CC-17 Filter – Woodbury, MN



03 Conceptual Stormwater | Education, Habitat & Connection



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02



03

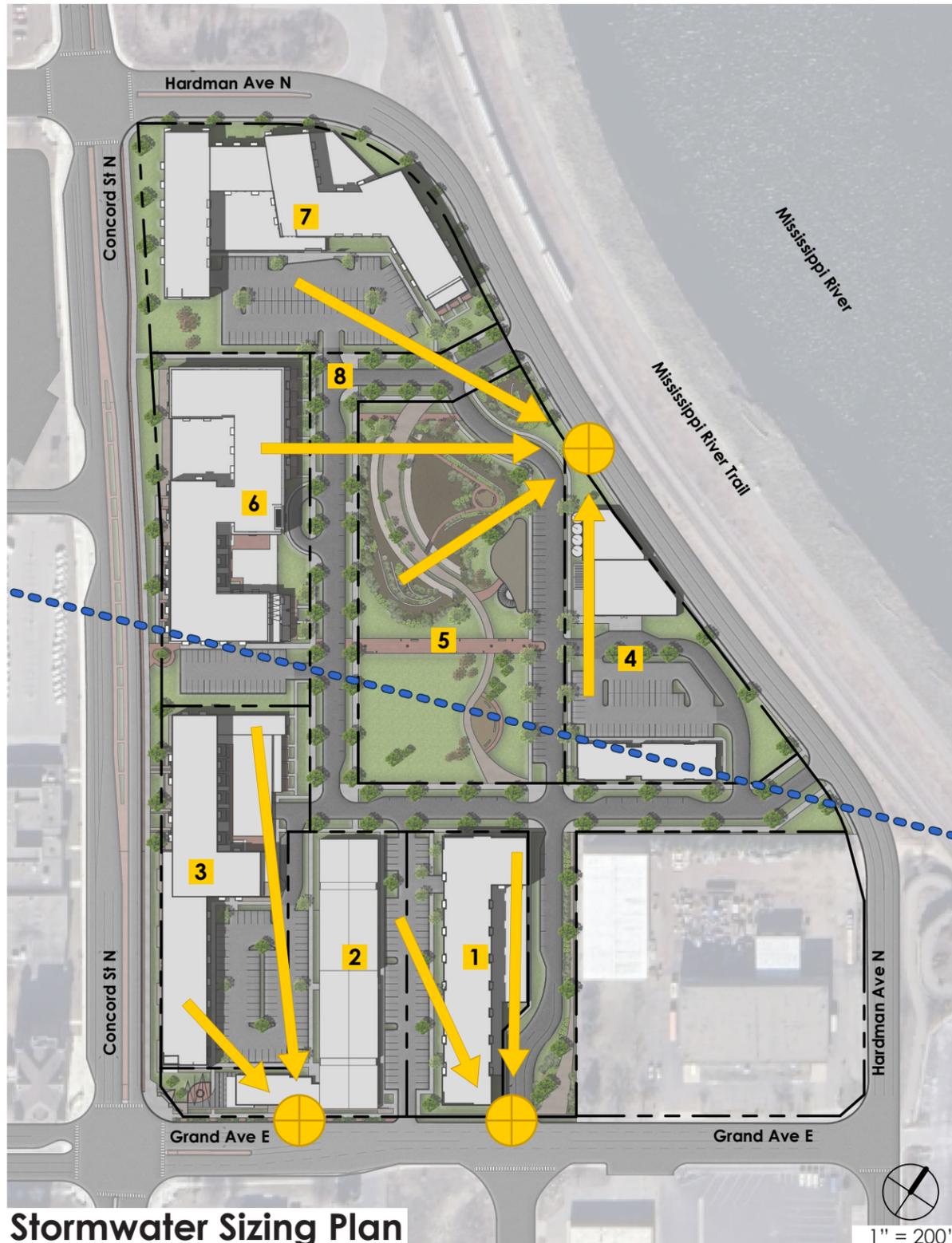
Multi-Benefit Opportunities

Visible and safely accessible stormwater management features provide opportunities for public engagement. Educational signage, trails, and seating areas provide passive recreation. Vegetative BMPs also provide biodiversity, pollinator habitat, and other ecological benefits.

Stormwater features provide an opportunity for social spaces, education, and vegetative habitat while providing treatment.

- 01 Towerside, Minneapolis
- 02 Seminary Pond Iron Enhanced Sand Filter
- 03 SEA School & Wildwood Park, Golden Valley

03 Conceptual Stormwater | Rate Control Considerations



Stormwater Sizing Plan

- - - Watershed Divide
- ⊕ Existing Discharge
- ← Flow Direction

Existing Stormwater Conditions

The existing conditions of the site drain similar watersheds to storm sewer along Hardman Ave and Grand Ave. Existing storm sewer outlets are undersized relative to new Atlas 14 precipitation amounts and intensities. Existing pipes restrict flow, requiring storage on-site to meet rate control requirements.

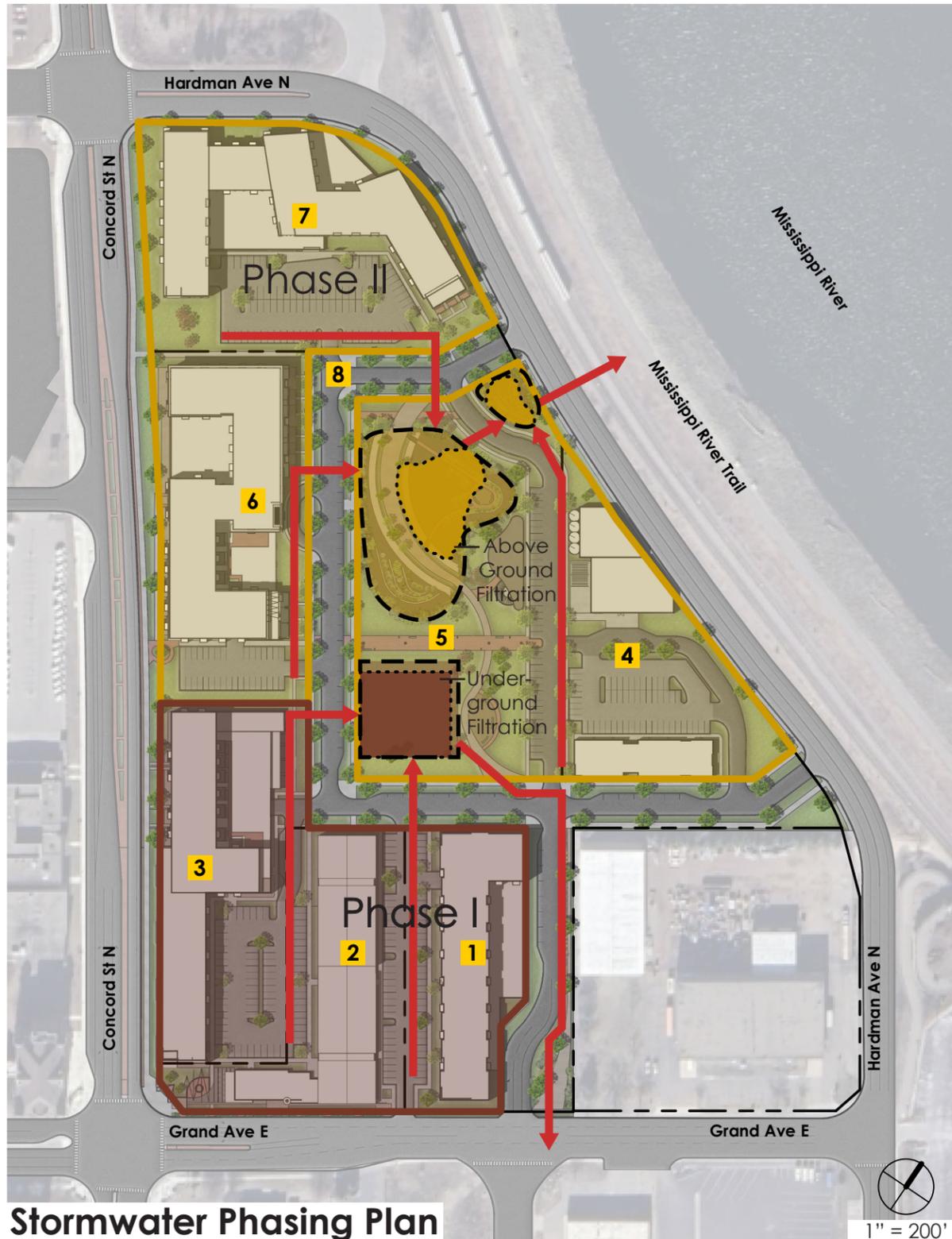
Stormwater needs of the site are based on the land use characteristics of each parcel (e.g., percent impervious of each parcel) and stormwater performance requirements of the City of South St. Paul, Lower Mississippi River Watershed Management Organization (LMRWMO), and MPCA's Construction Stormwater General Permit (CSW). Design Standards for rate control require approximately equal distribution of runoff to be directed to Hardman Ave and Grand Ave.

Barr used models to evaluate the proposed site design and identify and size best management practices (BMPs) to achieve the required volume control, water quality and rate control performance. Barr used HydroCAD and PCSWMM to estimate hydrology and hydraulics for the existing and proposed conditions. Barr used P8 to model the pollutant reduction of phosphorus and sediment for the proposed BMPs.

Stormwater Standards

	City of South St. Paul	LMRWMO	MPCA CSW
Volume Control	Capture and retain on-site 1.1 inches of runoff from the impervious surfaces in post construction conditions.	Reduce volume equal to 1 inch of runoff from impervious surfaces (if volume reduction is feasible).	Not applicable due to the next increase of impervious area <1 acre.
Water Quality	Meet via volume control; or treat to 60% total phosphorus removal if infiltration is not feasible.	Meet via volume control; or treat to 50% total phosphorus removal if infiltration is not feasible.	Not applicable due to the next increase of impervious area <1 acre.
Rate Control	No increase in peak flow from the site during the 2-year, 10-year, and 100-year, 24-hour storm events as compared to pre-redevelopment conditions.	No increase in peak flow from the site during the 2-year, 10-year, and 100-year, 24-hour storm events using Atlas 14 precipitation values as compared to redevelopment conditions.	None.

03 Conceptual Stormwater | Layout & Phasing



Proposed Above Ground Filtration at North

Treating parcels 4, 5, 6, 7 and north half of ROW
 Treatment Volume = 0.57 acre-feet
 Storage Volume = ~3 acre-feet + freeboard
 BMP footprint = 0.4 - 1.3 acres



Proposed Underground Filtration at South

Treating Parcels 1, 2, 3 and south half of ROW
 Treatment Volume = 0.43 acre-feet
 Storage Volume = ~0.8 acre-feet
 BMP footprint = 0.35 - 0.4 acres



03 Conceptual Stormwater | BMP Design & Sizing Constraints



01



02



03

- 01 Surface Filtration
- 02 Surface Filtration
- 03 Underground Storage & Treatment

Existing Site Conditions

Infiltration at the site is not feasible due to high groundwater levels and the potential for soil contamination, which prevents on-site volume control. As an alternative, the City allows water quality treatment using filtration practices sized for a volume equivalent to the volume control requirement.

Limited vertical drop between the existing ground surface and downstream storm sewer networks also impacts the design of feasible best management practices and requires larger footprints to store and treat stormwater runoff than would otherwise be needed.

Proposed BMPs

The design, layout, and size of each proposed BMP reflects the need to meet volume control, water quality, and rate control requirements. The existing storm sewer discharging towards Hardman Avenue and Grand Avenue restrict flow under current conditions, resulting in stringent rate control requirements. To achieve future peak flows at or less than current conditions (and thus meet rate control requirements), significant on-site storage is needed, particularly in the proposed surface filtration system discharging towards Hardman Avenue. Essentially, under current conditions and in large storm events, there is significant unintentional on site flood storage which would need to be accommodated in a proposed redevelopment.

The footprint of the surface filtration system in the north end of the site could be significantly reduced (approximately 0.4-acre footprint) if the system were designed only for water quality considerations without rate control considerations. Further study of the regional storm sewer system downstream of the site is needed to determine if there is capacity in the system to allow greater discharge rates from the site. Alternatively, other methods of rate control could be employed on site, such as the use of restricted outlets on building rooftops to store and slowly release runoff from large rain events.

03 Conceptual Stormwater | Hydrologic and Hydraulic Analysis

Storm Sewer System	Required Treatment Volume (ac-ft)	Planned Treatment Volume (ac-ft)	P8 Modeled Average TSS Reduction (%)	P8 Modeled Average TP Reduction (%)
Hardman Avenue Discharge	0.57	0.8	89%	74%
Grand Avenue Discharge	0.43	0.8	88%	73%

Treatment volume exceeds requirements due to need for additional storage. Volume for north surface filtration assumes 1 foot of storage over basin bottom footprint. Preferred design may use only smaller portion of the basin for treatment.

Storm Sewer System	Existing 2-yr, 24-hr Peak Flow (cfs)	Future 2-yr, 24-hr Peak Flow (cfs)	Existing 10-yr, 24-hr Peak Flow (cfs)	Future 10-yr, 24-hr Peak Flow (cfs)	Existing 100-yr, 24-hr Peak Flow (cfs)	Future 100-yr, 24-hr Peak Flow (cfs)
Hardman Avenue Discharge	18.9	3.8	18.9	9.1	18.9	16.3
Grand Avenue Discharge	20.9	13.1	31.5	17.4	32.1	32.2

Note: Under existing conditions, discharge to Hardman Ave via 24" pipe exceeds capacity for 2-year, 24-year event and greater

Technical Results

Barr used the hydrologic, hydraulic and water quality models (HydroCAD, PCSWMM, and P8) to assist in the conceptual design of the proposed stormwater practices to meet the City's and LMRWMO's stormwater requirements. See Appendix A.

Preliminary concept-level analysis demonstrates that the proposed BMPs meet all requirements and:

- Treat a volume in excess of 1.1" of runoff from the impervious surfaces
- Achieve peak flow rates equal to or less than existing conditions for the 2-year, 10-year, and 100-year 24-hour storm events
- Achieve total phosphorus reduction >60%

03 Conceptual Stormwater | Next Steps & Future Considerations



Conceptual Masterplan

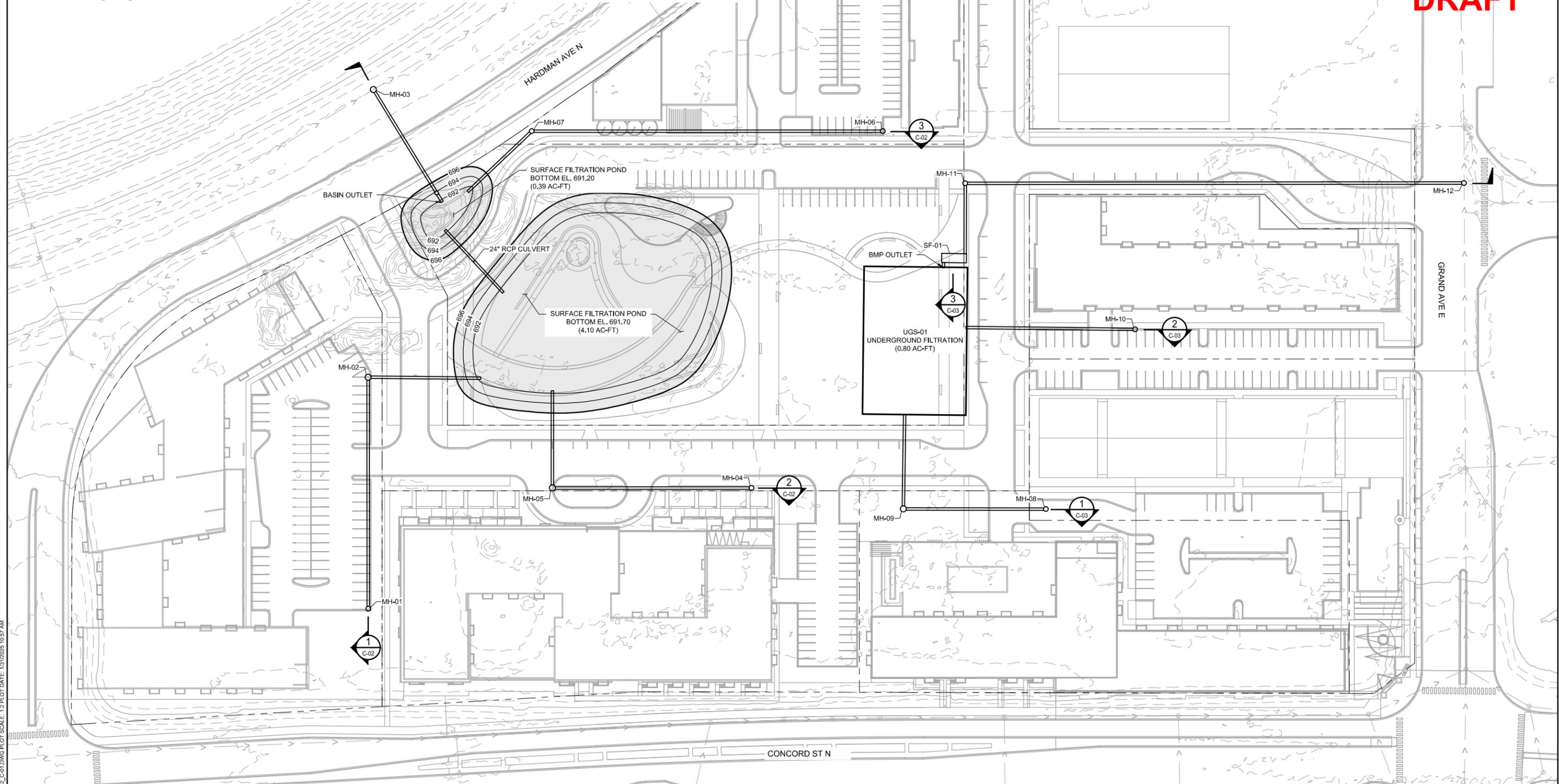
Hardman Triangle Stormwater

The Hardman Triangle district-scale stormwater analysis demonstrates that developing district-scale (regional) stormwater systems can effectively and efficiently manage stormwater across multiple parcels and the proposed City right-of-way to meet the City's and LMRWMO's requirements, in a manner that can be stacked with public space needs. An observation is that rate control considerations drive the storage volumes necessary in the proposed BMP design. This is particularly true for the proposed surface filtration system at the north end of the site. Barr Engineering recommends the following for future study and considerations:

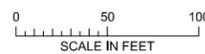
1. Perform additional analysis of the regional stormwater system may determine that increased peak flow rates relative to current conditions may be permissible without adverse upstream or downstream impacts. On-site rate control features (e.g., roof top storage) may also provide storage upstream of proposed BMPs.
2. Work with potential developers, relevant City departments, and LMRWMO to strategize about critical considerations in developing a successful district-scale stormwater management plan. Key questions to discuss and develop strategies include determining which entity will lead, and which entities need to be involved in each of these critical steps:
 - a. Planning
 - b. Development of a legal framework
 - c. Design and construction. Depending on phasing, there may be multiple leads.
 - d. Ownership
 - e. Operations and maintenance

04 Appendix A | Draft Storm Sewer Plan

DRAFT



1 PLAN: STORM SEWER PLAN



PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

CLIENT	PERMIT	BID	CONSTRUCTION	RECORD

BARR Engineering Co.
 Project Office:
 BARR ENGINEERING CO.
 4300 MARKETPOINTE DRIVE
 SUITE 200
 MINNEAPOLIS, MN 55435
 Corporate Headquarters:
 Minneapolis, Minnesota
 Ph: 1-800-632-2277
 Ph: 1-800-632-2277

Scale	AS SHOWN
Date	01/17/2025
Drawn	EPF
Checked	SGW
Designed	BARR
Approved	NDC

CITY OF SOUTH ST PAUL
SOUTH ST PAUL, MINNESOTA

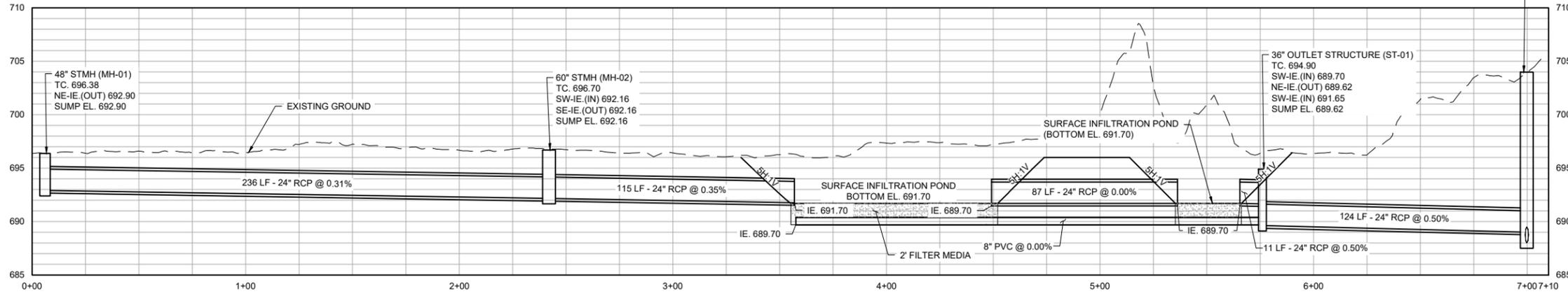
HARDMAN TRIANGE STORMWATER ANALYSIS	
SOUTH ST PAUL, MN.	
STORM SEWER PLAN	

BARR PROJECT No. 23/19-1552.00	
CLIENT PROJECT No.	
DWG. No. C-01	REV. No. A

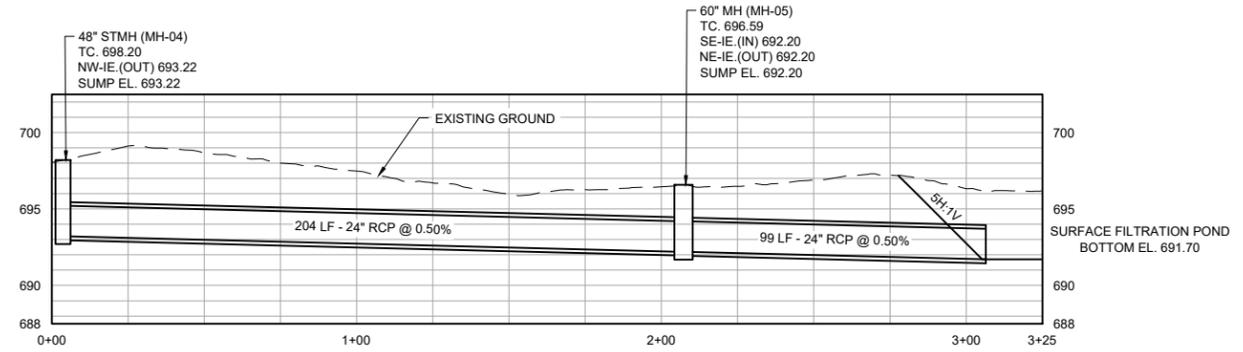
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04 Appendix A | Draft Storm Sewer Plan

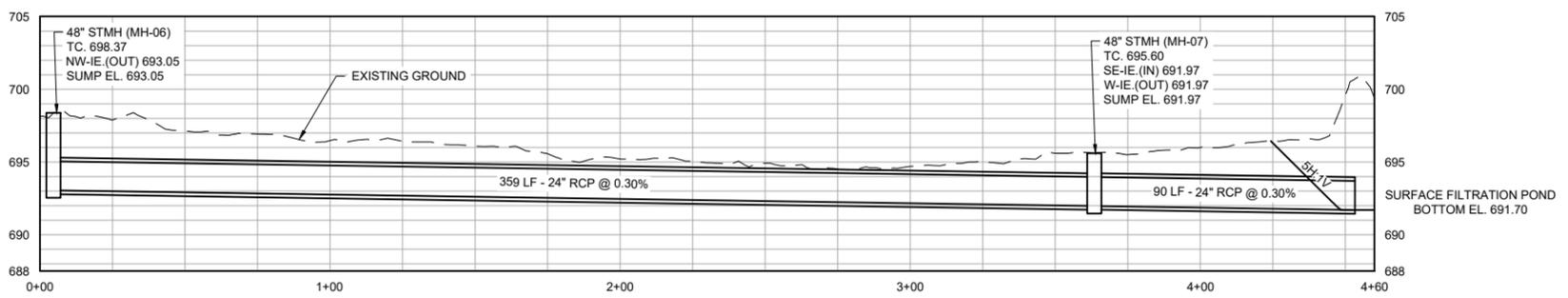
60" STMH (MH-03)
 TC. 703.97
 SW-IE.(IN) 689.00
 NW-IE.(OUT) 688.00
 SE-IE.(IN) 688.00
 SUMP EL. 688.00



1 PROFILE: STORM SEWER
 0 30 60
 HORIZONTAL SCALE IN FEET
 0 6 12
 VERTICAL SCALE IN FEET



2 PROFILE: STORM SEWER
 0 30 60
 HORIZONTAL SCALE IN FEET
 0 6 12
 VERTICAL SCALE IN FEET



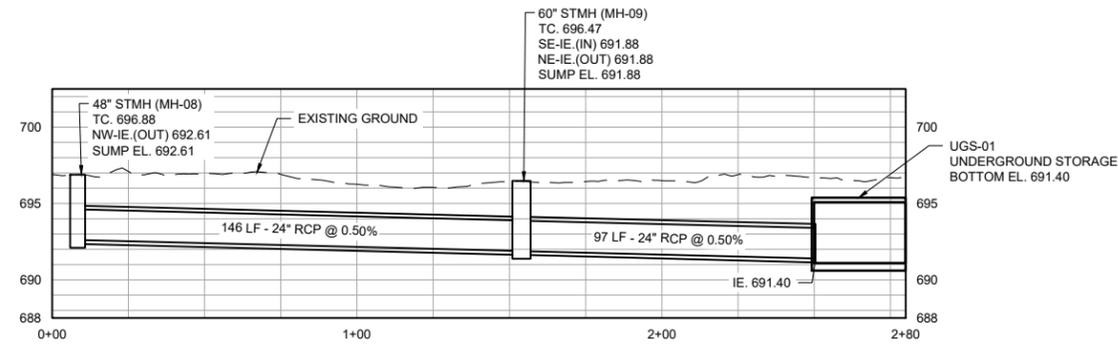
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 0 30 60
 HORIZONTAL SCALE IN FEET
 0 6 12
 VERTICAL SCALE IN FEET

PRELIMINARY DRAFT
 NOT FOR CONSTRUCTION

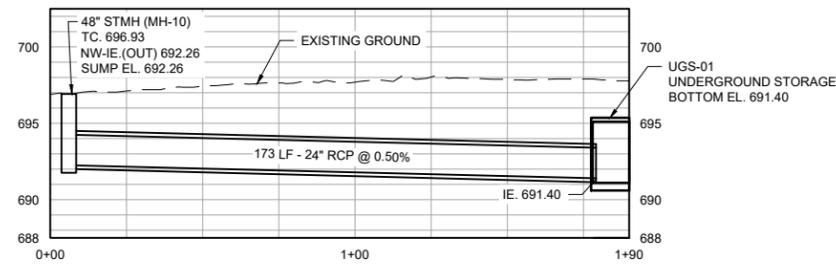
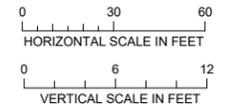
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				PERMIT								BARR ENGINEERING CO.	Date	01/17/2025		SOUTH ST PAUL, MN.		23/19-1552.00	
				BID								4300 MARKETPOINTE DRIVE	Drawn	EPF		STORM SEWER PROFILES		CLIENT PROJECT No.	
				CONSTRUCTION								SUITE 200	Checked	SGW					
				RECORD								MINNEAPOLIS, MN 55435	Designed	BARR					
				RELEASED TO/FOR	A	B	C	0	1	2	3	Corporate Headquarters:	Approved	NDC				DWG. No.	
				DATE RELEASED								Minneapolis, Minnesota					C-02		
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION							Ph: 1-800-632-2277					REV. No.		
											Fax: (952) 832-2601					A			
											www.barr.com								

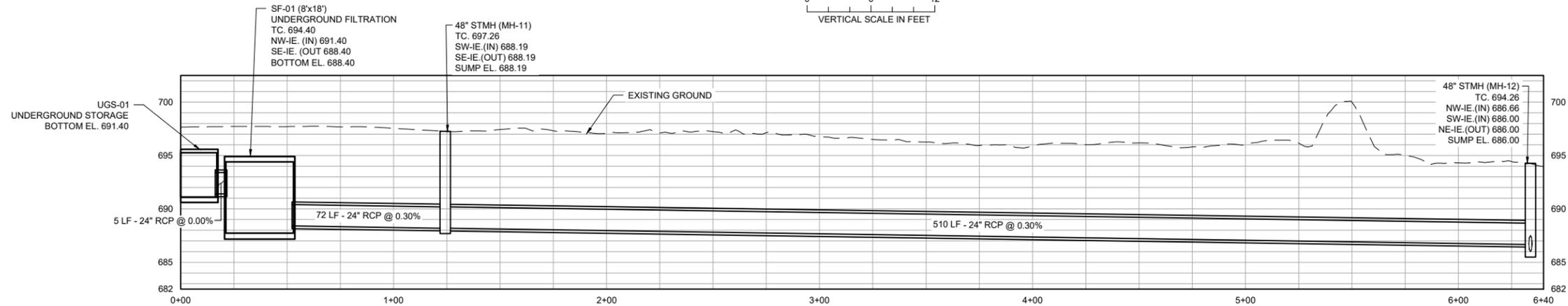
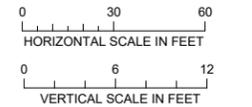
04 Appendix A | Draft Storm Sewer Plan



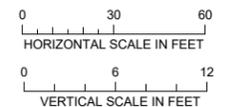
1 PROFILE: STORM SEWER



2 PROFILE: STORM SEWER



3 PROFILE: STORM SEWER



PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

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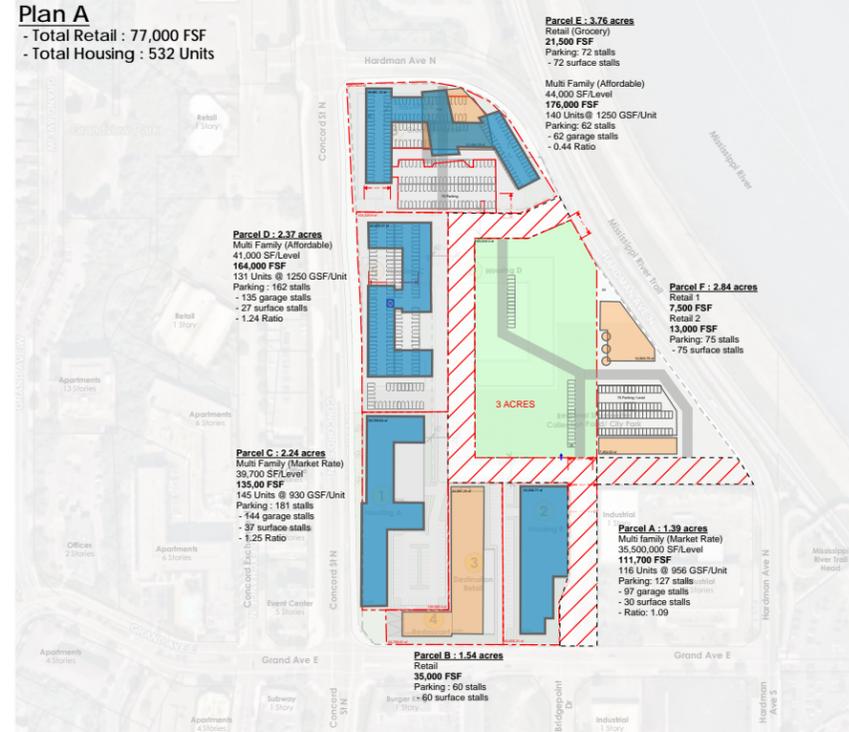
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				PERMIT								Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 www.barr.com		Date	01/17/2025	CLIENT PROJECT No.	
				BID								Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Drawn	EPF	DWG. No. C-03	
				CONSTRUCTION								Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Checked	SGW	REV. No. A	
				RECORD								Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Designed	BARR		
				RELEASED TO/FOR	A	B	C	0	1	2	3	Approved		NDC			
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION							CITY OF SOUTH ST PAUL SOUTH ST PAUL, MINNESOTA		HARDMAN TRIANGE STORMWATER ANALYSIS SOUTH ST PAUL, MN. STORM SEWER PROFILES			

04 Appendix B | Masterplan Study

CENTRAL PARK - Option #1

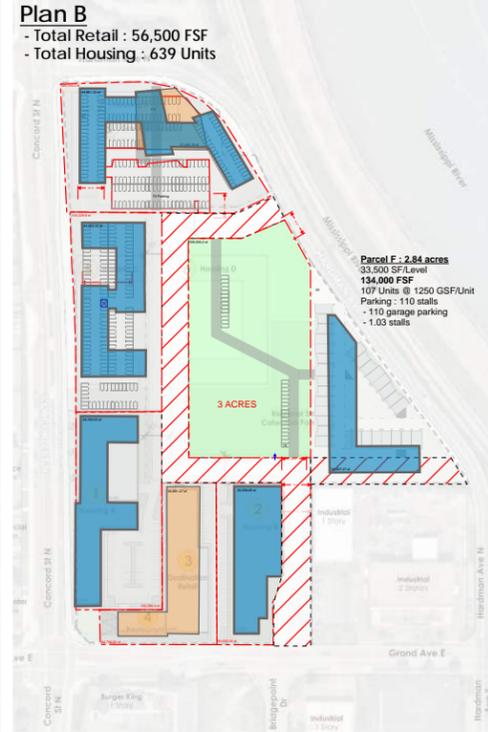
Plan A

- Total Retail : 77,000 FSF
- Total Housing : 532 Units



Plan B

- Total Retail : 56,500 FSF
- Total Housing : 639 Units



1 | Schematic Masterplan
SCALE: 1" = 200'-0"

Schematic Redevelopment | 11/4/2024
Hardman Triangle - South St Paul | 224214A

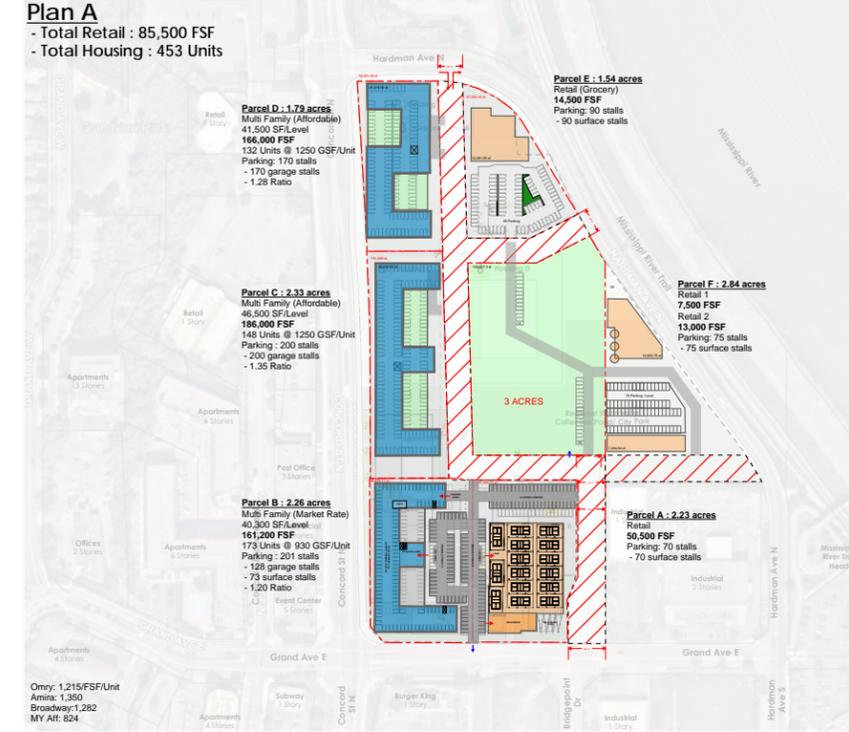
Schematic Masterplan | P1.4



CENTRAL PARK - Option #2

Plan A

- Total Retail : 85,500 FSF
- Total Housing : 453 Units



1 | Schematic Masterplan
SCALE: 1" = 200'-0"

Schematic Redevelopment | 11/4/2024
Hardman Triangle - South St Paul | 224214A

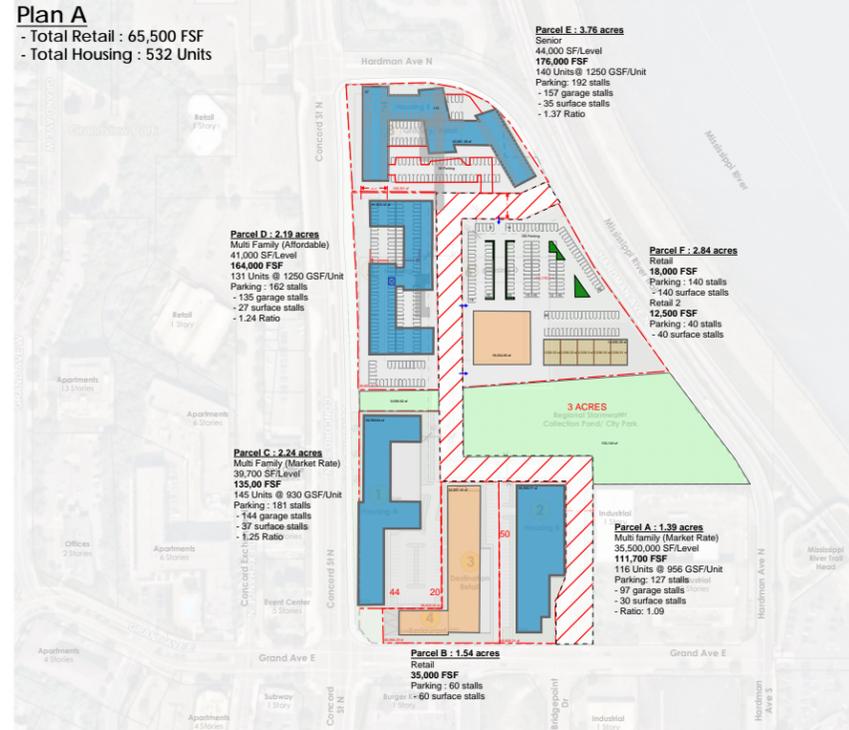
Schematic Masterplan | P1.5



E/W PARK - Option #1

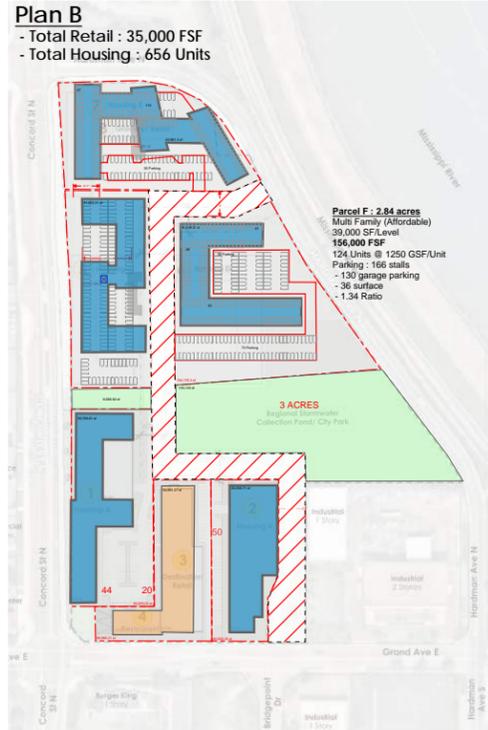
Plan A

- Total Retail : 65,500 FSF
- Total Housing : 532 Units



Plan B

- Total Retail : 35,000 FSF
- Total Housing : 656 Units



1 | Schematic Masterplan
SCALE: 1" = 200'-0"

Schematic Redevelopment | 11/4/2024
Hardman Triangle - South St Paul | 224214A

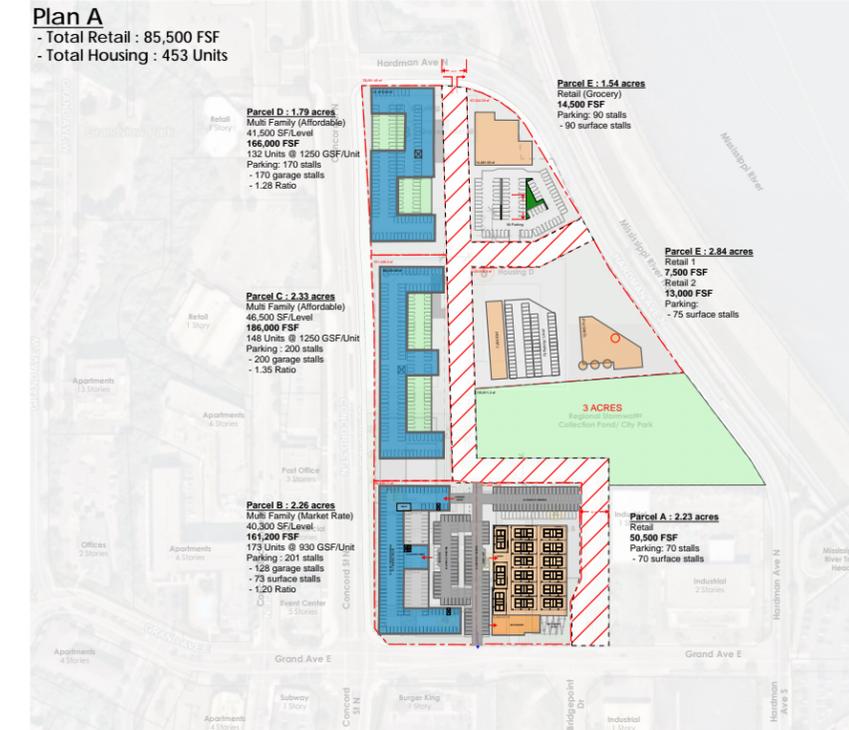
Schematic Masterplan | P1.2



E/W PARK - Option #2

Plan A

- Total Retail : 85,500 FSF
- Total Housing : 453 Units



1 | Schematic Masterplan
SCALE: 1" = 200'-0"

Schematic Redevelopment | 11/4/2024
Hardman Triangle - South St Paul | 224214A

Schematic Masterplan | P1.3

