SITE PLAN AND TRAFFIC ADVISORY REVIEW COMMITTEE
Internal Staff Meeting
Minnesota Valley Room, First Floor, Intergovernmental Center
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1. **SITE PLAN ITEMS**

1. CY10-26

Request of ISG, on behalf of the owner, Front Street Plaza, LLC, for a conditional use permit to allow for the redevelopment of the subject properties to include retail, office, residential and shared parking spaces and contain apartments on floors 2-6 of the proposed new building and restaurant spaces; for a certificate of design compliance to allow a new structure and redevelopment in the Downtown Gateway Overlay District; and for a variance to increase the allowable lot coverage in the Central Business District Fringe, CBD-F, zoning district from 75% to 77%. The subject properties are described as, Parcel 1: Lots 1, 2, 3, 13, 14 and 15 of Auditor's Plat No. 5 Mankato with exceptions; AND, Parcel 2: Easterly 157 feet of the northerly 22 feet of Lot 4 and also the easterly 143 feet of the middle 22 feet of said Lot 4 in Block 1, Warren's Addition to Mankato; otherwise also described as Lot 4 of Auditor's Plat No. 17 and light well on Lot 5 of said Auditor's Plat No. 17; AND, Parcel 3: Outlot B, Pike Street Subdivision No. 3, City of Mankato, Blue Earth County, Minnesota; AND, Parcel 4: Lots 5 and 6, and the vacated alley adjacent thereto, of Auditor's Plat No. 17, Rearrangement of part of Auditor's Plat No. 5, City of Mankato; AND, Parcel 5: Lot Twelve (12), Auditor's Plat #17, Re-Arrangement of part of Auditor's Plat #5, except: All that part of Lot No. 12 lying East of Southerly extension of Westerly line of Lot No. 8, both of said lots being in the City of Mankato and according to Auditor's Plat #17; AND, Parcel 6: That part of Lot Sixteen (16), Auditor's Plat #17, Rearrangement of Auditor's Plat #5, and Lot Twenty-one (21), Auditor's Plat #17, Re-Arrangement of Part of Auditor's Plat #5, according to the Plat thereof; AND, Parcel 7: the Westerly 48 feet of the following described parcel: The Easterly 140 feet of Lots 9 and 10 of Auditor's Plat No. 5, Mankato, of Block 84, Bruner's Plat of Mankato, Lot 1 and part of Lot 2 of Van Brunt's North Row, Block 2 of Oakwood Addition to Mankato, and Block 1 Warrens Addition to Mankato, said tract of land fronting on Front Street in said City 38 feet and extending along Liberty Street a distance of 140 feet and being rectangular in form; AND, Parcel 8: Lot 7, Auditor's Plat No.17, Rearrangement of Part of Auditor's Plat No. 5; AND, Parcel 9: Lot Eight (8), Auditor's Plat No.17, Rearrangement of Part of Auditor's Plat No. 5 and Part of Lots Nine (9) and Ten (10) Auditor's Plat No. 5 and a part of Lot Twelve (12) Auditor's Plat No.17 and All that part of Lot 9 according to Auditor's Plat No. 5 lying West of the southerly extension of the westerly line of Lot No. 8, according to Auditor's Plat No. 17; AND, Parcel 10: The Easterly 92 feet of the following described parcel: The Easterly 140 feet of Lots 9 and 10 of Auditor's Plat No. 5, Mankato, of Block 84, Bruner's Plat of Mankato, Lot 1 and part of Lot 2 of Van Brunt's North Row, Block 2 of Oakwood Addition to Mankato, and Block 1 Warrens Addition to Mankato, said tract of land fronting on Front Street in said City 38 feet and extending along Liberty Street a distance of 140 feet and being rectangular in form; AND, Parcel 11: Outlot A, Warren Street Subdivision; AND, Parcel

12: Outlot A, Pike Street Subdivision No. 3, City of Mankato; AND, Parcel 13: part of Lot 14, Auditor's Plat No. 5, on file and of record with the Blue Earth County Recorder, described as: Commencing at the southeasterly corner of Lot 5, Block 9, City of Mankato by E.D. Bruner, according to the plat thereof on file and of record with the Blue Earth County Recorder, all being in City of Mankato, Blue Earth County, Minnesota (All those lands lying between Warren Street, South Front Street, Liberty Street and Riverfront Drive.

2. CY11-26

Request of ISG, on behalf of the owner, Snell Real Estate, LLC, for a preliminary plat review of Snell Addition. The subject properties are described as Lots 3, 4, and 5, Block 1, Menard Addition; except a portion of Lot 5, Block (1900 and 1990 Madison Avenue).

3. CY12-26

Request of Brett Skilbred for a preliminary plat review of Quarry View Addition. The subject properties are described as Lots 1-6, Block 24, Germania Park Addition; Lots 1-8, Block 8 & Lots 1-2, Block 9, Columbia Park Addition.

4. *****SITE PLAN AND TRAFFIC ADVISORY COMMITTEE REVIEW ONLY. Request of Met-Con Construction for a Site Plan and Traffic Advisory Committee review for the re-shaping of the current parking lot, and adding a sanitary sewer line at the property located at 2415 3rd Avenue (Blue Earth County PID R010906226002).**

5. *****SITE PLAN AND TRAFFIC ADVISORY COMMITTEE REVIEW ONLY. Request of R Henry Construction on behalf of the owner, Door Engineering, Inc., for a Site Plan and Traffic Advisory Committee review for the construction of a new 30' X 70' pole building at 101 Power Drive.**

2. **TRAFFIC ITEMS**

Site Plan and Traffic Advisory Review Committee **1. 1.**

Meeting Date: 03/10/2026

Title

CY10-26

Request of ISG, on behalf of the owner, Front Street Plaza, LLC, for a conditional use permit to allow for the redevelopment of the subject properties to include retail, office, residential and shared parking spaces and contain apartments on floors 2-6 of the proposed new building and restaurant spaces; for a certificate of design compliance to allow a new structure and redevelopment in the Downtown Gateway Overlay District; and for a variance to increase the allowable lot coverage in the Central Business District Fringe, CBD-F, zoning district from 75% to 77%. The subject properties are described as, Parcel 1: Lots 1, 2, 3, 13, 14 and 15 of Auditor's Plat No. 5 Mankato with exceptions; AND, Parcel 2: Easterly 157 feet of the northerly 22 feet of Lot 4 and also the easterly 143 feet of the middle 22 feet of said Lot 4 in Block 1, Warren's Addition to Mankato; otherwise also described as Lot 4 of Auditor's Plat No. 17 and light well on Lot 5 of said Auditor's Plat No. 17; AND, Parcel 3: Outlot B, Pike Street Subdivision No. 3, City of Mankato, Blue Earth County, Minnesota; AND, Parcel 4: Lots 5 and 6, and the vacated alley adjacent thereto, of Auditor's Plat No. 17, Rearrangement of part of Auditor's Plat No. 5, City of Mankato; AND, Parcel 5: Lot Twelve (12), Auditor's Plat #17, Re-Arrangement of part of Auditor's Plat #5, except: All that part of Lot No. 12 lying East of Southerly extension of Westerly line of Lot No. 8, both of said lots being in the City of Mankato and according to Auditor's Plat #17; AND, Parcel 6: That part of Lot Sixteen (16), Auditor's Plat #17, Rearrangement of Auditor's Plat #5, and Lot Twenty-one (21), Auditor's Plat #17, Re-Arrangement of Part of Auditor's Plat #5, according to the Plat thereof; AND, Parcel 7: the Westerly 48 feet of the following described parcel: The Easterly 140 feet of Lots 9 and 10 of Auditor's Plat No. 5, Mankato, of Block 84, Bruner's Plat of Mankato, Lot 1 and part of Lot 2 of Van Brunt's North Row, Block 2 of Oakwood Addition to Mankato, and Block 1 Warrens Addition to Mankato, said tract of land fronting on Front Street in said City 38 feet and extending along Liberty Street a distance of 140 feet and being rectangular in form; AND, Parcel 8: Lot 7, Auditor's Plat No.17, Rearrangement of Part of Auditor's Plat No. 5; AND, Parcel 9: Lot Eight (8), Auditor's Plat No.17, Rearrangement of Part of Auditor's Plat No. 5 and Part of Lots Nine (9) and Ten (10) Auditor's Plat No. 5 and a part of Lot Twelve (12) Auditor's Plat No.17 and All that part of Lot 9 according to Auditor's Plat No. 5 lying West of the southerly extension of the westerly line of Lot No. 8, according to Auditor's Plat No. 17; AND, Parcel 10: The Easterly 92 feet of the following described parcel: The Easterly 140 feet of Lots 9 and 10 of Auditor's Plat No. 5, Mankato, of Block 84, Bruner's Plat of Mankato, Lot 1 and part of Lot 2 of Van Brunt's North Row, Block 2 of Oakwood Addition to Mankato, and Block 1 Warrens Addition to Mankato, said tract of land fronting on Front Street in said City 38 feet and extending along Liberty Street a distance of 140 feet and being rectangular in form; AND, Parcel 11: Outlot A, Warren Street Subdivision; AND, Parcel 12: Outlot A, Pike Street Subdivision No. 3, City of Mankato; AND, Parcel 13: part of Lot 14, Auditor's Plat No. 5, on file and of record with the Blue Earth County Recorder, described as: Commencing at the southeasterly corner of Lot 5, Block 9, City of Mankato by E.D. Bruner, according to the plat thereof on file and of record with the Blue Earth County Recorder, all being in City of Mankato, Blue Earth County, Minnesota (All those lands lying between Warren Street, South Front Street, Liberty Street and Riverfront Drive.

Applicant

The applicant is ISG, on behalf of the owner, Front Street Plaza, LLC.

Request

The applicant is seeking a conditional use permit to allow for the redevelopment of the subject properties to include retail, office, residential and shared parking spaces and contain apartments on floors 2–6 of the proposed new building and restaurant spaces; for a certificate of design compliance to allow a new structure and redevelopment in the Downtown Gateway Overlay District; and for a variance to increase the allowable lot coverage in the Central Business District Fringe, CBD-F, zoning district from 75% to 77%.

Location

The development is proposed to occur on the city block between Riverfront Dr. and Front St. and Warrent St. and Liberty St.

The subject properties are described as, Parcel 1: Lots 1, 2, 3, 13, 14 and 15 of Auditor's Plat No. 5 Mankato with exceptions; AND, Parcel 2: Easterly 157 feet of the northerly 22 feet of Lot 4 and also the easterly 143 feet of the middle 22 feet of said Lot 4 in Block 1, Warren's Addition to Mankato; otherwise also described as Lot 4 of Auditor's Plat No. 17 and light well on Lot 5 of said Auditor's Plat No. 17; AND, Parcel 3: Outlot B, Pike Street Subdivision No. 3, City of Mankato, Blue Earth County, Minnesota; AND, Parcel 4: Lots 5 and 6, and the vacated alley adjacent thereto, of Auditor's Plat No. 17, Rearrangement of part of Auditor's Plat No. 5, City of Mankato; AND, Parcel 5: Lot Twelve (12), Auditor's Plat #17, Re-Arrangement of part of Auditor's Plat #5, except: All that part of Lot No. 12 lying East of Southerly extension of Westerly line of Lot No. 8, both of said lots being in the City of Mankato and according to Auditor's Plat #17; AND, Parcel 6: That part of Lot Sixteen (16), Auditor's Plat #17, Rearrangement of Auditor's Plat #5, and Lot Twenty-one (21), Auditor's Plat #17, Re-Arrangement of Part of Auditor's Plat #5, according to the Plat thereof; AND, Parcel 7: the Westerly 48 feet of the following described parcel: The Easterly 140 feet of Lots 9 and 10 of Auditor’s Plat No. 5, Mankato, of Block 84, Bruner’s Plat of Mankato, Lot 1 and part of Lot 2 of Van Brunt's North Row, Block 2 of Oakwood Addition to Mankato, and Block 1 Warrens Addition to Mankato, said tract of land fronting on Front Street in said City 38 feet and extending along Liberty Street a distance of 140 feet and being rectangular in form; AND, Parcel 8: Lot 7, Auditor's Plat No.17, Rearrangement of Part of Auditor's Plat No. 5; AND, Parcel 9: Lot Eight (8), Auditor's Plat No.17, Rearrangement of Part of Auditor's Plat No. 5 and Part of Lots Nine (9) and Ten (10) Auditor's Plat No. 5 and a part of Lot Twelve (12) Auditor's Plat No.17 and All that part of Lot 9 according to Auditor's Plat No. 5 lying West of the southerly extension of the westerly line of Lot No. 8, according to Auditor's Plat No. 17; AND, Parcel 10: The Easterly 92 feet of the following described parcel: The Easterly 140 feet of Lots 9 and 10 of Auditor’s Plat No. 5, Mankato, of Block 84, Bruner’s Plat of Mankato, Lot 1 and part of Lot 2 of Van Brunt's North Row, Block 2 of Oakwood Addition to Mankato, and Block 1 Warrens Addition to Mankato, said tract of land fronting on Front Street in said City 38 feet and extending along Liberty Street a distance of 140 feet and being rectangular in form; AND, Parcel 11: Outlot A, Warren Street Subdivision; AND, Parcel 12: Outlot A, Pike Street Subdivision No. 3, City of Mankato; AND, Parcel 13: part of Lot 14, Auditor's Plat No. 5, on file and of record with the Blue Earth County Recorder, described as: Commencing at the southeasterly corner of Lot 5, Block 9, City of Mankato by E.D. Bruner, according to the plat thereof on file and of record with the Blue Earth County Recorder, all being in City of Mankato, Blue Earth County, Minnesota (All those lands lying between Warren Street, South Front Street, Liberty Street and Riverfront Drive).

Existing Land Use

The property currently has a mix of commercial, retail, and residential units with associated parking areas.

Zoning

The property is zoned CBD-F, Central Business District-Fringe.

Other Board or Commission

A Preliminary Plat of the subject property was reviewed and recommenced for approval with conditions by the Planning Commission at their February 25, 2026, meeting.

The City Council is set to review the Preliminary Plat at their March 9, 2026, meeting.

Environmentally Sensitive Areas

The site falls within FEMA's "Catastrophic Levee Failure" ESA Zone. There are no known wetlands within the subject property.

Public Utilities

The property is currently served by public utilities. The applicant proposes to connect to existing utilities within S. Front Street & Warren Street. The applicant will be required to cap/abandon any unused utility services back to the main.
The applicant proposes to construct an underground stormwater treatment basin with associated stormwater services on the western portion of the subject property.

Review

The applicant, ISG, on behalf of the owner, Front Street Properties, LLC, is seeking a conditional use permit to allow for the redevelopment of the subject properties to include retail, office, residential and shared parking spaces and contain apartments on floors 2–6 of the proposed new building and restaurant spaces; for a certificate of design compliance to allow a new structure and redevelopment in the Downtown Gateway Overlay District; and for a variance to increase the allowable lot coverage in the Central Business District Fringe, CBD-F, zoning district from 75% to 77%.

The plans for the redevelopment show the demolition of all present structures within the block bordered by S. Riverfront Dr, Warren Street, S. Front St, & W. Liberty St. In their place, the applicant is proposing to construct a multistory mixed-use development atop of the full extent of the property. The proposed redevelopment will include multiple office spaces, two retail spaces, a restaurant, multi-floor residential, and a shared parking facility. 160 apartments, arranged into 108 one-bedroom units and 52 two+ bedroom units and 250 off-street parking stalls, are proposed with the redevelopment.

The applicant proposes to construct the proposed project in two phases due to the need for on-site laydown space during construction. Phase one will include construction of both the 5-story office building and the 6-story multi-use building. At this time, the space between the buildings will be utilized as construction laydown space. Phase two is proposed to begin once the exterior finishes of both buildings are mostly in place and will include construction of the parking ramp and surface parking lot. As the proposal is to construct the redevelopment in two phases and as Phase I will need the improvements associated with Phase II to operate, occupancy of the development will not be permitted until completion of both Phase I and Phase II.

Conditional Use Permit:

The subject property is located in the CBD-F, Central Business District Fringe, where the Mankato City Code requires conditional use permits for the proposed uses.

Plans submitted for the redevelopment show the demolition of all existing structures and the construction of a 5-story office building situated at the corner of S. Riverfront Drive and Warren Street and a 6-story building along S. Front Street. The 6-story building is segmented into multiple uses. The first floor is arranged into two retail spaces along W. Liberty Street, a café and residential lobby space with storage along Front Street, and a restaurant space at the corner of Warren & S. Front Streets. A covered walkway provides access off S. Front Street to tenant spaces and the parking garage. Floor two, labeled as the "mezzanine floor", is arranged to consist of residential apartment units and their associated common amenity spaces, as well as a mezzanine for the café and lobby spaces. The third level, tabled as "second floor", is designed with residential apartment units and their associated common amenity spaces. These amenity spaces include two terrace spaces, both of which have been designed for use by the development's residents, but do not have specified features. Provided plans state that these spaces "may" be utilized for a dog run and a private deck area with seating and associated open space amenities. The proceeding floors, labeled 3-6, consist strictly of residential apartment units and small residential amenity spaces. A three-story parking ramp and surface parking lot are proposed to be constructed between the buildings. The parking ramp will be arranged in a single-threaded helix design, with three accesses. Parking ramp access will be available off of Warren Street and via the surface parking off of W. Liberty Street. The parking ramp will serve as secondary access for the first three floors of the office and mixed-use buildings, with direct access to the office building,

café mezzanine, residential lobby and amenities spaces, and the covered common walkway. The proposed parking ramp will not provide direct access to the proposed retail, café, or restaurant spaces.

Amenities & Common Spaces:
The redevelopment does not propose any public amenities or common spaces, but the applicant has agreed to continue the landscaping and sidewalk design seen throughout the Front Street corridor for their development.

As referenced above, private residential amenities will include two private terrace spaces with their own amenities, a bike room/locker, pet spaces, lounge spaces, and an interior trash room.

The parking garage, surface lot, and covered walkway shall serve as shared spaces for the residents and tenants of the redevelopment. The applicant has not provided details on the management of these shared spaces nor supplied insight into any potential separation between commercial customer parking and tenant/resident parking.

Additionally, the proposed restaurant space features an exterior private patio space, a portion of which is recessed under the 2nd floor apartment spaces and all of which is covered.

Refuse:
Apartment residents and tenants of retail space #2 will have access to an interior trash room and trash compactor on the west side of the 6-story building.

All other tenants of both buildings shall share an exterior trash enclosure located between the surface parking lot and the 6-story building. Plans have not been provided for the refuse enclosure. As the redevelopment includes a proposed restaurant space, the exterior trash enclosure should include a grease disposal.

Construction & Phasing Details:
The applicant has provided a site logistics, phasing, and construction plan that outlines how the proposed redevelopment will be constructed after demolition of all existing structures and vacation of existing utilities.

As previously discussed above, the proposed project will be constructed in two phases to "minimize disruption to local traffic, pedestrians, and businesses", but will remain unoccupied until full completion of both phases. Both proposed phases are proposed to trigger temporary closure of parking, walking, and driving spaces within the right-of-way.

Phase I of the project will include construction of both the 5-story office building and the 6-story multi-use building, with the parking area being utilized for construction laydown space. Phase I will include temporary lane closures on S. Riverfront Drive, Warren Street, and S. Front Street, and closure of the street parking along S. Front and W. Liberty Streets. In particular, in order to make utility connections, the portion of S. Front Street adjacent to the development will need to be fully closed for approximately 4 weeks.

Phase II of the project will begin once the exterior finishes of both buildings are mostly in place and will include construction of the parking ramp and surface parking lot. The applicant stated that they do not anticipate the need for long-duration lane closures during phase II of the project, but that closure of the parking areas along S. Front Street & W. Liberty Street is still needed.

Parking:
The applicant states that the proposed redevelopment will operate using a shared parking model and that, using this model, the development provides more than the required number of off-street parking stalls, as they propose to provide 250 off-street parking stalls.

As the proposed redevelopment is located within the CBD-F Zoning District, uses and buildings located in the CBD-F district by code provide one-half the required off-street parking requirement. This means that the 483-parking stall requirement would be reduced to 242 off-street parking stalls. However, the code standards state that the city council may require off-street parking to be provided for conditional uses in the CBD-C or CBD-F districts. In lieu of required parking spaces in the CBD-C and CBD-F districts, a payment may be made to the city

parking fund or other authorized parking fund. The in lieu payment per parking space shall be determined by the council on a yearly basis with the same procedure required for all assessments. Requests for payment in lieu of required parking spaces must be made to the council through the city planning commission. The determination to allow a payment in lieu of required parking will be made by the council and shall be based on available municipal parking facilities within 500 feet of the use and the total city parking system in general.

For the proposed shared parking, the applicant utilized the City's shared parking schedule and added a customized residential and retail parking category. The applicant uses these calculations to justify reducing the shared parking parameters for the office use on weekends and their own added residential class during the day. The applicant states that this proposed shared parking schedule maximizes the use of the parking facilities by coordinating different users whose peak parking demands occur at different times.

The proposed parking calculation for the residential units requires 120 parking stalls, or 1/2 of a stall per unit. The applicant proposes that the shared parking schedule would allow them to increase the number of off-street parking stalls per unit to 1-stall per one-bedroom unit and 1.5 stalls per unit with two or more bedrooms, or 186 stalls during all times but the 7am-6am weekday timeframe.

The applicant states that a bicycle storage locker will be provided as a residential amenity. Due to this, they have removed the required stalls for the residential use from the bike parking calculations. Their stated bicycle parking calculations are based on 122 parking stalls for non-residents, which would require them to provide a minimum of 6.1 bicycle stalls (7-stalls once rounded). The applicant has not specified the capacity of the bike storage locker. The applicant also identifies that they could be granted a 5% reduction in parking requirement for the additional bicycle parking stalls, but that they did not include this as a request.

Note: Mankato City code Sec. 10-1612 and Sec. 10–542 give the City Council the ability to require additional parking stalls for the proposed development or payment in lieu of parking.

Loading:
The applicant proposes two off-street loading areas to serve the redevelopment.

A loading dock area is proposed within the development along W. Liberty Street. This central loading dock will only serve the retail tenant #2 space and is proposed to be screened from Liberty Street at a minimum of 6' in height. The applicant has provided turning movements demonstrating a potential successful use of the loading dock area.

A pull-through loading area is proposed along the south side of Warren Street that will serve the retail #1, café, restaurant, and office tenants. Based on the use and floor areas of the property, Mankato City Code requires that this loading area be a minimum of two short loading berths or 10' wide by 70' deep. The proposed loading area conforms to the dimensional requirement. The applicant states that this loading area cannot be screened due to "*access constraints.*" Additionally, this loading area is proposed fully within City of Mankato property / the public ROW. An existing loading area is already present on the north side of Warren Street that serves that adjacent development to the north.

Traffic:
The applicant has provided a Traffic Memo for the proposed redevelopment. Within this memo, the applicant comes to the conclusion that the development "*will have minimal impacts to the surrounding roadway network*" and states that "*Based on the estimated trip generation potential and alternative routes provided to access the site, its is expected that the existing roadway links would be able to accommodate the new trips generated by the development*".

The Traffic Memo says that the redevelopment is expected to generate a daily traffic count of 3,894 and states that the development will "*generate up to 432 trips during the AM peak hour of adjacent street traffic*", though they argued for a reduction to 324 trips. The memo states that the previous uses of the development area would have had an expected 350 trips during the AM peak hour.

The Traffic Memo provided does not provide specific roadway or intersection usage data.

Utilities:
The redevelopment area is currently occupied by structures served by public and private utilities. In order to construct the proposed development, the applicant must abandon/cap any utility services that are not to remain active back to the main. The applicant will then connect to existing utilities within S. Front Street & Warren Street for each tenant space.

Additionally, the applicant proposes to construct an underground stormwater treatment basin with associated stormwater services on the western portion of the subject property.

The applicant states that snow is planned to be hauled off-site and that temporary snow storage areas are identified within the surface parking area and corner of the upper deck of the parking ramp.

Massing, Floor Area Ratio, and Lot Coverage:
The proposed redevelopment will have four street frontages; S. Riverfront Dr, Warren St, S. Front St, and W. Liberty St.

There are no minimum setbacks required and the proposed buildings on site do not encroach into the required site triangle within the pedestrian line of sight. The applicant has stated that the proposed encroachment shall still allow for a minimum clear height of 18'.

The CBD-F Zoning District allows a maximum floor area ratio of 3.0. The applicant states that the proposed ratio of the redevelopment is 2.83, or 308,802 GSF of the maximum of 327,108 gross square feet. This is within the boundaries of the zoning code.

Due to the proposed lot coverage exceeding the maximum lot coverage permitted in the CBD-F, the applicant has applied for a variance to allow for an increased lot coverage of 77%. The proposed variance is described below.

Encroachments:
The applicant proposes multiple encroachments into the public right-of-way (ROW).

The proposed building at the corner of Liberty Street and Front Street will encroach into the sight triangle on floors 2–6, but a minimum clear height of 18 feet will be provided to ensure proper site lines for pedestrians and vehicle traffic. Storefront canopies will encroach the right-of-way along S. Front Street, but a minimum clear height of 15 feet will be provided. A residential terrace will encroach into the right-of-way along S. Front Street, a continuation of the 18' clear height will be provided. The proposed building at the corner of Riverfront Drive and Warren Street will encroach into the ROW on floors 2–6, with an 18' clear height.

Building footings will encroach into the right-of-way approximately three feet. A footing encroachment exhibit has been provided by the applicant. The exhibit shows footing encroachments ranging from two inches to three and a half feet along all four frontages of the development. The applicant has also provided a simplified exhibit that details the instillation of either 25 'x 25' columns or 120 ton-driven piles as encroachments into the right-of-way.

As referred to above, the off-street loading area along Warren Street is proposed on City of Mankato property and within the public right-of-way.

The applicant states that all doors along the right-of-way will be recessed into the building, and therefore no at-grade encroachments into the right-of-way will occur.

The applicant will be required to apply for, be issued, and maintain a permit to encroach into the right-of-way for the entirety of the encroachment.

Certificate of Design Compliance:

The subject property is located in the Downtown Gateway Overlay District, requiring a certificate of design compliance. To ensure that development activity will enhance the visual and aesthetic character of the gateway district in accordance with the Urban Design Guidelines, review of the new buildings and demolition of structures requires a review by the Planning Commission and City Council.

The purpose of the Downtown Gateway Overlay District is to promote high-quality design in the city's downtown and implement and effectuate the principles established in the Urban Design Framework Manual. The Urban Design Framework Manual is to be referenced to determine if a development conforms to the district code.

Exterior Finishes:
The Downtown Gateway District requires that all exterior wall finishes on the building structure shall be of the following materials: face brick, natural stone, stone or brick textured precast concrete panels that have been integrally treated with a color, naturally colored and textured concrete block (not exceeding 20% of a wall area), glass, stucco or similar, and materials approved by the City Council. Additionally, building elevations shall conform to the urban design guidelines. Walls facing the street or walkways must be punctuated with display windows, doors, indentations.

The applicant proposes to finish the exterior elevations of the redevelopment with a plethora of natural and neutral toned architectural metal panels, fiber cement, and precast concrete.

The proposed 5-story office building will utilize a metal and glass curtain wall system along the Warren St & S. Riverfront Dr frontages, a large blank space of grey-toned precast concrete and varied grey-toned metal paneling along the Warren St elevation. Lastly, the Riverfront Drive elevation is predominantly finished with a honed full depth limestone panel veneer. Additionally, 5th and 6th floor terrace spaces are shown at the corner of Riverfront Dr & Warren St for the office building.

The 6-story mixed-use building elevations are largely segmented into two areas, the street-level and residential-level elevations. The residential area elevations are dominated by alternating fiber cement, limestone, architectural metal panels, windows, and mechanical louvers. The applicant also shows prefabricated metal residential balconies along the interior-facing elevations of the building. The S. Front St elevation features a prominent projecting terrace area with copper-toned metal panels. The street-level elevations include multiple storefronts, prefabricated metal canopies, coarse limestone paneling, honed limestone paneling, "buff" toned precast concrete, a precast walled loading dock area, and an enclosed outdoor patio area. The street-level elevation along S. Riverfront Drive also includes a metal overhead door and other features associated with commercial loading areas.

The proposed parking ramp elevations are shown as varied grey-toned precast concrete finishes along the Warren St elevation with "buff" toned precast concrete and areas of coarse full depth limestone panel veneer finishes along the Riverfront Drive elevations.

The east-facing elevation of the office building is shown as pre-cast concrete.

The proposed redevelopment is located within the Downtown Lighting District. The applicant has proposed a variety of exterior lighting fixtures, all of which are stated to be fully cut off.

The applicant shows mechanical units strictly along the roof areas of the development. Mechanical equipment is required to be installed on rooftops or properly screened.

The applicant states that the proposed redevelopment is located within the downtown gateway area and will have four street frontages facing S. Front Street to the East, Warren Street to the north, South Front Street to the East, Liberty Street to the south, and Riverfront Drive to the west. The facades along Warren Street and South Front Street are intended as a continuation of the retail corridor along South Front Street with inset storefronts and canopies for signage and pedestrian cover. The applicant further explains that the development holds the street edge and includes a private "urban plaza" at the intersection of S. Front Street and Warren Street as well as an elevated terrace planned at the second level for private residential use. The primary pedestrian garage entrance along the

mid-block of South Front Street will also serve as a point of entry for the café space and the retail bay at the corner of Liberty and South Front Street. As suggested above, the finishes will be prioritized along S. Front and Warren Streets with a mix of limestone, architectural panels in metal and fiber cement, as well as retail storefronts and larger glazing at building breaks. The Liberty Street and Riverfront Drive frontages will continue the "architectural language", but will primarily be clad in architectural fiber cement and metal panels along with limited limestone finishes along the base and on accent walls.

Signage:
The applicant has provided a signage exhibit that highlights the portions of the redevelopment that may be intended to feature signage. Additionally, the applicant has provided an estimates table that summarizes the signage areas as they apply to the Mankato City Code.

Due to the shared nature of the property, signage for the development will be reviewed on a property-wide basis. The applicant has not proposed specific signage at this time and any proposed signage must first be approved via a sign permit prior to fabrication and installation.

Variance:

A variance to increase the allowable lot coverage in the Central Business District Fringe, CBD-F, zoning district from 75% to 77%.

Mankato City Code Section 10–546 states that, *"The sum total of ground area that may be covered by all structures located on the zoning lot in the CBD-F district shall not exceed 75 percent of the lot area."* The applicant states that the proposed redevelopment has a lot coverage of 77% (88,217 Sq. Ft. of the 109,036 Sq. Ft. lot area), which exceeds the coverage limit by 2% of the area.

The applicant provided a narrative and exhibit that assesses the lot coverage of the proposed structures within the redevelopment area. The applicant states that the proposed redevelopment exceeds the maximum lot coverage, but that this non-conformance is only present with inclusion of the floors above street level since the definition of lot coverage includes all areas of the lot covered by buildings or roofed areas.

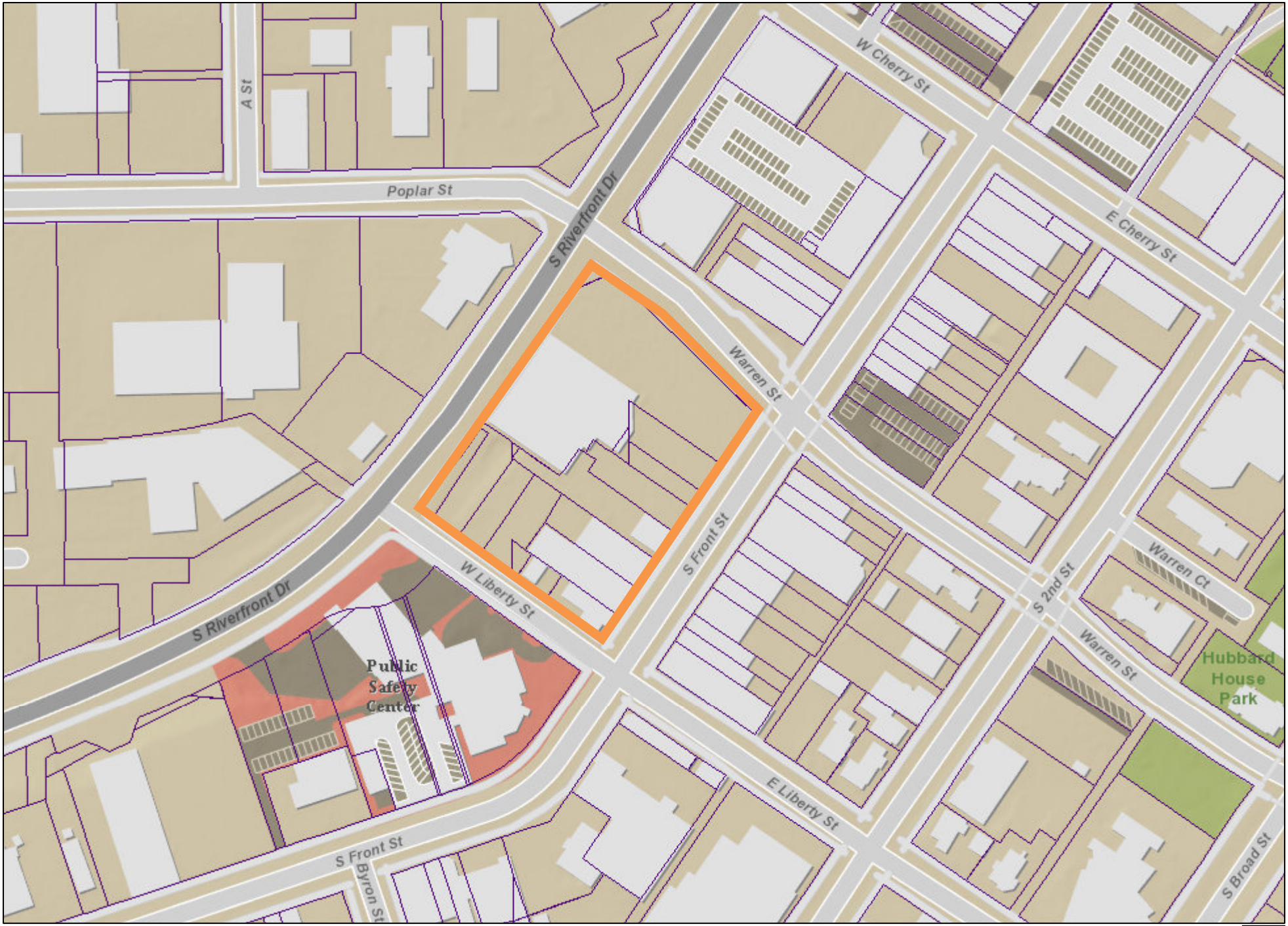
The applicant identified two City of Mankato-owned parcels that are highly entangled with the proposed development. The City of Mankato stated that the developer may coordinate with the City to obtain ownership of these parcels in exchange for a larger right-of-way area along S. Riverfront Drive for the purposes of providing a larger sidewalk corridor. The exchange of the proposed parcels may alleviate the applicant's stated need for the lot coverage variance.

Attachments

General Location Map
Aerial
Site Plan
Exterior Elevations
Floor Plans
Site Operations Plan Graphic
Renderings
Building Cross Section
Private Amenity Plan
Footings Encroachment Exhibit
Footings Encroachment - Columns
Landscaping Plan
Grading Plan

Utility Plan
Photometric Plan
Existing Conditions & Removal Plan
Narrative - CUP & CDC
Narrative - Phasing & Construction
Parking Memo
Traffic Memo
Development Summary Table
Material Board
Signage Area Exhibit
Site Data
Lighting Detail Sheets
Stormwater Management Report
Lot Coverage Variance Exhibit
Narrative - Variance

General Location Map



Date: February 2026

Author:

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N

Aerial Map

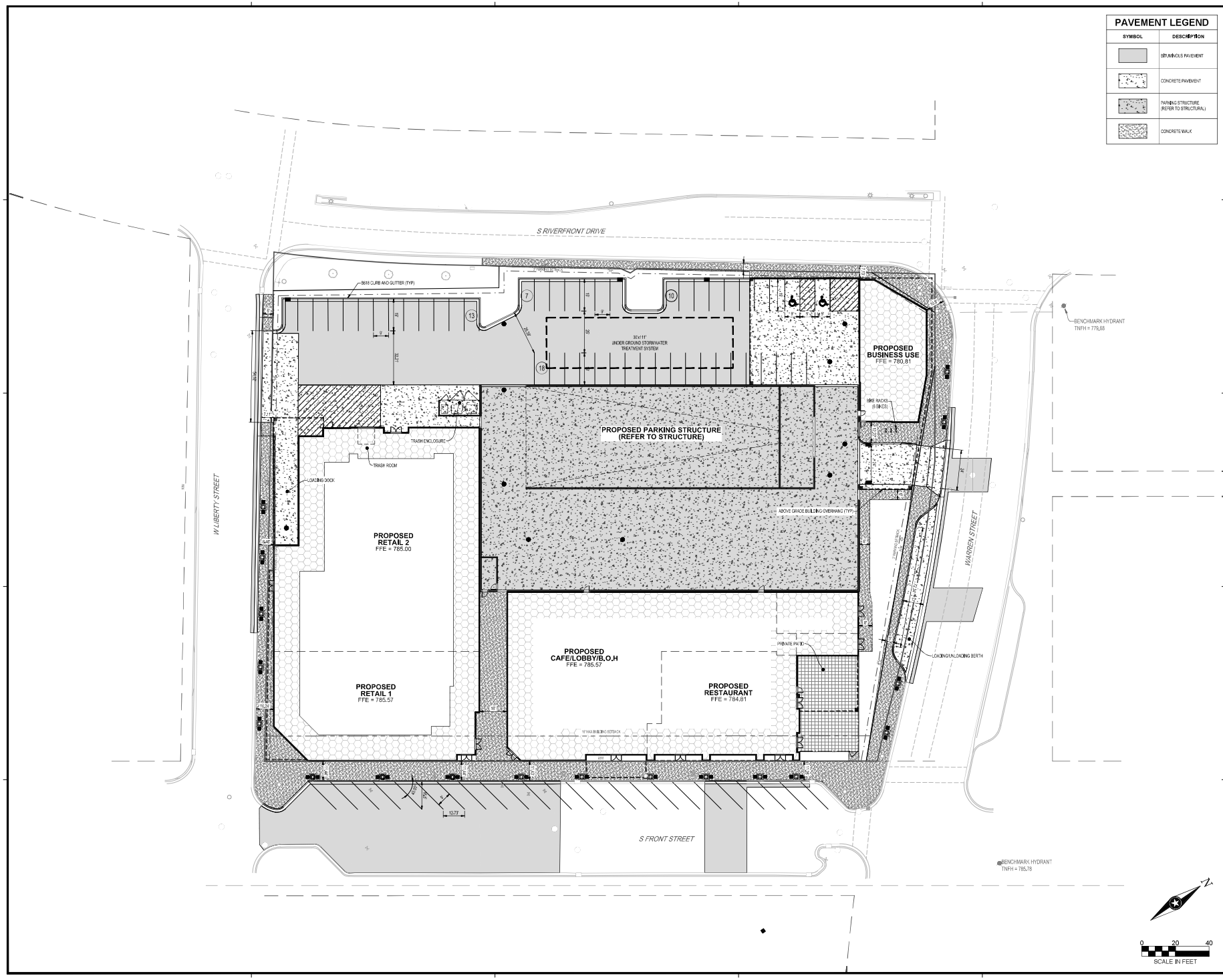


Date: February 2026

Author:

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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-C3-SITE
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

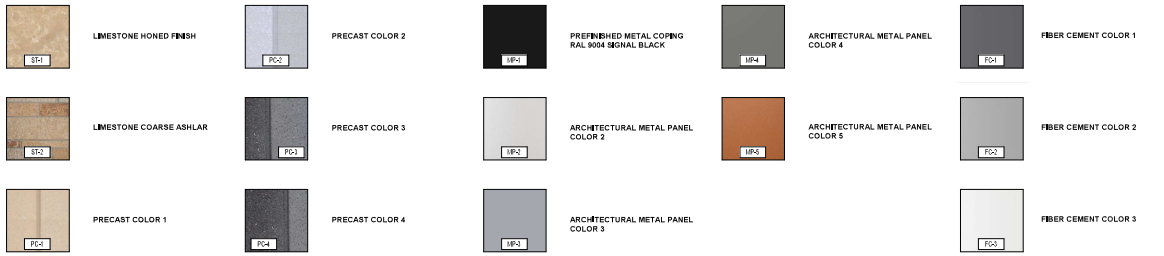
SITE PLAN

SHEET

C3-10

PRELIMINARY NOT FOR CONSTRUCTION PRELIMINARY NOT FOR CONSTRUCTION

Sheet Number SK1.10





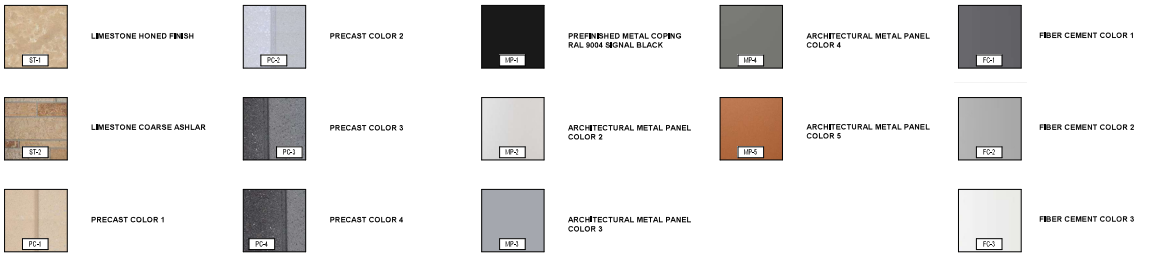
1 ELEVATION - SOUTH FRONT STREET
1/16" = 1'-0"



2 ELEVATION - LIBERTY STREET
1/16" = 1'-0"

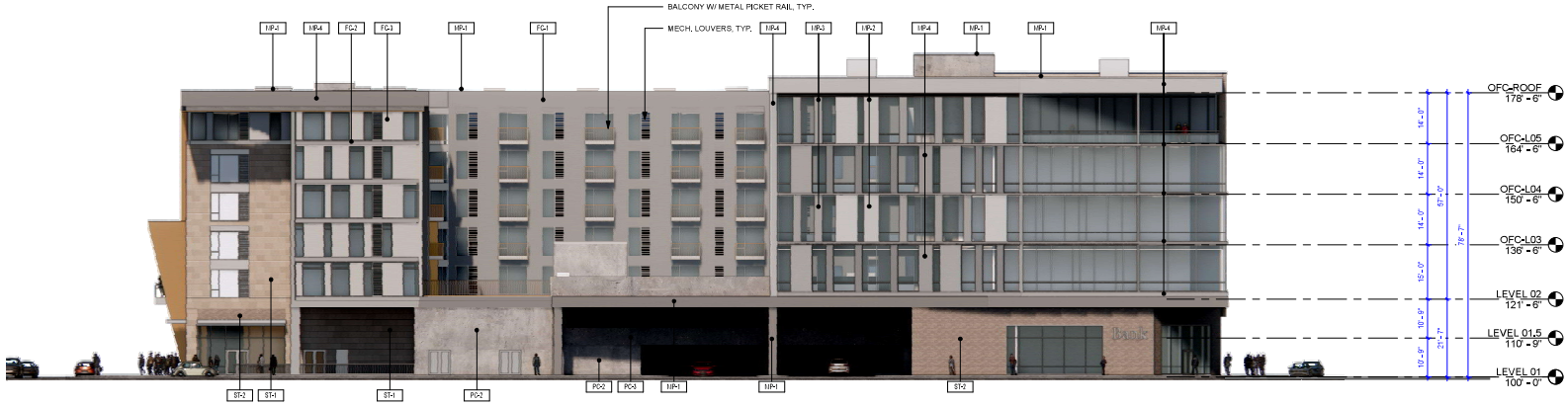
ELEVATIONS

0 8' 16' 32'





2 ELEVATION - RIVERFRONT DRIVE
1/16" = 1'-0"

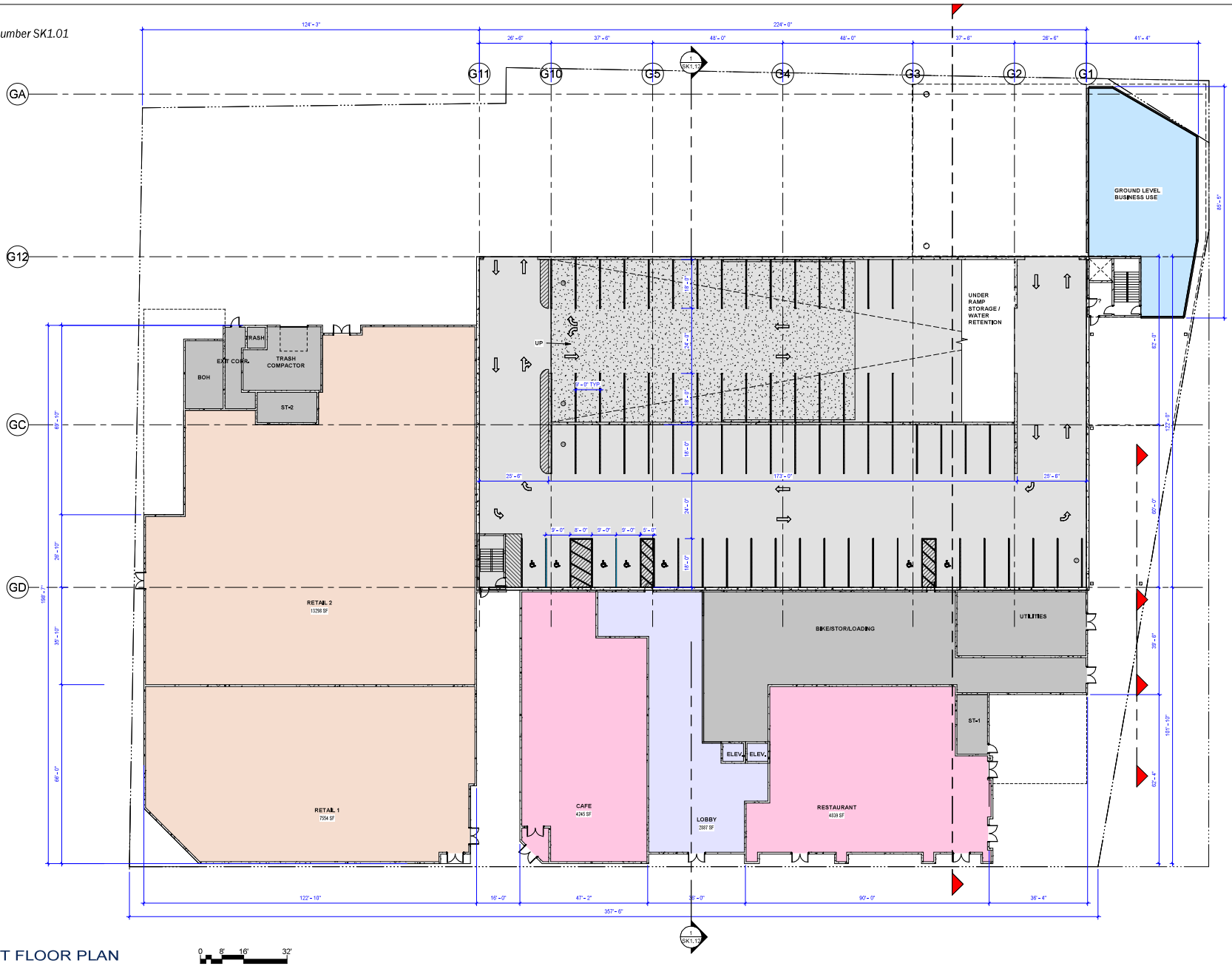


1 ELEVATION - WARREN STREET
1/16" = 1'-0"

ELEVATIONS

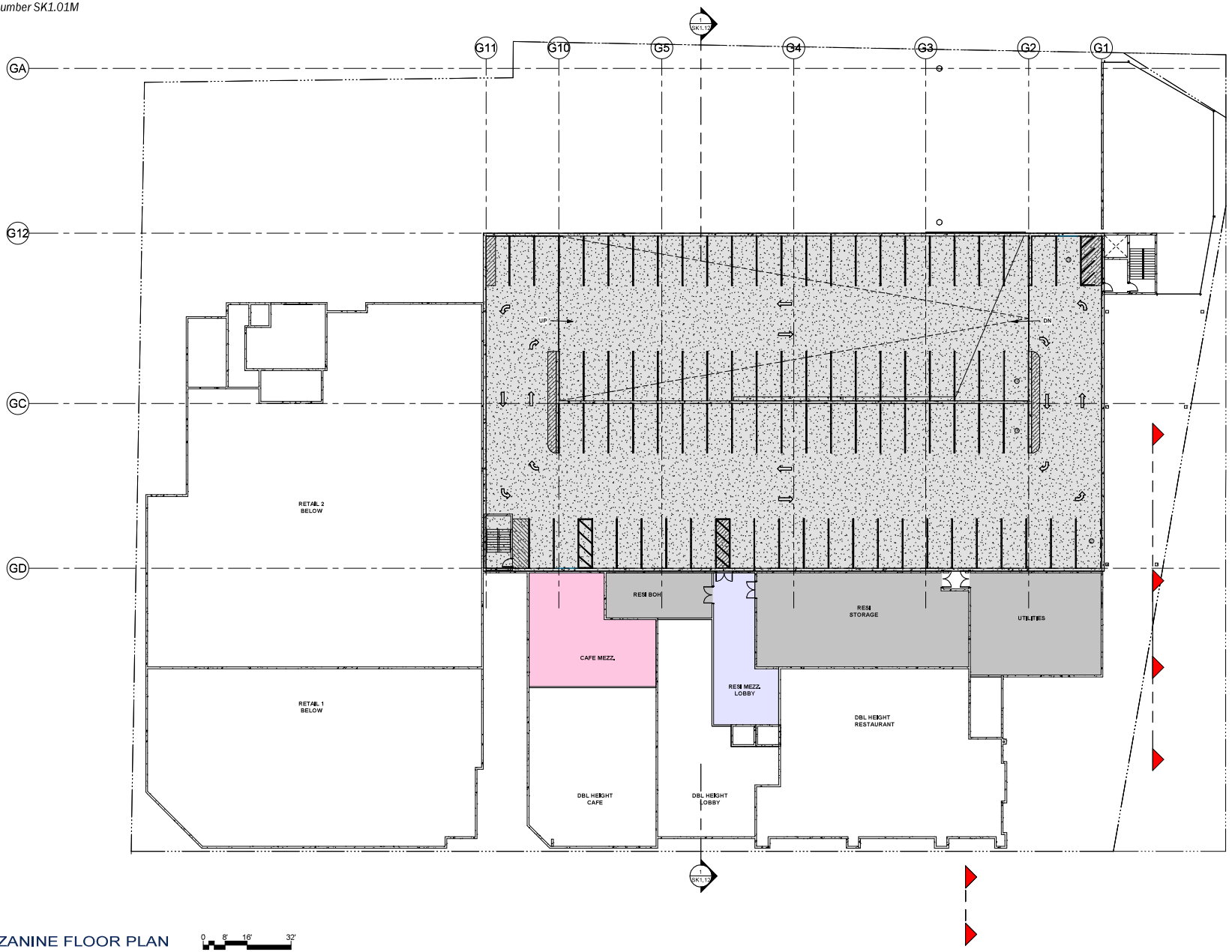
0 8' 16' 32'

Sheet Number SK1.01



FIRST FLOOR PLAN

0 8' 16' 32'



MEZZANINE FLOOR PLAN

0 8' 16' 32'

ISG

Architecture + Engineering + Environmental + Planning

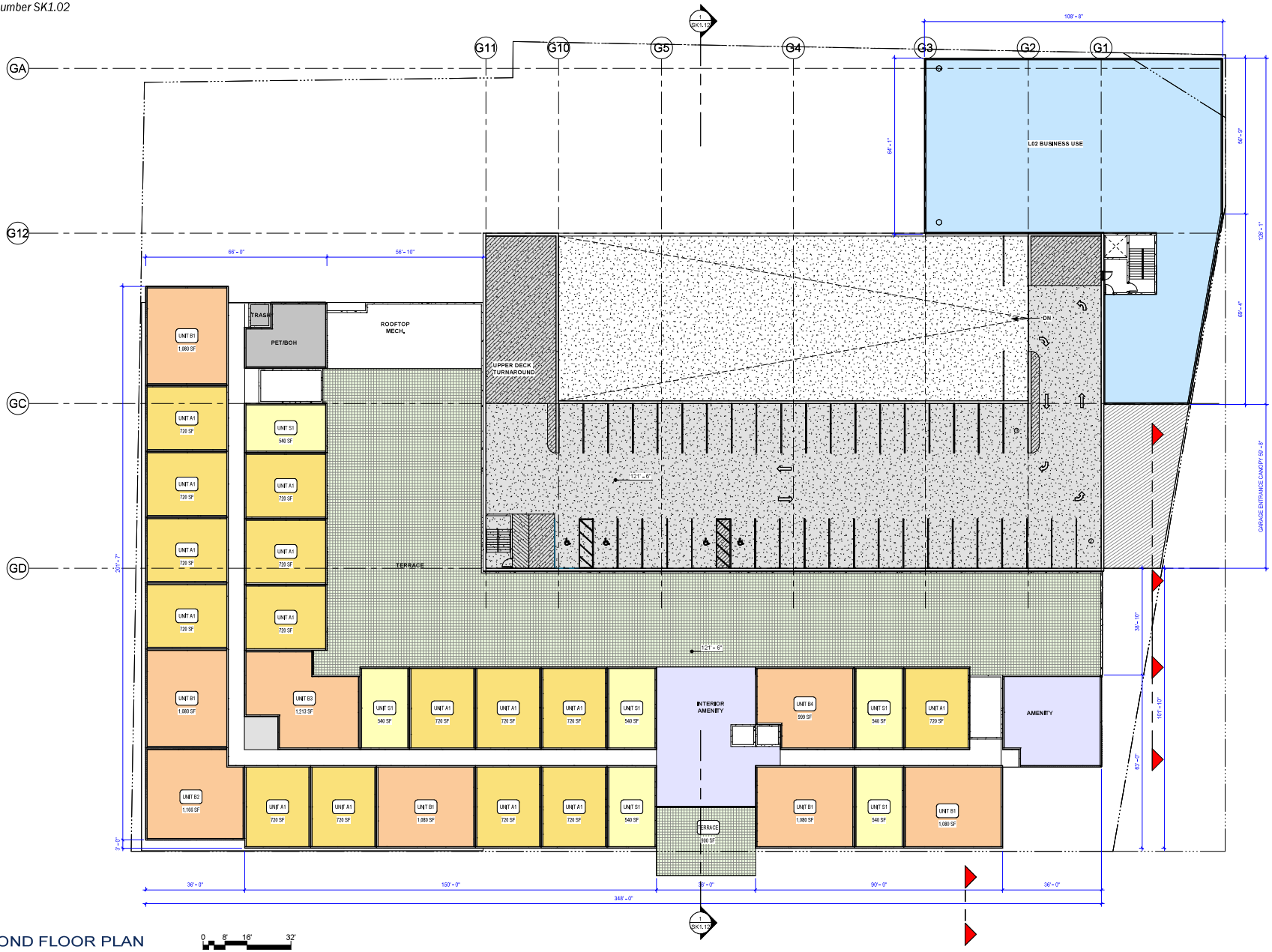
S. FRONT STREET MIXED USE REDEVELOPMENT

MANKATO, MINNESOTA - 02/24/2026

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Sheet Number SK1.02



SECOND FLOOR PLAN

0 8' 16' 32'

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Architecture + Engineering + Environmental + Planning

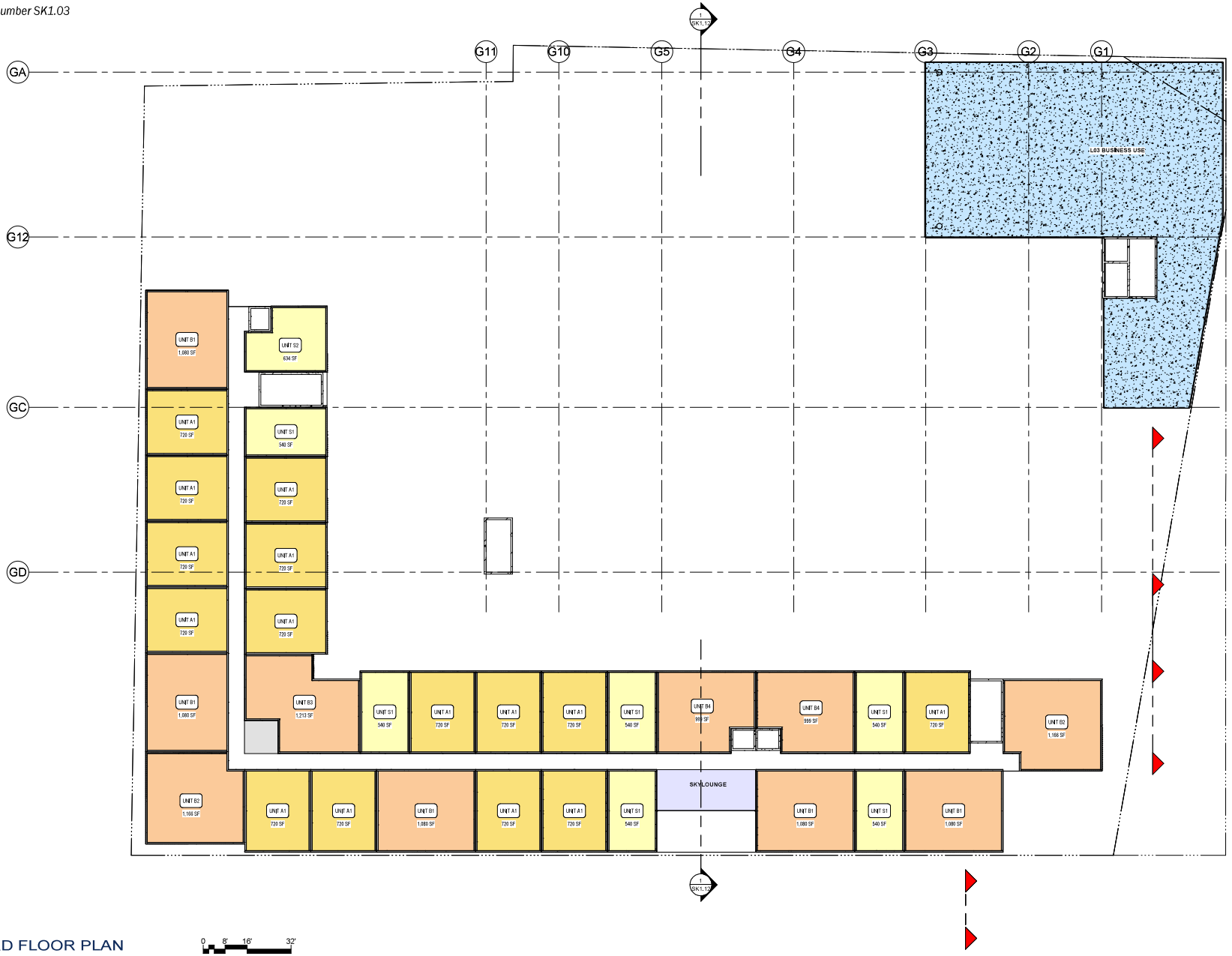
S. FRONT STREET MIXED USE REDEVELOPMENT

MANKATO, MINNESOTA - 02/24/2026

ISG PROJECT NO. 26-33587

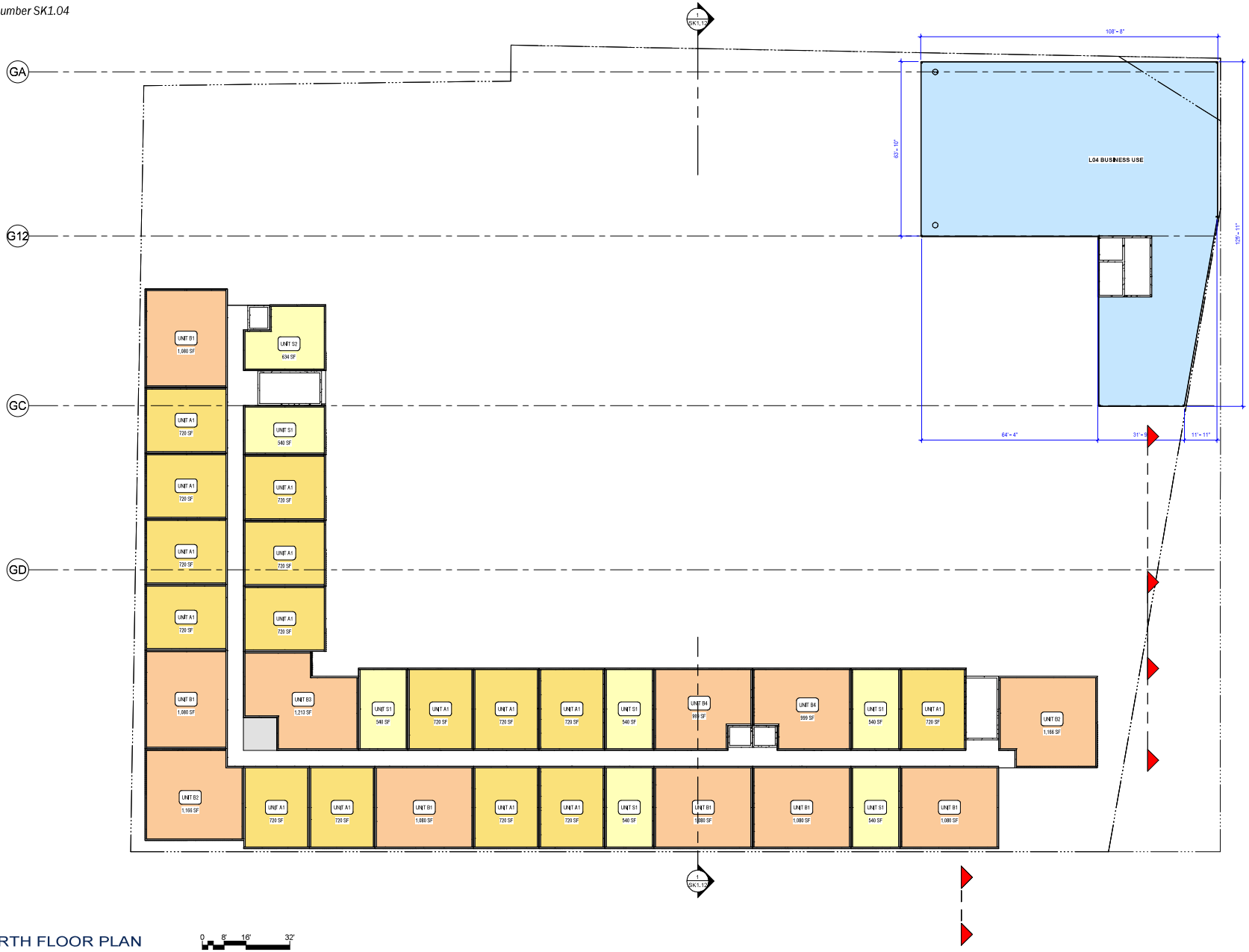
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Sheet Number SK1.03



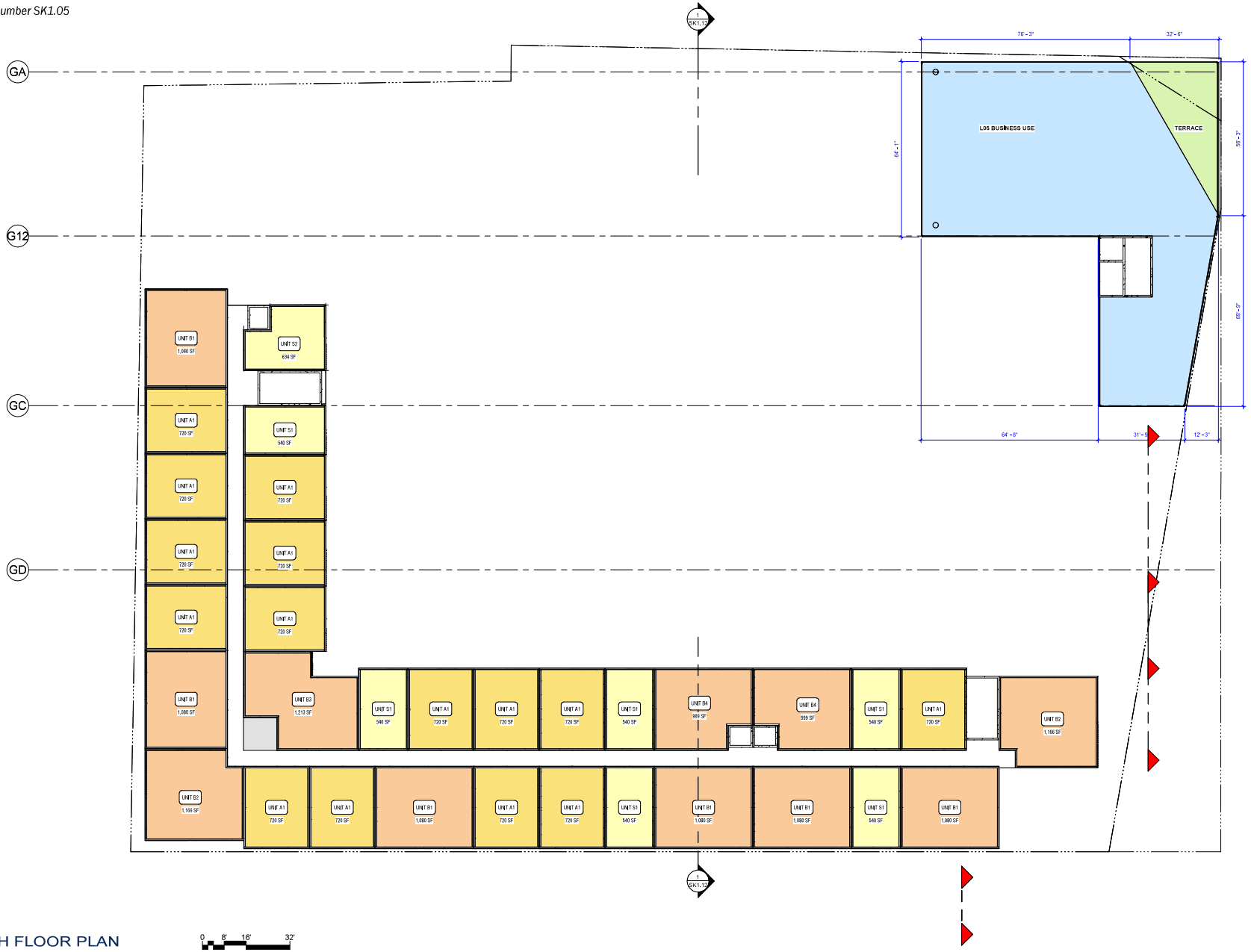
THIRD FLOOR PLAN

0 8' 16' 32'



FOURTH FLOOR PLAN

0 8' 16' 32'



FIFTH FLOOR PLAN

0 8' 16' 32'

ISG

Architecture + Engineering + Environmental + Planning

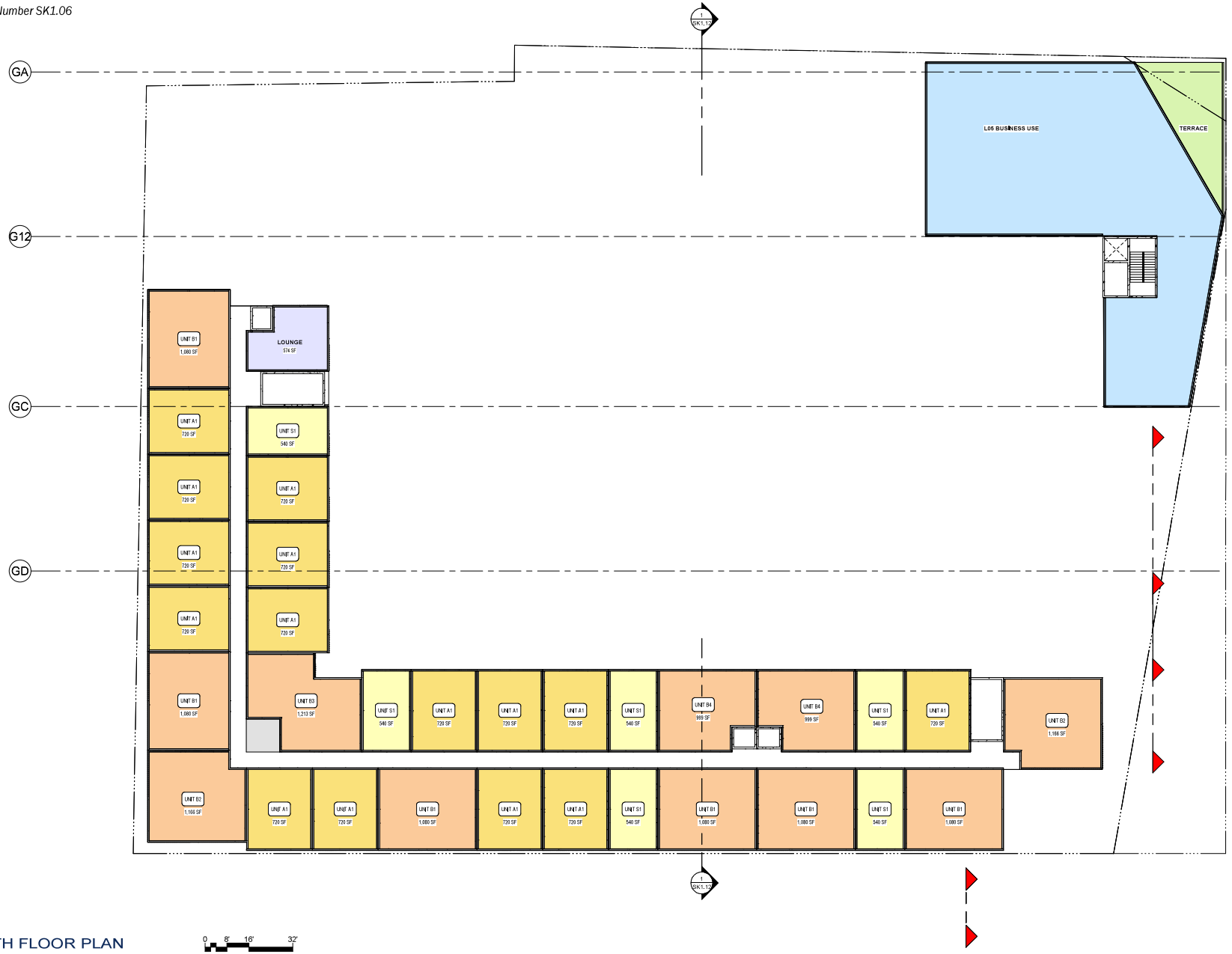
S. FRONT STREET MIXED USE REDEVELOPMENT

MANKATO, MINNESOTA - 02/24/2026

ISG PROJECT NO. 26-33587

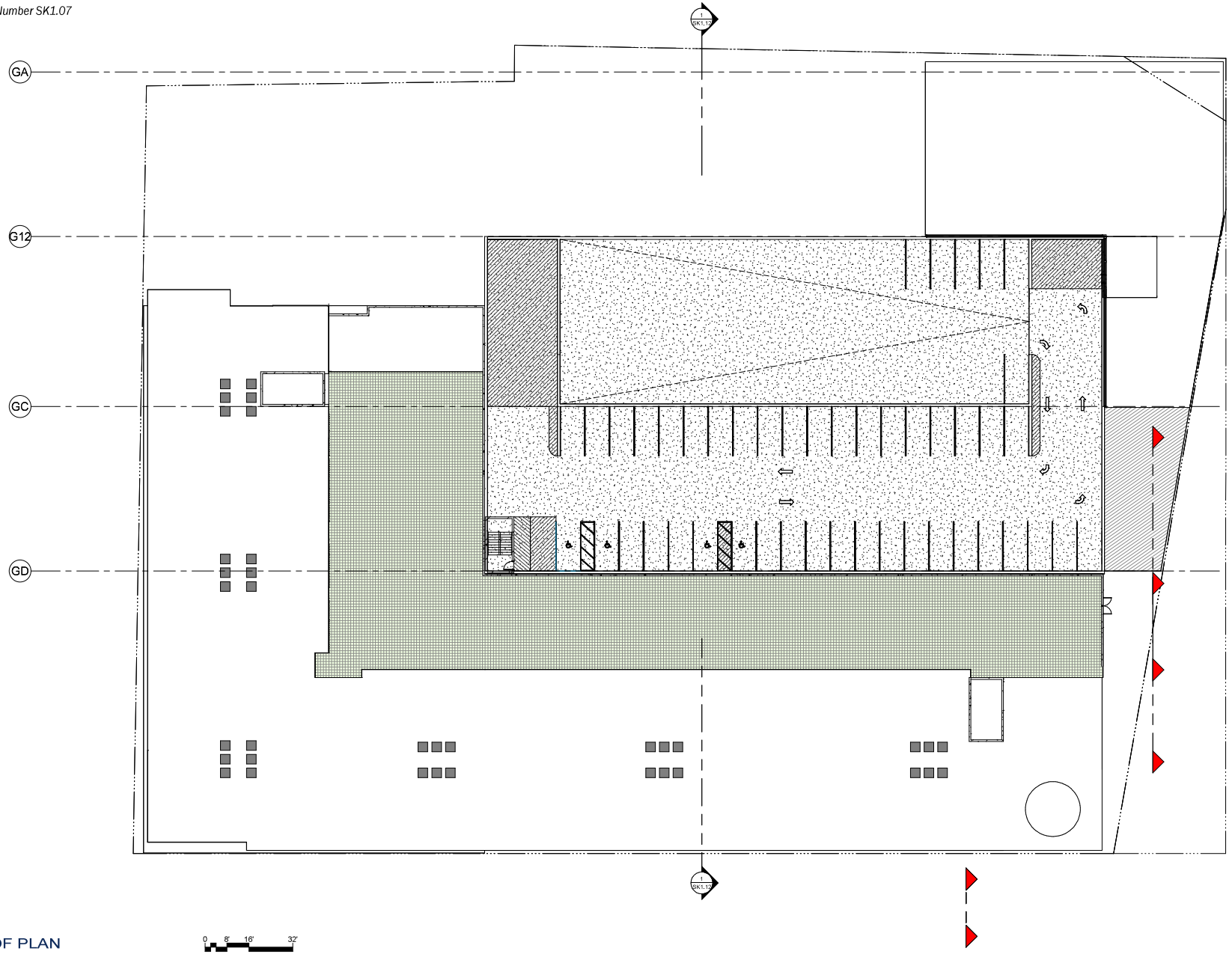
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Sheet Number SK1.06



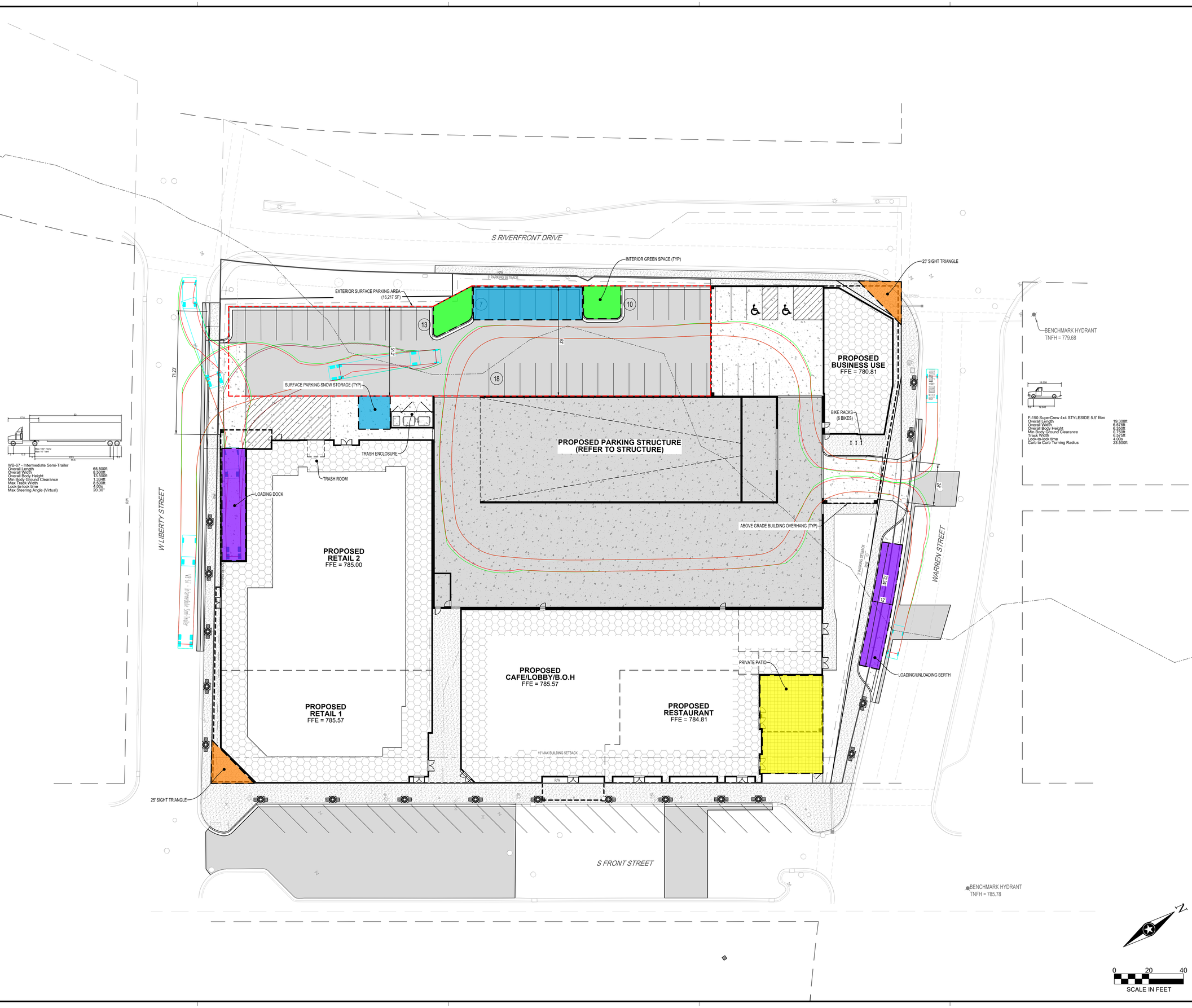
SIXTH FLOOR PLAN

0 8' 16' 32'



ROOF PLAN

0 8' 16' 32'



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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-C3-CODE
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

SITE CODE PLAN

SHEET

C3-00



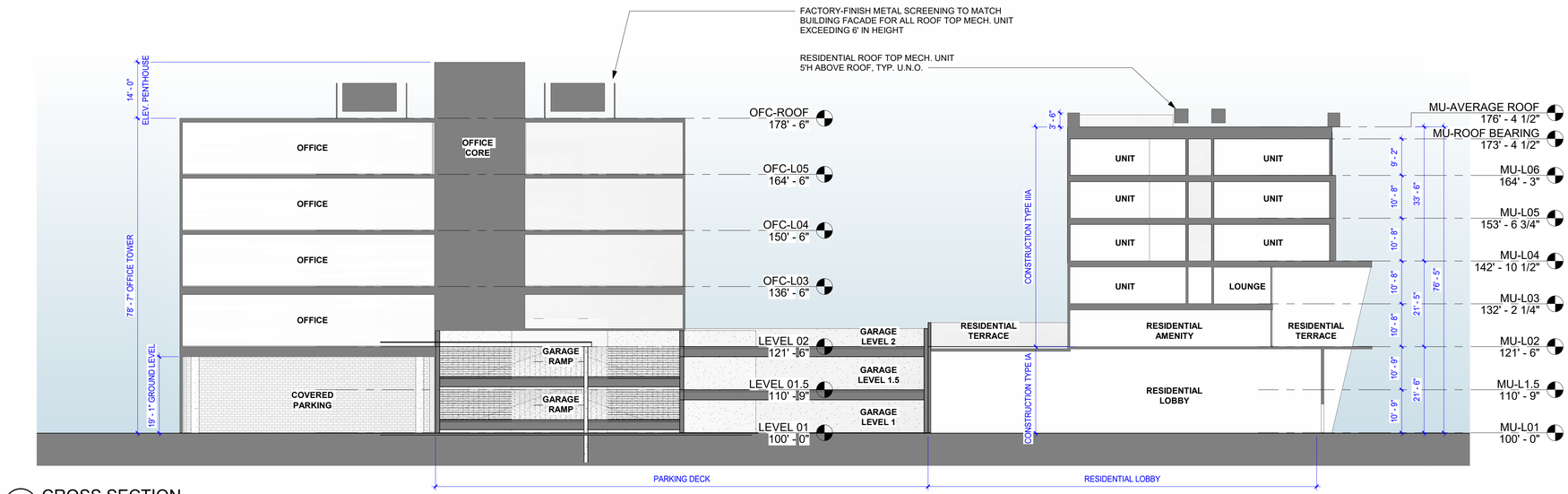
PERSPECTIVES



PERSPECTIVES



PERSPECTIVES



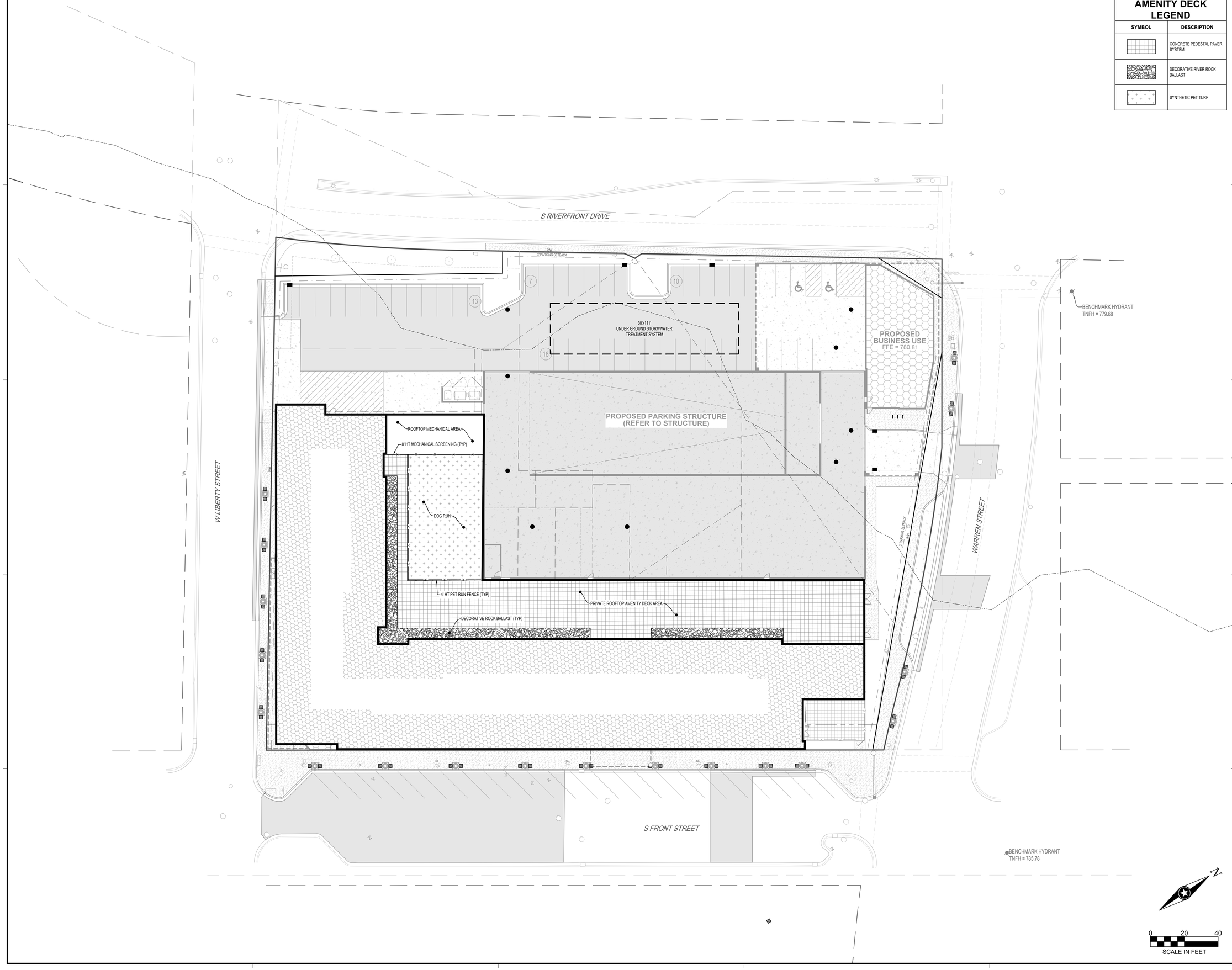
1 CROSS SECTION
1/16" = 1'-0"

BUILDING SECTION

0 8' 16' 32'

AMENITY DECK LEGEND

SYMBOL	DESCRIPTION
	CONCRETE PEDESTAL PAVER SYSTEM
	DECORATIVE RIVER ROCK BALLAST
	SYNTHETIC PET TURF



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FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-C3_AMEN DECK
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

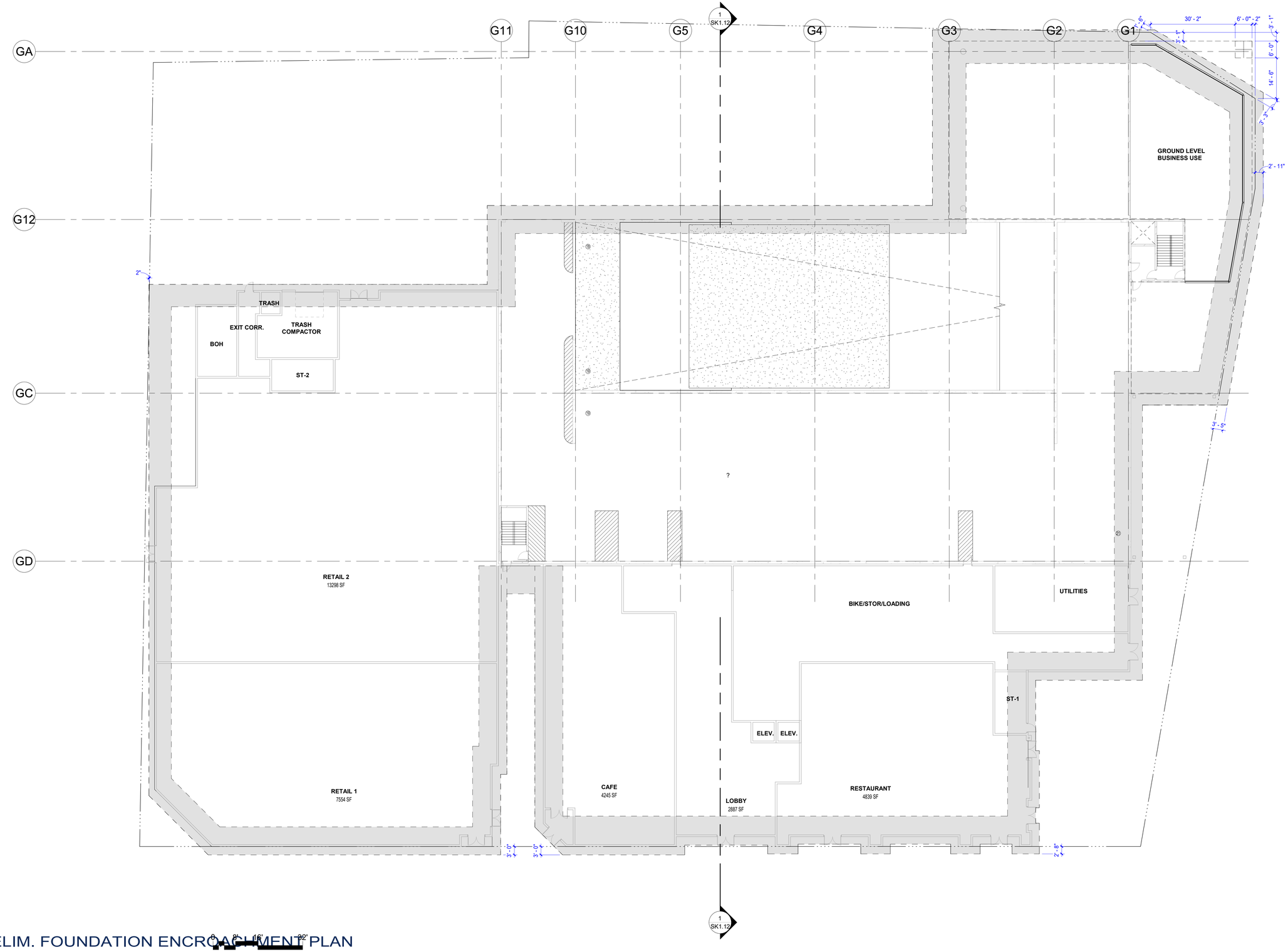
TITLE

PRIVATE AMENITY DECK PLAN

SHEET

C3-50

PRELIMINARY NOT FOR CONSTRUCTION



PRELIM. FOUNDATION ENCROACHMENT PLAN

0' 8' 16' 32'

ISG

Architecture + Engineering + Environmental + Planning

S. FRONT STREET MIXED USE REDEVELOPMENT

MANKATO, MINNESOTA - 02/24/2026

ISG PROJECT NO. 26-33587

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ASSUMED:
- OFFICE TOTAL PRECAST
- TYPICAL COLUMN GRID UNDER THE RESIDENTIAL (25ftX25ft)
- 3,000PSF SOILS

OR
- DRIVEN PILES (120ton)
- TOP OF FOOTING ELEVATION AT 96-0

S RIVERFRONT DRIVE

W LIBERTY STREET

S FRONT STREET

WARREN STREET

PROPOSED PARKING STRUCTURE (REFER TO STRUCTURE)

PROPOSED BUSINESS USE
FFE = 780.81

PROPOSED RETAIL 2
FFE = 785.00

PROPOSED RETAIL 1
FFE = 785.57

PROPOSED CAFE/LOBBY/B.O.H
FFE = 785.57

PROPOSED RESTAURANT
FFE = 784.81

BENCHMARK HYDRANT
TNFH = 779.68

BENCHMARK HYDRANT
TNFH = 785.78

GRID
GRID
4'-0"
2'-2"
24"x24" PC COLUMN
12"

GRID
GRID
24"x24" PC COLUMN
12"
2'-2"
6'-0"

GRID
GRID
5'-0"
2'-2"
12"
24"x24" PC COLUMN

15' MAX BUILDING SETBACK

0 20 40
SCALE IN FEET

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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-SITE-AERIAL-BASE
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

SITE BASEMAP

SHEET

1

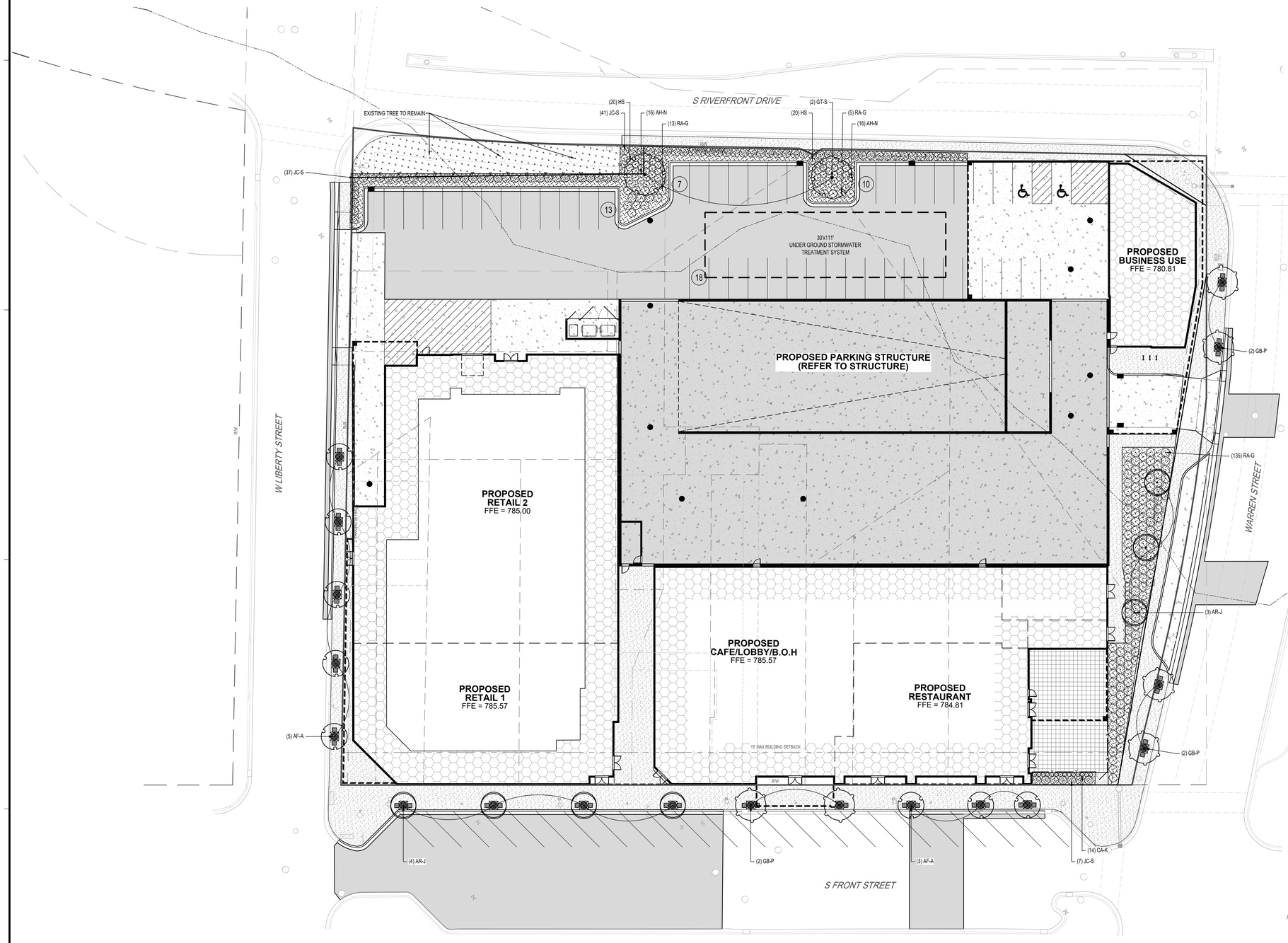
LANDSCAPE REQUIREMENTS

AS REQUIRED IN MANKATO, MN ZONING CODE (ZONE CBD-C)

LOCATION	TYPE	REQUIRED	PROVIDED
PERIMETER LANDSCAPING	SCREENING REQUIREMENTS	PER DIVISION 8 SECTION 10.1740 (a) EVERY OFF-STREET PARKING LOT CONTAINING FOUR OR MORE PARKING STALLS SHALL BE BUFFERED AND SCREENED BY PERIMETER LANDSCAPING CONSISTING OF AN AREA AT LEAST THREE FEET OR GREATER IN HEIGHT AS REQUIRED IN THE YARD AND SETBACK STANDARDS OF EACH ZONING DISTRICT. THE REQUIRED PERIMETER LANDSCAPING AREA SHALL BE MEASURED FROM THE BACK CURB AND EXCLUDES ANY PARKING SPACE OVERHANG AREA. THE PERIMETER LANDSCAPING SHALL CONSIST OF A COMBINATION OF GROUND COVER, SHADE TREES OR EVERGREEN TREES, SHRUBS, AND APPROPRIATE SCREENING DEVICES SUCH AS DECORATIVE WALLS, FENCES, OR BERMS. SHADE TREES SHALL BE PROVIDED AT A RATE OF ONE TREE FOR EVERY 50 LINEAR FEET OF PERIMETER LENGTH OR FRACTION THEREOF. EVERGREEN TREES SHALL BE PROVIDED AT A RATE OF ONE TREE AND SHRUB FOR EVERY 25 LINEAR FEET OF PERIMETER LENGTH OF FRACTION THEREOF. EVERGREEN TREES SHALL BE MAINTAINED AT A HEIGHT OF NOT LESS THAN SIX FEET. SUBJECT TO APPROVAL BY THE ZONING ADMINISTRATOR, ORNAMENTAL TREES AND SHRUBS MAY BE SUBSTITUTED FOR SHADE TREES AND EVERGREENS. AREAS NOT PLANTED WITH SHRUBS, TREES, OR OTHER APPROPRIATE SCREENING DEVICES SHALL BE MAINTAINED WITH LIVING GROUND COVER, OR PLANTING BEDS WITH BARK OR ROCK MULCH.	PERIMETER LANDSCAPING IS PROVIDED AROUND THE OFF-STREET PARKING WITH THREE (3) FOOT HEIGHT EVERGREEN SHRUB PLANTINGS. 160 LF OFF-STREET PARKING / 50 = 3 REQUIRED SHADE TREES; 2 SHADE TREES PROVIDED + 3 EXISTING TREES TO REMAIN.
OFF STREET LOADING AREAS	SCREENING REQUIREMENTS	PER DIVISION 8 SECTION 10.1742 EVERY OFF-STREET LOADING AREA VISIBLE FROM ANY LOT ZONED FOR RESIDENTIAL USE OR VISIBLE FROM ANY PUBLIC STREET, SHALL BE SCREENED ON ALL SIDES VISIBLE FROM SUCH LOT OR STREET BY AN OPAQUE FENCE, WALL, OR DENSELY PLANTED EVERGREEN HEDGE OF NOT LESS THAN SIX FEET IN HEIGHT, EXCEPT AS NECESSARY FOR ACCESS.	A 6' HEIGHT WALL WITH VERTICAL LOUVRE SLATS WILL BE PROVIDED. REFER TO ARCHITECTURAL DRAWINGS.
PARKING LOTS	LOT COVERAGE	EVERY OFF-STREET PARKING LOT PROVIDING 50 SPACES OR MORE SHALL PROVIDE INTERIOR LANDSCAPING. INTERIOR LANDSCAPING SHALL CONSIST OF PLANTING ISLANDS WITH A MINIMUM AREA OF 60 SQUARE FEET AND A MINIMUM WIDTH OF SIX FEET, MEASURED FROM THE BACK OF CURB TO BACK OF CURB. THE INTERIOR LANDSCAPING SHALL CONSTITUTE AT LEAST FIVE PERCENT OF THE AREA OF THE PARKING LOT. AREA DEVOTED TO PERIMETER LANDSCAPING SHALL NOT BE CONSIDERED AS ANY PART OF INTERIOR LANDSCAPING. WHERE MORE THAN ONE PLANTING ISLAND IS PROVIDED, SUCH ISLANDS SHALL BE APPROPRIATELY SPACED THROUGHOUT THE PARKING LOT, AS PART OF SITE PLAN REVIEW, PURSUANT TO ARTICLE X. DIVISION 10, OF THIS CHAPTER, INTERIOR LANDSCAPING MAY BE REQUIRED FOR OFF-STREET PARKING LOTS CONTAINING LESS THAN 50 SPACES.	16217 SF SURFACE PARKING AREA. 828 SF (5.1%) OF INTERIOR LANDSCAPING.

PLANTING SCHEDULE

CODE	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT	NOTE
OVERSTORY TREES					
AR-J	7	ACER RUBRUM 'JFS-KW78' ARMSTRONG GOLD® MAPLE	2.5" CAL	B & B	SINGLE STEM
AF-A	8	ACER X FREEMANII 'ARMSTRONG' ARMSTRONG FREEMAN MAPLE	2.5" CAL	B & B	SINGLE STEM
GB-P	6	GINKGO BILOBA 'PNI 2720' PRINCETON SENTRY® MAIDENHAIR TREE	2.5" CAL	B & B	SINGLE STEM
GT-S	2	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE' SKYLINE® HONEY LOCUST	2.5" CAL		
DECIDUOUS SHRUBS					
HS	40	DIERVILLA SPLENDENS 'EL MADRIGAL' FIREFLY NIGHTGLOW	#2	CONT	SPACE 3'-0" O.C.
RA-G	153	RHUS AROMATICA 'GRO-LOW' GRO-LOW FRAGRANT SUMAC	#2	CONT	SPACE 4'-0" O.C.
EVERGREEN SHRUBS					
JC-S	85	JUNIPERUS CHINENSIS 'SEA GREEN' SEA GREEN JUNIPER	#5	CONT	SPACE 4'-0" O.C.
ORNAMENTAL GRASSES					
CA-K	14	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' KARL FOERSTER FEATHER REED GRASS	#1	CONT	SPACE 2' O.C
PERENNIALS					
AH-N	32	AMSONIA HUBRICHTII 'NORTHWIND' NORTHWIND SELECT ARKANSAS BLUESTAR	#1	CONT	SPACE 3'-0" O.C.
SYMBOL	**QTY**	**BOTANICAL / COMMON NAME**			
LANDSCAPE BED					
	4,920 SF	AMENDED PLANTING SOIL 12" DEPTH MIN. TOP W/ 3" WOOD MULCH			
TURF RESTORATION					
	1,791 SF	TURF SOD PREMIUM KENTUCKY BLUEGRASS SOD BLEND			



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DATE _____ LIC. NO. _____

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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-C5-LAND
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

SITE PLANTING PLAN

SHEET

C5-10

S RIVERFRONT DRIVE

S FRONT STREET

W LIBERTY STREET

WARREN STREET

PROPOSED PARKING STRUCTURE
(REFER TO STRUCTURE)

PROPOSED
BUSINESS USE
FFE = 780.81

PROPOSED
RETAIL 2
FFE = 785.00

PROPOSED
CAFE/LOBBY/B.O.H
FFE = 785.57

PROPOSED
RETAIL 1
FFE = 785.57

PROPOSED
RESTAURANT
FFE = 784.81

30'x111'
UNDERGROUND STORMWATER
TREATMENT SYSTEM

BENCHMARK HYDRANT
TNFH = 779.68

BENCHMARK HYDRANT
TNFH = 785.78

0 20 40
SCALE IN FEET

N

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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-C4-GRADING
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

GRADING PLAN

SHEET

C4-10

PRELIMINARY NOT FOR CONSTRUCTION

S RIVERFRONT DRIVE

W LIBERTY STREET

S FRONT STREET

WARREN STREET

PROPOSED PARKING STRUCTURE
(REFER TO STRUCTURE)

PROPOSED
RETAIL 2
FFE = 785.00

PROPOSED
RETAIL 1
FFE = 785.57

PROPOSED
CAFE/LOBBY/B.O.H
FFE = 785.57

PROPOSED
RESTAURANT
FFE = 784.81

PROPOSED
BUSINESS USE
FFE = 780.81

30'x111'
UNDER GROUND STORMWATER
TREATMENT SYSTEM

STORM CATCH BASIN (TYP)

STORM SEWER (TYP)

STORM MANHOLE (TYP)

24" OUTLET PIPE

BUILDING STORM CONNECTION

BUSINESS USE BUILDING
WATER SERVICE

BUSINESS USE BUILDING
SANITARY SERVICE

CONNECT 24" OUTLET PIPE TO
EXISTING STORM MANHOLE

RESIDENTIAL SANITARY
AND WATER SERVICE

RETAIL SANITARY AND
WATER SERVICE

CAFE SANITARY AND
WATER SERVICE

RESTAURANT SANITARY
AND WATER SERVICE

BENCHMARK HYDRANT
TNFH = 779.68

BENCHMARK HYDRANT
TNFH = 785.78

SCALE IN FEET
0 20 40

PRELIMINARY NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LIC. NO. _____

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LIC. NO. _____

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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-C3-UTILITY
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

UTILITY PLAN

SHEET

C3-20

S RIVERFRONT DRIVE

W LIBERTY STREET

WARREN STREET

S FRONT STREET

PROPOSED PARKING STRUCTURE
(REFER TO STRUCTURE)

PROPOSED
BUSINESS USE
FFE = 780.81

PROPOSED
RETAIL 2
FFE = 785.00

PROPOSED
CAFE/LOBBY/B.O.H
FFE = 785.57

PROPOSED
RETAIL 1
FFE = 785.57

PROPOSED
RESTAURANT
FFE = 784.81

30'x111'
UNDER GROUND STORMWATER
TREATMENT SYSTEM

BENCHMARK HYDRANT
TNFH = 779.68

BENCHMARK HYDRANT
TNFH = 785.78

0 20 40
SCALE IN FEET

PRELIMINARY NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LIC. NO. _____

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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

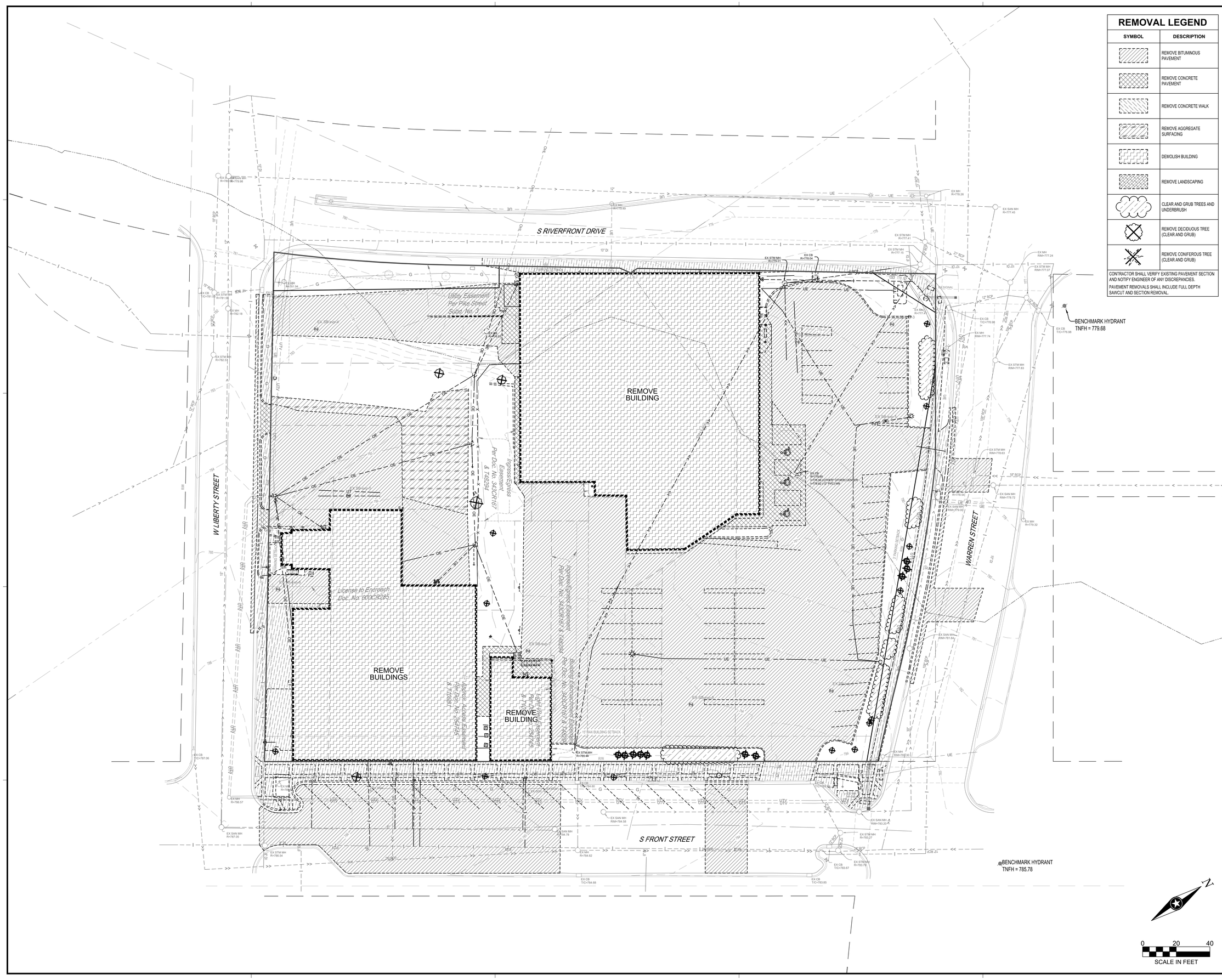
PROJECT NO.	25-33587
FILE NAME	33587-E2-LIGHT
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

PHOTOMETRICS PLAN

SHEET

E2-00



REMOVAL LEGEND

SYMBOL	DESCRIPTION
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE PAVEMENT
	REMOVE CONCRETE WALK
	REMOVE AGGREGATE SURFACING
	DEMOLISH BUILDING
	REMOVE LANDSCAPING
	CLEAR AND GRUB TREES AND UNDERBRUSH
	REMOVE DECIDUOUS TREE (CLEAR AND GRUB)
	REMOVE CONIFEROUS TREE (CLEAR AND GRUB)

CONTRACTOR SHALL VERIFY EXISTING PAVEMENT SECTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

PAVEMENT REMOVALS SHALL INCLUDE FULL DEPTH SAWCUT AND SECTION REMOVAL.

ISG

PRELIMINARY NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LIC. NO. _____

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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-C2-EXISTING
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

EXISTING SITE AND REMOVAL PLAN

SHEET

C2-10

February 24, 2026

Community Development
City of Mankato
Intergovernmental Center
10 Civic Center Plaza
Mankato, MN 56001

RE: CUP & CDC Narrative
Front Street Redevelopment

City Community Development team:

ISG is submitting a Certificate of Design Compliance (CDC) and Conditional Use Permit (CUP) application for the redevelopment in downtown Mankato for the block bound by S. Riverfront Dr/S Front Street/Warren St / Liberty Street. Attached is a map and list showing all the parcels included with this city block/application, providing the parcel number, address (if applicable) and owner on record. The submittal includes the following documents for staff's review: Site/Civil Plans, Landscape Plan, Lighting Plan, Elevations, Floor Plans (including parking plan), Materials Board, Stormwater Memo, Footings Encroachment Exhibit, Parking Analysis Memo, Traffic memo, Site Construction Logistics letter and Plan. This narrative describes the proposed project and outlines each request in further detail, demonstrating how the project is compliant with CDC and CUP criteria.

PROJECT NARRATIVE

The Front Street Place redevelopment site is a block in downtown Mankato that is zoned CBD-F (Central Business District – Fringe) and within the Front Street Connectivity Plan. Last month, our team submitted the Preliminary Plat application to consolidate the 13 parcels on this city block into 1 lot, totaling a size of 2.5 acres (109,036 square feet) to prepare the project area for a new cohesive development on one lot. The Preliminary Plat is currently in review with the city.

Front Street Plaza, LLC is proposing a mixed-use redevelopment project that will include retail, office, residential, and a shared parking facility. A 5-story office building is situated at the corner of Riverfront Drive and Warren Street. The building along Front Street will be six stories. Retail will occupy the first floor with residential on floors 2-6. A private outdoor terrace for residents will be located on the east side of the building. In between the two buildings will be a 3-story parking ramp. There will be direct access from the parking ramp to the residential, office, and café mezzanine.

Following is a summary of specific site design criteria and how these items are addressed with this proposal:

BUILDING MASSING

Our development is located within the 'Downtown" commercial area and will have four street frontages facing S. Front Street to the East, Warren Street to the north, South Front Street to the East, Liberty Street to the south, and Riverfront Drive to the west. The facades along Warren Street and South Front Street all support the urban fabric and retail corridor along South Front Street by holding the street edge for at least 50% of the building frontage, with the remaining setbacks serving as an urban plaza at the intersection of S. Front Street and Warren Street, and a garage entrance along the mid-block of Warren Street.

Along South Front Street, retail bays will help to activate and extend the shopping corridor, with inset storefronts and canopies for future retail signage and pedestrian cover. An elevated terrace at the second level will provide further engagement between the private residential development and the public sidewalk below. The primary pedestrian garage entrance along the mid-block of South Front Street will also serve as a point of entry for the café and the retail bay at the corner of Liberty and South Front Street.

On Warren Street, the parking deck will be shielded from view with architectural paneling, and the vehicular entrance will be visually minimized by the office building above.

The materiality of the development will prioritize South Front and Warren Street with mix of limestone finish, architectural panels in metal and fiber cement, as well as retail storefronts and larger glazing at key building breaks. The secondary façades that characterize Liberty Street and Riverfront Drive will continue the architectural language and but will primarily be cladded in architectural fiber cement and metal panels along with limited limestone finishes along the base and at accent walls. Private balconies for residents are anticipated along this façade for views towards the river.

PRIVATE AMENITY DECK

There will be a private outdoor amenity deck for residents located on the second floor of the Front Street building. There will be direct access from the 3rd level of the parking ramp and 2nd level of the building along Front Street. Amenities could include a fenced in dog area, grills, fireplace, seating, and open space.

FLOOR AREA RATIO

The total floor area, including the parking ramp, is 308,802 GSF. This equates to a floor area ratio of 2.83.

SIGNAGE

Signage will comply with the Urban Design Guidelines. Signage calculations are provided on the development summary page. Signage will be provided in full details with the sign permits for each individual tenant. Since specific tenants are not identified and exact signage is unknown, we do not have the final signage available at this time. However, we have attached a plan showing the sign locations and allowable area for each tenant based on the code allowance. All signs will conform with Mankato Sign Code as stated in Section 10-435 and other applicable regulations.

PUBLIC WALK

The walk along Riverfront Drive, Warren Street, and South Front Street will match the standard downtown exposed aggregate banding finish.

OFF-STREET LOADING

The city code states that central loading facilities are allowed if each zoning lot has direct access without crossing streets or alleys. The total loading berth requirement is based on all the uses and areas may be total before computing number of loading berths.

Calculations:

- Retail 2 has a loading dock located along Liberty Street, so it wasn't included in the central loading facility calculation.
- The tenants identified as Retail 1, Café and Restaurant equals 16,778 SF. The retail/commercial loading berth requirement is two short loading berths for 25,000 SF. Therefore, the retail requires 16,778/25,000=0.67 0.67*2=1.34 short loading berths.
- The office is 36,524 SF. The office loading berth requirement is one short loading berth for 200,000 SF. Therefore, the office requires 36,524/200,000=0.18 short loading berth.
- 1.34+0.18=1.52 short loading berths required.

Provided:

- Two short loading berths are provided along Warren Street.
  - Screening cannot be provided due to access constraints.
- Loading dock provided along Liberty Street.
  - Screening of 6ft in height will be provided.
- The loading berths are located more than 30 feet from the nearest point of intersection.

REFUSE PLAN

Residents and Retail 2 will have access to an interior trash room located near the loading dock. The remaining tenants will share a central exterior trash enclosure located west of Retail 2 and south of the parking ramp.

PARKING

The proposed mixed-use development will operate using a shared parking model that requires more stalls than the city code. Refer to the attached Shared Parking Analysis Memorandum for parking calculations and shared parking model.

BICYCLE PARKING

A bicycle storage locker is included as a residential amenity, so the residential parking requirement was removed from the bicycle parking requirement. Therefore, the 5% bicycle space requirement was applied to the 122 non-residential parking stalls, requiring 6 bicycle spaces.

SNOW STORAGE

All snow is planned to be hauled off-site. Temporary snow storage areas are identified on the attached Site Code Plan for the surface parking area. Snow will also be temporarily stored in the corners of the upper deck parking ramp prior to being hauled off-site.

TRAFFIC ANALYSIS

Based on the low trip generation potential and alternative routes provided to access the site, it is expected that the development will have minimal impacts to the surrounding roadway network. It is expected that the existing roadway network would be able to accommodate the new trips generated. Refer to the traffic memorandum for additional information.

TRAFFIC CONTROL

Temporary road closures will be required for the project. Refer to Site Logistics Plan for additional information.

STORMWATER

The proposed project provides a stormwater management system that meets all MPCA NPDES and City of Mankato requirements. This includes rate, water quality, and volume control. An NPDES Construction Stormwater Permit will be applied for prior to construction. Refer to the Stormwater Management Report for additional information.

ENCROACHMENTS

All the doors along the right-of-way will be set into the building, so there will be no at grade encroachments into the right-of-way. Below is a list of proposed encroachments:

- The proposed building at the corner of Liberty Street and Front Street will encroach the sight triangle on floors 2-6.
  - A minimum clear height of 18 feet will be provided.
- Store front canopies will encroach the right-of-way along Front Street.
  - A minimum clear height of 15 feet will be provided.
- A residential terrace will encroach the right-of-way along Front Street.
  - A clear height of 18 feet will be provided.
- The proposed building at the corner of Riverfront Drive and Warren Street will encroach the right-of-way on floors 2-6.
  - A minimum clear height of 18 feet will be provided.
- Building footings will encroach into the right-of-way approximately 3 feet. See attached exhibit.
- Off-street loading along Warren Street is proposed in the right-of-way.

CERTIFICATE OF DESIGN COMPLIANCE REQUEST

The following items are included within this submittal in support of Certificate of Design Compliance approval:

- Site Plan
- Landscape Plan
- Site Lighting Photometrics Plan & Light Fixture Details
- Colored Rendering
- Materials Sample Board
- Preliminary Floor Plan

CONDITIONAL USE PERMIT REQUEST

Following are the Standards from Section 10-883 of the City of Mankato code for the review of a Conditional Use Permit (CUP) request. Each standard is listed below verbatim from the city code followed with a response on how this project addresses each CUP standard:

1. It is one of the conditional uses listed in the particular district.

   Response: The property is zoned CBD-F. The Front Street Redevelopment includes Apartments and Restaurants, which are both listed in Section 10-542 of the Mankato code as conditional uses as copied below:

   - ***Apartments,*** *provided residential uses are limited to not more than 50 percent of the ground floor. The entirety of the upper floors may be used for residential purposes. At least 50 percent of the ground floor, including the portion of the building abutting the street frontage, common area, or plaza, shall be devoted to principal nonresidential uses permitted in this district.*

   - ***Restaurants,*** *including drive-through and carry-out, and other eating and nonalcoholic drinking establishments, including unenclosed seating and servicing areas as regulated in article X, division 2, of this chapter.*

   The proposed apartments comply with the CUP requirement and are not more than 50 percent of the ground floor area. The ground floor area is designed for restaurant, grocery and retail uses.

2. It is in keeping with the comprehensive planning policies of the city and this article as amended from time to time.

   Response: This development supports goals for additional housing options where a walkable neighborhood character is being built. It also supports economic development and revitalization downtown.

3. It does not interfere with or diminish the use of property in the immediate vicinity.

   Response: This site is predominately vacant or surface parking. This project is providing a large redevelopment investment to this area that will help revitalize this area of downtown.

4. It can be adequately served by public facilities and services.

   Response: All needed public facilities and services are available and equipped to support this size of development. Additionally the existing water and sanitary sewer mains are located in the adjacent streets and are sized to accommodate the proposed increased density.

5. It does not cause undue traffic congestion.

   Response: A traffic study has been provided with this application to show that the anticipated traffic generated with the mix of proposed uses can adequately be serviced by the surrounding streets without need for improvements and that the locations of the proposed access drives do not cause any conflicts to adjacent uses.

6. It preserves significant historical and architectural resources.

   Response: The majority of the site is vacant and the existing buildings that will be demolished are not contain historical or architectural significance to prevent the redevelopment of the site.

7. It preserves significant natural and environmental features.

   Response: The site is a flat urban infill of a city block with no significant natural or environmental features.

8. It will not cause a negative cumulative effect, when considered in conjunction with the cumulative effect of various special uses of all types on the immediate neighborhood, and the effect of the proposed type of conditional use upon the city as a whole.

   Response: The mix of uses – apartment, office and retail – bring a positive, live-work presence to the downtown area. Opposite of a negative effect, these uses bring life and economic vitality to the area.

9. It complies with all other applicable regulations of the district in which it is located and other applicable ordinances, except to the extent such regulations have been modified through the planned development process or the granting of a variance.

   Response: The proposed development is compliant with the applicable city and state codes. Additionally, this property is located within the Front Street Connectivity Plan and supports the following goals stated in the plan, with the main elements bulleted below:

   - Improve the economic viability, market position, and accessibility of Front Street
   - Maintain Pedestrian Access through Front Street
   - Provide parking in expandable parking ramps or within the building itself. Building upwards for commercial, office, residential uses along with parking purposes provides for greater utilization of space and limits the presence of expansive hard-surfaced parking lots. Reducing expansive hard surface parking lots …

   The proposed development designed the buildings along Front Street as the dominant pedestrian side, with the goal to enhance the streetscape and engage the pedestrian. Surface parking is limited overall, with the majority of parking in a parking ramp. No parking is accessed from Front Street and parking is screened by buildings and not visible to Front Street.

10. It will not jeopardize the public's health, safety, or general welfare.

    Response: This project does not jeopardize the public's health, safety, or general welfare. The proposed mix of apartments, office and retail are compatible with adjacent uses and the character of the area, are not uses that pose safety or nuisance issues.

Thank you again for reviewing the application and attached materials. Please contact us with any questions or if there is any additional information we can provide in support of this project. Andrea Rand is the application coordinator and her contact is Andrea.Rand@ISGInc.com or 952.426.0699. Nate Hermer is the project manager and civil engineer and his contact information is Nathan.Hermer@ISGInc.com or 507-387-6651.

Sincerely,

Andrea Rand, AICP
Development Services Coordinator

Nate Hermer, PE
Project Manager

CONSTRUCTION GROUP

February 24th, 2026

Mark Konz
Director of Community Development
Intergovernmental Center
10 Civic Center Plaza
Mankato, MN 56001

RE: Front Street Plaza Development – SITE LOGISTICS PLAN

Mr. Konz,

The information below is provided to offer additional context to the Construction Site Logistics Plan dated 2/24/26. It is the development team's intent to minimize disruption to local traffic, pedestrians and businesses. However, the construction of this multi-story project will demand some temporary closures of parking area and traffic routes. We look forward to working with all City departments on putting forward the most effective, safe and efficient construction plan for this project.

Due to the uncertainty of the start date of this project, we are only including anticipated durations of our shutdown requests. As the process moves forward and the project start date is better defined, we can update you with more accurate dates for these requested closures.

PHASE ONE

Subsequent to the site demolition process, we will begin the construction of the office building at the corner of Warren Street and South Riverfront Drive and the commercial and multi-family building along South Front Street. The parking ramp will be constructed in Phase Two.

1) **SOUTH RIVERFRONT DRIVE**
   We will need space on the NW side of the office building for lifts and / or scaffolding to assist in the installation of the exterior façade. We expect the duration of this temporary one-lane closure (shown in **PINK** on the logistics plan) to be approximately three months.

This would be similar to the process used during the construction of the Profinium building across the street.

2) **WARREN STREET**
Similar to the temporary closure on South Riverfront, the closure request on Warren Street (shown in PINK on the logistics plan) will be for approximately three months. We also have a utility connection (shown in **ORANGE** on the logistics plan) that will take place on this street, and we expect this construction effort to last around three weeks. Our main construction entrance will be accessed off of Warren Street as well.

3) **SOUTH FRONT STREET**
We are requesting the diagonal parking stall area along the project side of South Front Street (shown in **GREEN** on the logistics plan) for most of the duration of the construction project. We will open this area up for parking as soon as we can, after we are completed with the exterior finishes on the multi-family building, approximately 18 months after project commencement. There is a large area of utility reconstruction (shown in **ORANGE** on the logistics plan) that will take approximately 4 weeks to complete.

4) **WEST LIBERTY STREET**
We are requesting the parallel parking stall area along the project side of West Liberty Street (shown in **GREEN** on the logistics plan) for the duration of the construction project. Our second construction site entrance will also be located on Liberty near South Riverfront Drive.

5) **CONSTRUCTION LAYDOWN AREA**
The contractor will have a material storage / laydown area between the two first-phase buildings. This area can be seen in **YELLOW** on page one of the construction logistics plan. All materials, equipment and site offices will be staged in this area.

PHASE TWO

Phase Two will include the construction of the pre-cast concrete parking ramp in the middle of the site. This will commence when we have most of the exterior finishes in place on the office and commercial / multi-family building.

1) **SOUTH RIVERFRONT DRIVE**
Long duration lane closures will not be required on Phase Two of this project.

2) **WARREN STREET**
Long duration lane closures will not be required on Phase Two of this project.

3) **SOUTH FRONT STREET**
We are requesting the diagonal parking stall area along the project side of South Front Street (shown in **GREEN** on the logistics plan) for most of the duration of the construction project. We will open this area up for parking as soon as we can, after we are completed with the exterior finishes on the multi-family building, approximately 18 months after project commencement.

4) **WEST LIBERTY STREET**
We are requesting the parallel parking stall area along the project side of West Liberty Street (shown in **GREEN** on the logistics plan) for the duration of the construction project. Our second construction site entrance will also be located on Liberty near South Riverfront Drive.

5) **CONSTRUCTION LAYDOWN AREA**
The contractor will have a material storage / laydown area along South Riverfront during the construction of the parking ramp. This area can be seen in **YELLOW** on page two of the construction logistics plan. All materials, equipment supporting the installation of the parking ramp will be staged in this area.

We look forward to working with the City of Mankato on refinements to the plan that we lay out above. We will also be developing a traffic signage plan that communicates the pedestrian and traffic route changes during this project.

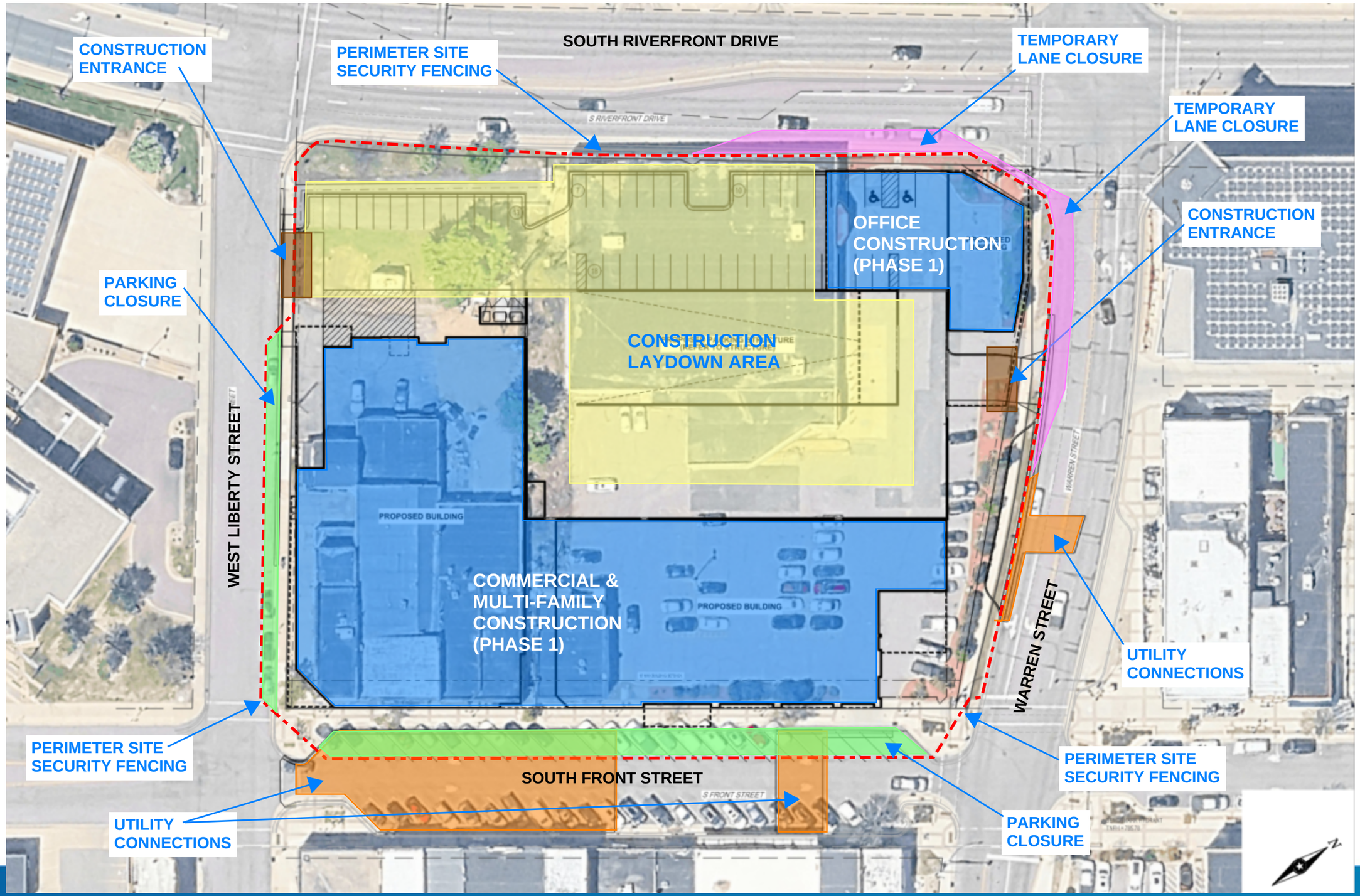
Please let us know if you have any questions or concerns about the information provided.

Sincerely,



Shawn R. Meschke, P.E.
Senior Project Manager

1531 MADISON AVENUE, SUITE 200, MANKATO, MN 56001 APXCONSTRUCTIONGROUP.COM TEL: 507-387-6836 FAX: 507-387-1169

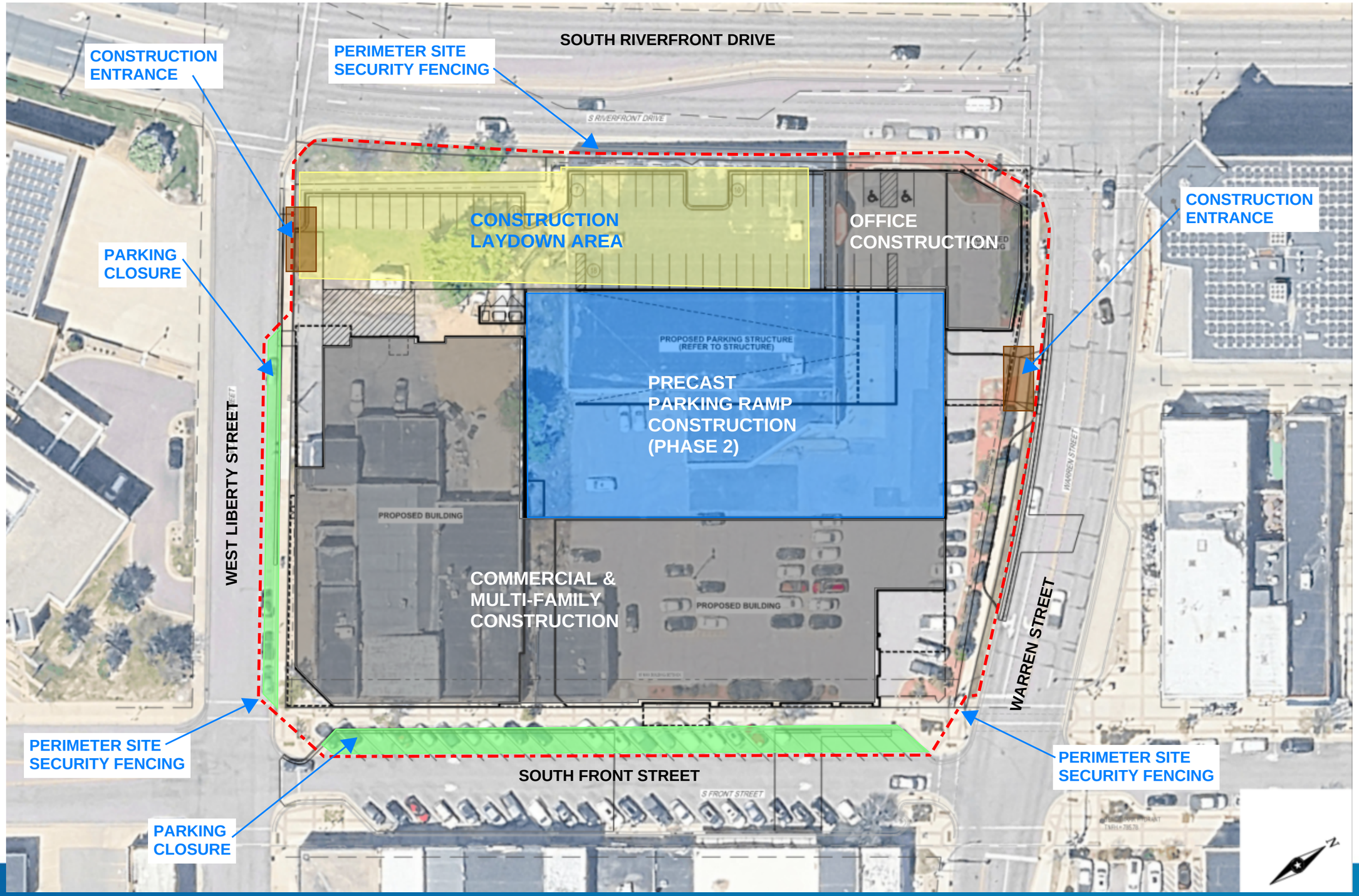


FRONT STREET PLAZA

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CONSTRUCTION	PHASE 1
LOGISTICS PLAN	2/24/26



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CONSTRUCTION	PHASE 2
LOGISTICS PLAN	2/24/26

Memorandum

Shared Parking Analysis

To: City of Mankato

From: Nathan Hermer

Date: February 19, 2026

Subject: Front Street Plaza – Shared Parking Analysis

Parking Code

ISG is working with Front Street Plaza, LLC on a mixed-use redevelopment in downtown Mankato. The project encompasses approximately two and a half acres bounded by Warren Street to the north, Front Street to the east, Liberty Street to the south, and Riverfront Drive to the west. The proposed uses on the property will include multi-family residential, commercial/retail, restaurant, and office.

ISG has performed initial parking calculations based on the City of Mankato code. The code states the following off-street parking shall be provided for each use.

- Multi-Family Residential – One and half spaces per dwelling unit
- Office – One space per each 250 sq. ft. of gross floor area
- Restaurant – One space per each four seats, one space per each two employees on major shift, one space for each delivery vehicle, and one space for customer food pick-up
- Commercial – One space per 200 sq. ft. of retail or sales floor area

The number of stalls required based on this information is shown in Table 1, on the next page, under the parking code column.

The project is located in the CBD-F district and the code states, “Uses and buildings located in the CBD-F district shall be required to provide one-half the required parking set forth in the section. However, the city council may require off-street parking to be provided for conditional uses in the CBD-C or CBD-F districts.”. The property is within the CBD-F district, so a reduction of one-half was applied to the parking code calculations to determine the required parking for the development, as shown in the CBD-F Code column in Table 1.

Table 1: Parking Analysis

General Land Use Classification	Gross Area (SF)	Net Area (SF)	Units (EA)	Seats (EA)	Parking Code	CBD-F Code	Provided Parking
Retail	21338	17071			86	43	43
Residential			160		240	120	128
Restaurant				80	25	13	13
Office	36524	32872			132	66	66
			Total		**483**	**242**	**250**

Net Area Efficiency Factor	
Grocer	0.8
Retail	0.85
Office	0.9

A bicycle storage locker is being proposed for the development, and the city code allows for up to a 5% parking reduction for bicycle parking above the required minimum. This would equate to an additional reduction of 12 required parking stalls but is currently not accounted for in the parking calculations.

Shared Parking

The proposed development will include one off-street parking facility with the capacity to serve the entire mixed-use development. Operationally the parking will be handled in a similar manner to the City's shared parking schedule with the following adjustments.

Residential is currently not included in the City's shared parking schedule. Residential and retail both have high nighttime usage, so this could be attributed to the very small amount of mixed-use residential, where the secondary use is not retail. This development includes uses like office, that have high daytime usage, so there is benefit to adding residential to the shared parking schedule. Census data shows that 23.5% of Minnesotans work from home and a much smaller percentage in Mankato. Therefore, we are proposing a 30% parking requirement for residential during the weekday from 7am-6pm. The residential parking requirement would remain 100% during all other times.

The City's shared parking schedule currently has no reduction for office on the weekends from 7am-6pm. The proposed development anticipates a much smaller amount of office employees working on the weekends. Therefore, we are proposing a 10% parking requirement for office during the weekend from 7am-6pm.

The proposed development's shared parking schedule is shown in Table 2 on the next page. The highlighted cells identify where it deviates from the City's shared parking schedule.

The required parking according to the City's code was then entered into the shared parking schedule. The developer's required residential parking is one space per one bedroom and one and half spaces per two or more bedrooms, which is higher than the 0.75 stalls per unit required in the CBD-F. Therefore, the CBD-F requirement of one-half wasn't applied to the residential and only the permitted uses under the developer's operational model. The final parking spaces required based on the developer's model, which closely follows the city's shared parking schedule can be seen in Table 3 on the next page.

Table 2: Development's Shared Parking Schedule

General Land Use Classification	Spaces Required	Weekdays			Weekends		
		12am - 7am	7am - 6pm	6pm - 12am	12am - 7am	7am - 6pm	6pm - 12am
Office + Industrial	1 stall per 250 sq ft	5%	100%	5%	0%	10%	10%
Retail	1 stall per 200 sq ft	0%	100%	80%	0%	100%	60%
Restaurant	1 stall per 4 seats	50%	70%	100%	70%	45%	100%
Hotel	1 stall per unit	100%	65%	100%	100%	65%	100%
Residential	1 stall/1B 1.5 stalls/2+B	100%	30%	100%	100%	100%	100%

Table 3: Shared Parking Calculations

General Land Use Classification	Sq Ft/Units/Seats		Total Spaces Required		Weekdays			Weekends		
					12am - 7am	7am - 6pm	6pm - 12am	12am - 7am	7am - 6pm	6pm - 12am
Office (Sq Ft)	32,872		66		3	66	3	0	7	7
Retail (Sq Ft)	17,017		43		0	43	34	0	43	26
Restaurant (Seats)	80		25		13	18	25	18	12	25
Hotel (Units)			0		0	0	0	0	0	0
Residential (Units)	1B Units	2+B Units	1B Units	2+B Units						
	108	52	108	78	186	56	186	186	186	186
			Total		202	183	248	204	248	244

The proposed shared parking schedule strategically maximizes the use of a single parking facility by coordinating different users whose peak parking demands occur at different times. This reduces the need for larger parking facilities, which minimizes the impervious footprint and allows for a more compact, walkable, and environmentally friendly development. Shared parking facilities can also encourage the use of alternative modes of transportation, such as public transit, walking, or cycling.

The proposed parking facility meets the minimum requirements set by city code, follows a shared parking schedule similar to what's adopted by the city, and meets the overall needs of the development.

Memorandum

602 South Front Street Trip Generation

To: City of Mankato

From: Corona Woychik, PE, PTOE

Date: February 24, 2026

Subject: 602 South Front Street Trip Generation and Turn Lane Warrant Analysis

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The following is a Trip Generation Memorandum for the proposed 602 South Front Street development project to be located within the block bordered by S. Riverfront Drive, Warren Street, S. Front Street, and W Liberty Street in Mankato, Minnesota. This development will consist of two mixed-use buildings Parking will be handled via on-street parking along S. Front Street as well as a parking garage that has 250 spaces.

TRIP GENERATION

The proposed development is assumed to consist of two buildings with an onsite parking garage. Building one will have a 160 room Apartment building located on the upper floors with 21,300 sf of retail space and 10,800 sf of restaurant space divided up for two tenants. Building two will consist of 37,000 sf of office space. Vehicular access to the proposed development along S Front Street will be provided via Warren Street, and W. Liberty Street. Refer to the attachments for a copy of the preliminary site plan. Average daily, AM peak hour, and PM peak hour trips for the proposed development land use options were estimated using the ITE Trip Generation Manual, 11th Edition. **Table 1** provides a summary of the trip generation potential for the proposed wrestling facility.

TABLE 1 TRIP GENERATION

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Multifamily Housing (Mid-Rise) (221)	160 Apartments	469	6	39	31	11
Coffee/Donut Shop without Drive-thru (936)	2,500 sf	1334	119	114	41	41
High-Turnover (Sit Down) Restaurant (932)	4,900 sf	525	26	21	27	17
Strip Retail (822)	21,400 sf	1165	31	20	71	71
General Office Building (710)	37,000 sf	401	49	7	9	44

Using the ITE Trip Generation Manual, 11th Edition, and assuming a Dense Multi-Use Urban context (moderate-size urban downtown area), the proposed site is anticipated to generate up to 432 trips during the AM peak hour of adjacent street traffic.

Trips associated with the coffee shop, restaurant, and retail uses are expected to consist of a combination of new trips and pass-by trips.

The site plans indicate a coffee shop size of 5,800 square feet; however, the average size of a coffee shop without a drive-through in the ITE Trip Generation Manual, 11th Edition is approximately 2,000 square feet. Applying the full 5,800-square-foot area resulted in an estimate of more than 275 entering trips during the AM peak hour, which is considered excessive for this context. As a result, the coffee shop was modeled at 2,500 square feet, with the remaining 3,300 square feet assumed to function as seating or open space that would not independently generate additional trips and would primarily serve patrons associated with other on-site uses.

Housing and office-related trips are anticipated to be entirely new trips. Overall, approximately 25 percent of the site-generated trips are assumed to be pass-by trips, with the remaining 75 percent classified as new trips. Some internal capture is also anticipated during both the AM and PM peak hours, which would further reduce traffic added to the adjacent street network. Internal capture was not explicitly calculated for this analysis; therefore, the estimated traffic added to the adjacent street network is considered conservative.

After accounting for pass-by trip reductions, approximately 324 trips are anticipated to be added to the adjacent street network during the AM peak hour. For comparison, the site previously operated as a Walgreens with several small independent retail shops, which, based on the ITE Trip Generation Manual, 11th Edition, was estimated to generate approximately 350 vehicles during the AM peak hour.

TRIP DISTRIBUTION

The trip distribution used in assigning the site traffic for the proposed development was estimated based on a combination of existing traffic patterns, population centers in the vicinity of the study area, and engineering judgement.

It was assumed that the site trips will be regionally distributed as follows:

- 35% to/from the north via S Riverfront Drive
- 35% to/from the south via S Riverfront Drive
- 15% to/from the east via Warren Street
- 10% to/from the west via Poplar Street
- 5% to/from the north/south via Front Street

The site traffic along S Riverfront Drive is expected to utilize W Liberty Street, and Warren Street to access the proposed development. The trip distribution was applied to the anticipated trip generation to assign trips to the network. Refer to the attachments for an illustration of the site's trip assignment.

TURN LANE WARRANT ANALYSIS

Per NCHRP 457 Figure 2-6 (determining the need for a major-road right-turn lane at a two-way stop-controlled intersection), a right-turn lane is not warranted at the intersection of S. Riverfront Drive and W. Liberty Street, using the anticipated generated trips and assuming the following:

- speed limit of 30 MPH
- daily existing traffic volume of 11,500 vehicles per day (draft 2024 AADT is 11,503 per MnDOT Traffic Mapping Application),
- 55% of traffic is traveling NE during AM or PM peak hour of traffic
- 10% of daily traffic occurs during the peak hours

Refer to the attachments for a visual of anticipated traffic numbers plotted on Figure 2-6.

Additionally, MnDOT's turn lane policy at urban intersections is that turn lanes should be considered whenever construction is economically feasible, considering amount of right-of-way needed, type of terrain, and environmentally or culturally sensitive areas. Constrained right-of-way limits space for turn lanes and right-of-way acquisition would be required to construct a right-turn lane, assuming the existing sidewalk widths and neutral offset left-turn lanes are maintained. MnDOT also provides turn lane warrants for undivided roadways, several of which are not applicable to low-speed roadways (less than 45 MPH). Of those that are applicable to S Riverfront Drive, adverse road grades, limited sight distance, and nearby railroad crossings are not present to warrant a right-turn lane.

Therefore, turn lanes are not warranted for the development due to the low (30 MPH) travel speeds and low proposed volumes (135 vehicles, one-way, during peak hour) on S Riverfront Drive.

CRASH HISTORY

Crash history was analyzed using MnCMAT2 website. Over the last 10 years the number of crashes at each intersection with the corresponding crash rate per million vehicles entering. The statewide average for crashes per million entering vehicles in Minnesota is 0.5 and all of these intersections fall below that rate and therefore do not represent a significant safety concern.

- S. Riverfront Drive & Warren Street – 32 Crashes (0.45 Crash Rate)
- Warren Street & S. Front Street – 15 Crashes (0.43 Crash Rate)
- S. Front Street & W. Liberty Street – 4 Crashes (0.29 Crash Rate)
- S. Riverfront Drive & W. Liberty Street – 10 Crashes (0.18 Crash Rate)

CONCLUSION

The proposed 602 South Front Steet development was reviewed to determine the trip generation potential and the potential traffic impacts from the proposed development. Based on the low trip generation potential and alternative routes provided to access the site, it is expected that the development will have minimal impacts to the surrounding roadway network. Based on the estimated trip generation potential and alternative routes provided to access the site, its is expected that the existing roadway links would be able to accommodate the new trips generated by the development.

Attachments: Preliminary Site Plan
Site Trip Assignment Figure
Right-Turn Lane Warrant Figure

I HEREBY CERTIFY THAT THESE CALCULATIONS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Corona Woychik, **PE, PTOE**
Project Engineer
License No. 59049

South Front Street Trip Generation and Turn Lane Warrants Memo
Mankato, Minnesota
Engineer's Project Number: 25-33587
Dated this 24th day of February 2026

602 S. Front Street MU Redevelopment
2/20/2026 UPDATE

RESIDENTIAL BUILDING TABULATION

		AMENITY	EXTERIOR AMENITY **	BOH / PET / UTILTIES	STORAGE	GSF	BALCONIES * (APPOX. 65sf EA.)	NRSF	NET : GROSS
RESIDENTIAL	LEVEL_06	634		197		30,484		26,063	85.5%
	LEVEL_05			197		30,484		26,653	87.4%
	LEVEL_04			197		30,484		26,653	87.4%
	LEVEL_03	540		197		29,849		26,653	89.3%
	LEVEL_02	2,916	15,162	768		29,849		22,818	76.4%
	LEVEL 1.5	1,004		2,891	3,201	7,096		3,201	45.1%
	LEVEL 01	3,042		2,833	4,293	10,168		4,293	42.2%
	TOTAL	**8,136**	**15,162**	**7,280**	**7,494**	**168,414**	**0**	**136,334**	81.0%
	*								

UNIT TABULATIONS

		STUDIOS			1-BED							2-BED										3-BED				TOTAL
		S1	S2	S3	A1	A1.1	A1.2	A2	A3	A4	A4	B1/B1.1	B2	B3	B4	B5	B6	B7	B8	B9	B10	C1	C2	C3	C4	
		540	*590*	*0*	*720*	*0*	*0*	*639*	*0*	*0*	*0*	*1080*	*1166*	*1213*	*999*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
RESIDENTIAL	LEVEL_06				15							6	2	1	2											32
	LEVEL_05				15							6	2	1	2											33
	LEVEL_04				15							6	2	1	2											33
	LEVEL_03				15							6	2	1	2											33
	LEVEL_02	6			15							5	1	1	1											29
	LEVEL 1.5																									0
	LEVEL 01																									0
	TOTAL	**30**	**3**	**0**	**75**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**9**	**5**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**160**
	*	*18.8%*	*1.9%*	*0.0%*	*46.9%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*18.1%*	*5.6%*	*3.1%*	*5.6%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	100%
									75.00												*52.00*					

NON-RESIDENTIAL TABULATION

		RETAIL	OFFICE	REST. / F&B	CAFÉ	PARKING DECK	EXTERIOR AMENITY **
NON-RESIDENTIAL	LEVEL_05		7,744				892
	LEVEL_04		8,715				
	LEVEL_03		8,715				
	LEVEL_02		8,715			17,073	
	LEVEL 1.5		0		1,590	27,328	
	LEVEL 01	21,338	2,635	4,952	4,255	27,328	2,500
	TOTAL	**21,338**	**36,524**	**4,952**	**5,845**	**71,729**	**3,392**
	*						

UNIT TABULATIONS

		STUDIOS			1-BED							2-BED										3-BED				
		S1	S2	S3	A1	A1.1	A1.2	A2	A3	A4	A4	B1/B1.1	B2	B3	B4	B5	B6	B7	B8	B9	B10	C1	C2	C3	C4	
		0	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
NON-RESIDENTIAL	LEVEL_05																									
	LEVEL_04																									
	LEVEL_03																									
	LEVEL_02																									
	LEVEL 1.5																									
	LEVEL 01																									
	TOTAL																									
	*								*0.00*												*0.00*					

R2	AMENITY	X AMENITY	SERVICE	STORAGE	GSF*	BALCONIES	NRSF	NET:GROSS
	8,136	**15,162**	**7,280**	**7,494**	**168,414**	**0**	**136,334**	**81.0%**
		TOTAL RESIDENTIAL GSF			**168,414**		**852**	**NSF / UNIT**
		TOTAL DEVELOPMENT GSF			**308,802**			
		LOT AREA			**109,036**			
		PROPOSED FAR			**2.83**			

	STUDIOS			1-BED							2-BED										3-BED				TOTAL
	S1	S2	S3	A1	A1.1	A1.2	A2	A3	A4	A4	B1/B1.1	B2	B3	B4	B5	B6	B7	B8	B9	B10	C1	C2	C3	C4	
	30	**3**	**0**	**75**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**9**	**5**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**160**
		33					**75**								**52**							**0**			

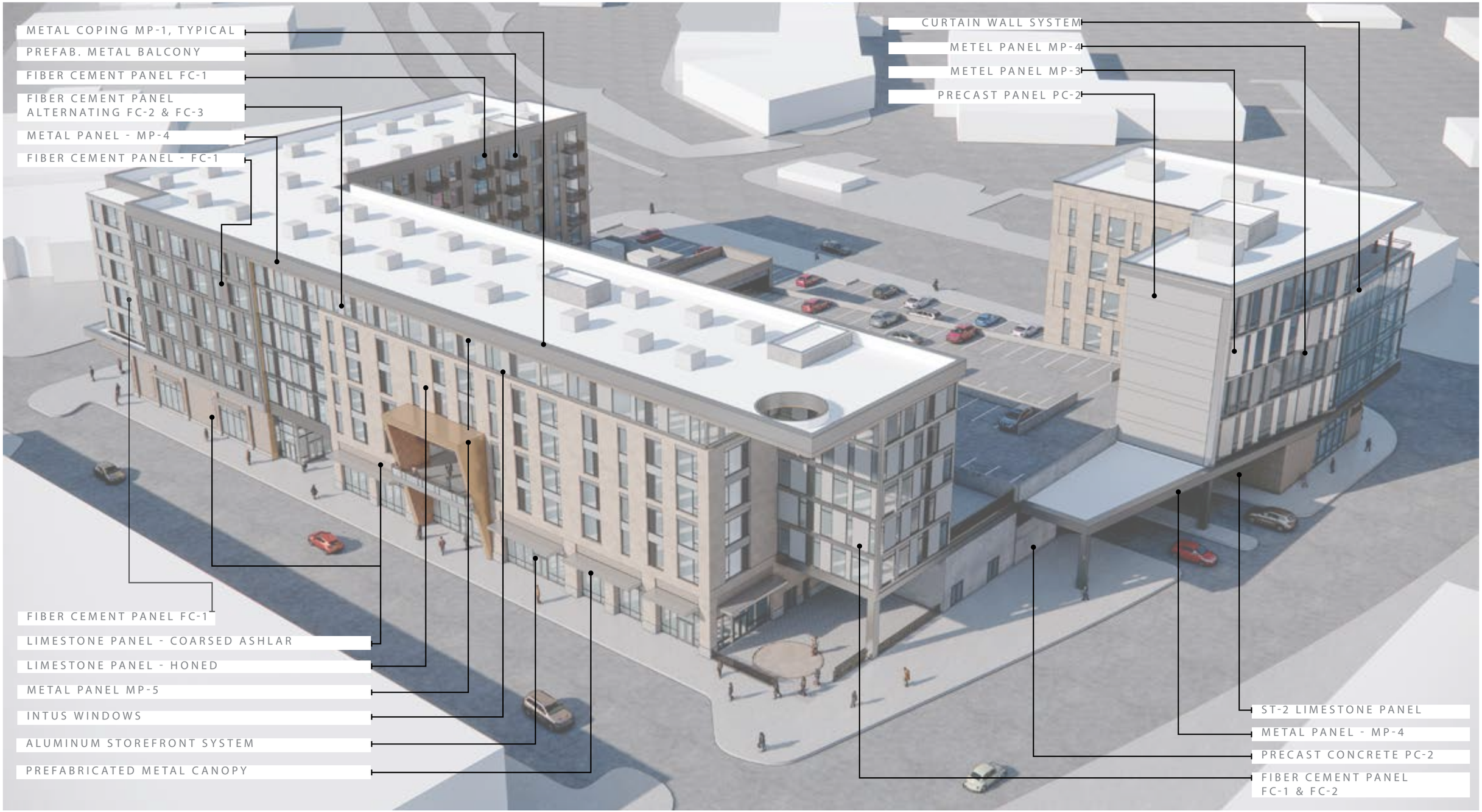
RATIO																									
	18.8%	*1.9%*	*0.0%*	*46.9%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*18.1%*	*5.6%*	*3.1%*	*5.6%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	100.0%
		20.6%					*46.9%*								*32.5%*							*0.0%*			100.0%
TARGET		*9.3%*					*52.6%*								*31.3%*							*0.0%*			
TARGET		24					79								47							0			

** BALCONIES NOT INCLUDED IN NRSF*
*** EXTERIOR AMENITY NOT INCLUDED IN GSF*

PARKING	Standard	ADA	Van		
SURFACE	48			48	
COVERED	33	5	2	40	
L01 RAMP	38			38	
L1.5	71	13		84	
L02	32	8		40	
Totals	222	26	2	250	1.56

FAÇADE BY USE	WARREN STREET	S. FRONT STREET	LIBERTY STREET	RIVERFRONT DRIVE	TOTAL FAÇADE	SIGNAGE PERMITTED - 10% TOTAL FAÇADE
RESIDENTIAL	4,112.00 SF	21,786.00 SF	12,093.00 SF	20,356.00 SF	**58,347.00** SF	**5,834.70** SF
OFFICE L01	1,649.00 SF	667.00 SF	0.00 SF	717.00 SF	**3,033.00** SF	**303.30** SF
OFFICE L02	1,963.00 SF	527.00 SF	917.00 SF	519.00 SF	**3,926.00** SF	**392.60** SF
OFFICE L03	1,731.00 SF	527.00 SF	917.00 SF	519.00 SF	**3,694.00** SF	**369.40** SF
OFFICE L04	1,731.00 SF	527.00 SF	917.00 SF	519.00 SF	**3,694.00** SF	**369.40** SF
OFFICE L05	2,340.00 SF	732.00 SF	1,276.00 SF	726.00 SF	**5,074.00** SF	**507.40** SF
RETAIL 1	0.00 SF	2,243.00 SF	1,064.00 SF	0.00 SF	**3,307.00** SF	**330.70** SF
RETAIL 2	0.00 SF	0.00 SF	2,539.00 SF	842.00 SF	**3,381.00** SF	**338.10** SF
CAFÉ	0.00 SF	897.00 SF	0.00 SF	0.00 SF	**897.00** SF	**89.70** SF
RESTAURANT	501.00 SF	1,672.00 SF	0.00 SF	0.00 SF	**2,173.00** SF	**217.30** SF
GARAGE	2,583.00 SF	0.00 SF	659.00 SF	6,885.00 SF	**10,127.00** SF	**1,012.70** SF

DEVELOPMENT SUMMARY



MATERIAL CALL-OUTS

Statement Collection Series

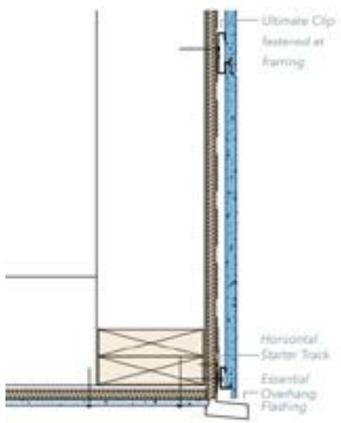
FC-1 Night Gray

FC-2 Pearl Gray

FC-3 Artic White

FIBER CEMENT PANEL

Architectural Wall Panels mimic the look of materials like wood, concrete and brick but are easily installed on a hidden track system. They feature a built-in rainscreen that offers moisture management and are ideal for commercial or residential applications.





Viracon Glass

Reflected Color

Transmitted Color

Spandrel Color

Frame Color

Black

KAWNEER

Curtain Wall

Product: 1600UT System 1

Frame Size: 2-1/2" sightline & depth varies (6", 7 1/2", or 10 1/2")



Storefront

Product: Trifab 451 & Trifab 601UT

Frame Size: 2" sightline & depth varies (4 1/2" or 6")

*Ultra-thermal performance

*Center and fron plane glass applications





INTUS

Product: SUPERA 74, CW

*High-performance, low cost

*Improved insulation, reduced energy consumption, enhanced security

*Variety of design options

U-value: 0.15 – 0.28

SHGC: 0.12 – 0.51

VT: 0.20 – 0.66

STC: 31 – 47

Frame Color

Interior: White

Exterior: Black Smooth

JAMES HARDIE, SWISSPEARL, NICHIHA OR EQUAL
Fiber Cement Panel

KAWNEER & VIRACON
Curtain Wall / Storefront frame & Glass

INTUS
Windows

MATERIALS

MP-5

Native Copper Mica

MP-4

Beachstone Gray Metallic

MP-3

Cadet Gray

MP-2

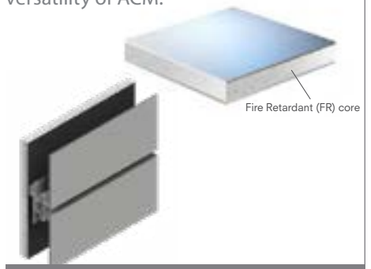
Silver Metallic

MP-1

Tri-corn Black

ACM PANEL

4mm ACM is comprised of two sheets of smooth .020" aluminum thermobonded to a solid fire retardant core. Developed exclusively to meet fire performance requirements while providing the benefits & versatility of ACM.



Product Properties	
Thickness of Aluminum Skin	0.020" (nominal)
Product Thickness	0.157" (4mm nominal)
Weight	1.56 lb/ft^2
Standard Panel Dimension	62" x 196"
Maximum Width	62"
Maximum Length	400"





FLUSH METAL PANEL

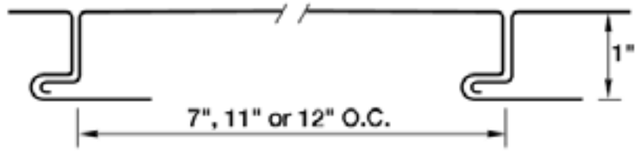
Flush panels are designed for wall, fascia and soffit applications where a flush or flat appearance is desired. A rounded interlock leg and concealed fastening system improves the flush appearance while providing additional strength. Panels are factory-formed to length to minimize field cutting. Maximum panel length is 25' and minimum panel length is 4'. Flush panels are available in non-center dimensions designed to complement Petersen's roofing panel product.

*Panel depths of 1"

*Panel lengths from 4' to 25'

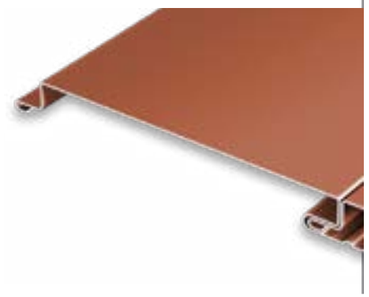
*Leveled for flatness

*Rounded interlock leg provides improved flush fit



MP-6

Native Copper Mica

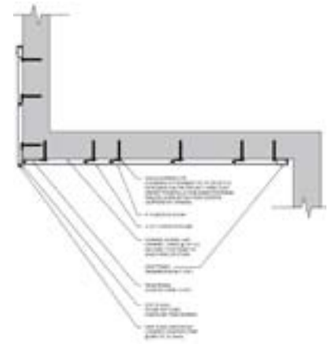




ALUMINUM SOFFIT

T&G soffit applications use Longboard Quick Screen Clips to install parallel or perpendicular to the building's overhang. It can be installed on furring strips or other framing systems if needed. Expansion and contraction require additional component pieces at terminations and penetrations. Available in 12 ft. or 24 ft. lengths, it can be easily fabricated in a pre-fab facility or on-site to suit project conditions.

*6" V-Groove Plan



SP-1

Dark Acacia

ALUCOBOND PLUS
ACM Panel

PAC-CLAD METAL PANEL
Flush Wall Panel

LONGBOARD
Aluminum Soffit

MATERIALS



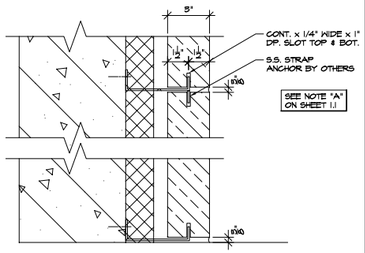
LIMESTONE PANEL 1

*Product: Full Depth Stone Veneer

*Cut: Fleuri Cut

*Finish: Honed, Northern Buff

*Mortar: Prism Pigments, color to match stone





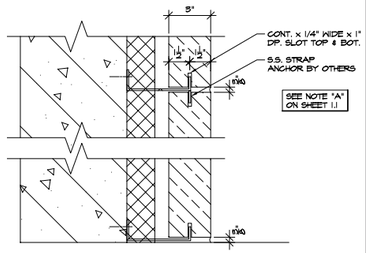
LIMESTONE PANEL 2

*Product: Full Depth Stone Veneer

*Cut: Fleuri Cut

*Finish: Coarse Ashlar

*Mortar: Prism Pigments, color to match stone





PRECAST CONCRETE

From Wells Concrete: “Prefabricated architectural concrete wall panels are the easiest and most economical way to enhance the aesthetics of your next project. Thanks to their unique combination of thermal insulation and pest-, mold-, and weather-resistant properties, Wells building enclosures have a greater lifetime cost efficiency than any other wall construction—and can even be used as a structural component to create more design possibilities.”

https://www.wellsconcrete.com/expertise/prefabricated-building-solutions/architectural-solutions/





LIMESTONE PANEL - HONED
Full Depth Stone

LIMESTONE PANEL - COARSE ASHLAR
Full Depth Stone 3H Course

PRECAST CONCRETE
Traditional Sandwich Panels (3-3-6) & Infinite Facade

MATERIALS



PRECAST IN ACTION

These pictures represent what precast concrete can achieve within a building facade. Instead of a monolithic precast panel, it is instead able to push boundries in the architectural realm. It does this by providing an increased opportunity for creating unique designs, with a variety of colors and patterns.

From Wells Concrete: "Economical to produce, erect and maintain, Wells prefabrication can be customized in a virtually limitless range of colors, textures and shapes — creating a dramatic range of architectural expressions to fit any project or application."

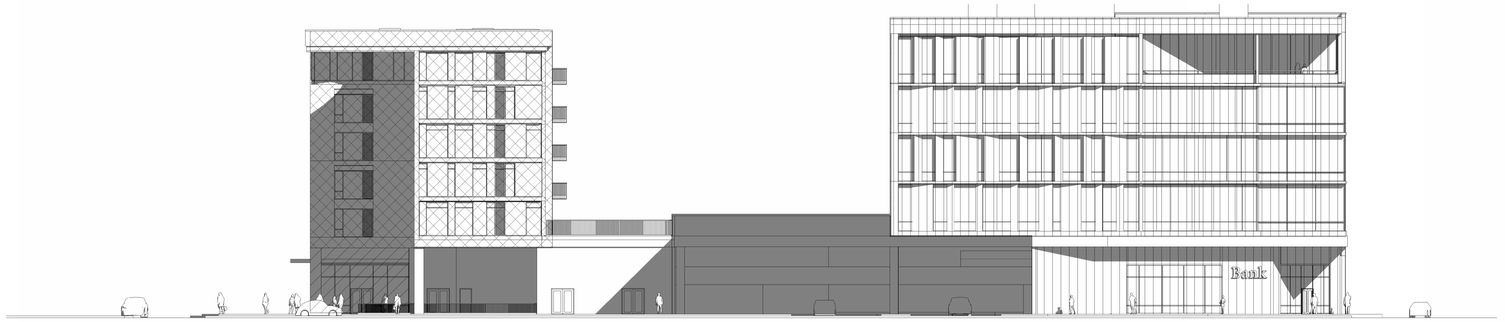




Sheet Number SK1.13

FACADE LEGEND
SEE DEVELOPMENT SUMMARY FOR AREA CALCULATION

- RESIDENTIAL FACADE
- RETAIL 1 CAFE FACADE
- RETAIL 2 FACADE RESTAURANT FACADE
- OFFICE FACADE
- OFFICE FACADE
- GARAGE FACADE



4 ELEVATION-SIGNAGE-WARREN STREET
1" = 20'-0"



1 ELEVATION-SIGNAGE-LIBERTY STREET
1" = 20'-0"



2 ELEVATION-SIGNAGE-RIVERFRONT
1" = 20'-0"



3 ELEVATION-SIGNAGE-S FRONT STREET
1" = 20'-0"

ELEVATIONS - SIGNAGE EXHIBIT

SYMBOL LEGEND

EXISTING		PROPOSED
EX STM MH	STORM MANHOLE	
EX CB	STORM CATCH BASIN	
EX CO	STORM CLEANOUT	
	STORM CULVERT	
	DOWNSPOUT	
	ROOF DRAIN	
EX SAN MH	SANITARY MANHOLE	
EX CO	SANITARY CLEANOUT	
EX LIFT STATION	LIFT STATION	
	WATER REDUCER	
	WATER VALVE	
	WATER VALVE MAHOLE	
	WATER CURB STOP	
	WATER SHUT-OFF	
EX POST INDICATOR VALVE	POST INDICATOR VALVE	
	FIRE DEPARTMENT CONNECTION	
	WELL	
EX MW	MONITORING WELL	
	LAWN SPRINKLER BOX	
	LAWN SPRINKLER HEAD	
	HYDRANT	
EX YARD HYD	YARD HYDRANT	
	UTILITY POLE	
	LIGHT POLE	
	GROUND LIGHT	
	GUY WIRE	
	TRANSFORMER	
EX HH	HANDHOLE	
EX ELEC MH	ELECTRIC MANHOLE	
EM	ELECTRIC METER	
V	UTILITY VAULT	
AC	AIR CONDITIONER	
GM	GAS METER	
GGV	GAS VALVE	
SB-1	SOIL BORING	
	FLAG POLE	
MB	MAILBOX	
EX SIGNAL	TRAFFIC SIGNAL	
	SIGN	
	STREET SIGN	
	WHEEL STOP	
RR	RAILROAD CROSSING SIGN	
	POST	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	BUSH	
	TREE STUMP	
	WETLAND / MARSH	
	ROCK / BOULDER	

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES.

LINETYPE LEGEND

EXISTING		PROPOSED
	STORM DRAIN	
	SANITARY SEWER	
	SANITARY SEWER FORCEMAIN	
	WATER MAIN	
G	GAS	G
OE	OVERHEAD ELECTRIC	OE
UE	UNDERGROUND ELECTRIC	UE
UT	UNDERGROUND TELEPHONE	UT
UTV	UNDERGROUND TV	UTV
OHL	OVERHEAD UTILITY	OHL
UTL	UNDERGROUND UTILITY	UTL
FO	FIBER OPTIC	FO
WET	WETLAND	WET
W	WATER EDGE	
	DITCH / SWALE	
X	FENCE LINE	X
	TREE LINE	
	PROPERTY / LOT LINE	
	RIGHT OF WAY LINE	
	ACCESS CONTROL	
	EASEMENT LINE	

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES.

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
ADD	ADDENDUM
AFF	ABOVE FINISHED FLOOR
AGG	AGGREGATE
APPROX	APPROXIMATE
ARCH	ARCHITECT, ARCHITECTURAL
BFE	BASEMENT FLOOR ELEVATION
BIT	BITUMINOUS
BLDG	BUILDING
BM	BENCHMARK
CAD	COMPUTER-AIDED DESIGN
CB	CATCH BASIN
CFS	CUBIC FEET PER SECOND
CF	CUBIC FOOT
CI	CAST IRON
CIP	CAST IRON PIPE
CIPC	CAST IN PLACE CONCRETE
CJ	CONTROL JOINT
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CR	COUNTY ROAD
CY	CUBIC YARD
C&G	CURB AND GUTTER
DEMO	DEMOLITION
DI	DROP INTAKE
DIA	DIAMETER
DIM	DIMENSION
DS	DOWNSPOUT
EA	EACH
EG	EXISTING GROUND
ELEC	ELECTRICAL
ELEV	ELEVATION
EOF	EMERGENCY OVERFLOW
EQ	EQUAL
EX	EXISTING
FG	FINISHED GROUND
F/G	FORM GRADE
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FES	FLARED END SECTION
FFE	FINISHED FLOOR ELEVATION
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FOOT, FEET
FTG	FOOTING
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GD	GROUND GARAGE FLOOR ELEVATION
GFE	GUTTERLINE
GL	GALLONS PER MINUTE
GPM	GATE VALVE
GV	HIGH DENSITY POLYETHYLENE
HDPE	HEAVY DUTY
HD	HANDHOLE
HH	HOT MIX ASPHALT
HMA	HORIZONTAL
HORIZ	HOUR
HR	HIGH WATER LEVEL
HWL	HIGHWAY
HWY	HYDRANT
HYD	INVERT
I	INSIDE DIAMETER
ID	INCH
IN	INVERT
INV	IRON PIPE
IP	IRON PIPE SIZE
IPS	JUNCTION BOX
J-BOX	JOINT
JT	LINEAR FEET
LF	LINEAR
LIN	LOW PRESSURE STEAM
LPS	LUMP SUM
LS	LOWEST STRUCTURAL OPENING
LSO	MAXIMUM
MAX	MAIL BOX
MB	MECHANICAL
MECH	MANHOLE
MH	MINIMUM
MIN	MISCELLANEOUS
MISC	NUMBER
NO	NOT TO SCALE
NTS	NORMAL WATER LEVEL
NWL	ON CENTER
OC	ON CENTER EACH WAY
OCEW	OUTSIDE DIAMETER
OD	OVERHEAD
OH	ORDINARY HIGH WATER LEVEL
OHWL	OVERHEAD DOOR
OHD	OUNCE
OZ	PORTLAND CEMENT CONCRETE
PCC	PEDESTAL, PEDESTRIAN
PED	PERFORATED
PERF	PROPERTY LINE
PP	POLYPROPYLENE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
QTY	QUANTITY
R	RIM
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REBAR	REINFORCING BAR
REM	REMOVE
ROW	RIGHT OF WAY
R/W	RIGHT OF WAY
SAN	SANITARY
SCH	SCHEDULE
SF	SQUARE FOOT
SPEC	SPECIFICATION
SQ	SQUARE
STA	STATION
STM	STORM
SY	SQUARE YARD
T/C	TOP OF CURB
TEL	TELEPHONE
TEMP	TEMPORARY
THRU	THROUGH
TNFH	TOP NUT OF FIRE HYDRANT
TRANS	TRANSFORMER
TV	TELEVISION
T/W	TOP OF WALL
TYP	TYPICAL
UT	UTILITY, UNDERGROUND TELEPHONE
VCP	VITRIFIED CLAY PIPE
W/O	WITHOUT
W/	WITH
YD	YARD
YR	YEAR



LOCATION MAP

0 200 400
SCALE IN FEET

SITE SUMMARY

PROJECT ADDRESS/LOCATION:	602 SOUTH FRONT STREET MANKATO, MN 56001	
ZONING:	CBD-F - CENTRAL BUSINESS DISTRICT - FRINGE DGT - DOWNTOWN GATEWAY OVERLAY	
SITE/LOT AREA:	109,036 SF	(2.50 AC)
EXISTING IMPERVIOUS:	94,362 SF	(2.17 AC)
PROPOSED IMPERVIOUS:	103,700 SF	(2.38 AC)
DISTURBED AREA:	136,608 SF	(3.14 AC)
INTERIOR LANDSCAPE:	828 SF	(0.02 AC)

REQUIRED SETBACKS

	PARKING	BUILDING
FRONT YARD	0'	0' MIN - 15' MAX
SIDE YARD	3'	0'
REAR YARD	3'	0'

PARKING DATA

PARKING SPACES REQUIRED	242
PARKING SPACES PROPOSED	250

CIVIL SHEET INDEX

C0-10 SITE DATA
C2-10 EXISTING SITE AND REMOVAL PLAN
C3-00 SITE CODE PLAN
C3-10 SITE PLAN
C3-20 UTILITY PLAN
C3-50 PRIVATE AMENITY DECK PLAN
C4-10 GRADING PLAN
C5-10 SITE PLANTING PLAN

PROJECT GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS, WHICH INCLUDE, BUT ARE NOT LIMITED TO, THE OWNER - CONTRACTOR AGREEMENT, THE PROJECT MANUAL (WHICH INCLUDES GENERAL SUPPLEMENTARY CONDITIONS AND SPECIFICATIONS), DRAWINGS OF ALL DISCIPLINES AND ALL ADDENDA, MODIFICATIONS, AND CLARIFICATIONS ISSUED BY ARCHITECT/ENGINEER.
2. CONTRACT DOCUMENTS SHALL BE ISSUED TO ALL SUBCONTRACTORS BY THE GENERAL CONTRACTOR IN COMPLETE SETS IN ORDER TO ACHIEVE THE FULL EXTENT AND COMPLETE COORDINATION OF ALL WORK.
3. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
4. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
5. DETAILS SHOWN ARE INTENDED TO BE INDICATIVE OF THE PROFILES AND TYPE OF DETAILING REQUIRED THROUGHOUT THE WORK. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO DETAILS SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS, OR DESIGN INTENT CANNOT BE DETERMINED, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
6. ALL MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, CLEANED, AND CONDITIONED ACCORDING TO MANUFACTURERS' INSTRUCTIONS. IN CASE OF DISCREPANCIES BETWEEN MANUFACTURERS' INSTRUCTIONS AND THE CONTRACT DOCUMENTS, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
7. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO AVOID GALVANIC CORROSION.
8. THE LOCATION AND TYPE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY AND ARE ACCURATE AND COMPLETE TO THE BEST OF THE KNOWLEDGE OF I & S GROUP, INC. (ISG). NO WARRANTY OR GUARANTEE IS IMPLIED. THE CONTRACTOR SHALL VERIFY THE SIZES, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM PLAN.
9. THE CONTRACTOR IS TO CONTACT "GOPHER STATE ONE CALL" FOR UTILITY LOCATIONS A MINIMUM OF 2 BUSINESS DAYS PRIOR TO ANY EXCAVATION / CONSTRUCTION (1-800-252-1166).

SPECIFICATIONS REFERENCE

ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF MANKATO REQUIREMENTS AND MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2025 EDITION, THE STANDARD SPECIFICATIONS FOR SANITARY SEWER, STORM DRAIN AND WATERMAIN AS PROPOSED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA, 2025 EDITION, AND THE CURRENT VERSION OF THE MINNESOTA STATE PLUMBING CODE UNLESS DIRECTED OTHERWISE.

PROJECT DATUM

HORIZONTAL COORDINATES HAVE BEEN REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), 1996 ADJUSTMENT (NAD83(1996)) ON THE BLUE EARTH COUNTY COORDINATE SYSTEM, IN U.S. SURVEY FEET.
ELEVATIONS HAVE BEEN REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
RTK GPS METHODS WERE USED TO ESTABLISH HORIZONTAL AND VERTICAL COORDINATES FOR THIS PROJECT.

TOPOGRAPHIC SURVEY

THIS PROJECT'S TOPOGRAPHIC SURVEY CONSISTS OF DATA COLLECTED IN JANUARY 2026 BY ISG.

B.M. ELEVATION=779.68

TNFH LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF RIVERFRONT DRIVE AND WARREN STREET

ISG

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LIC. NO. _____

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LIC. NO. _____

SHEET NOT VALID UNLESS THIS TEXT IS COLOR.

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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-C0-GENERAL
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

SITE DATA

SHEET

C0-10

PRELIMINARY NOT FOR CONSTRUCTION

SONNEMAN

Project:

REALS LED Surface Mount

SKU: 7309.XX.PL.72-WL

REALS surface-mounted lights are neatly compact and solidly built. They offer a range of lens variations within the tightly defined geometry of their die-cast rings. Also available as a Downlight Sconce, Up/Down Sconce, Bollard, and Double Bollard.

Learn more: https://sonnemanlight.com/reals-led-ceiling-wall-mount



Dimensions

Height	**1.5"**
Diameter	**5"**
Canopy/Backplate/Base	**5"**

Electrical Specs

Bulb(s) Included?	**Yes**
Bulb 1 Type	**Integral LED**
Total LED, Bulb or Socket Count	**1**
Input Voltage	**120VAC**
Wattage	**10**
Initial Lumens	**1040**
Kelvin	**3000K**
CRI	**90**
Power Supply Type	**Driver**
Power Supply Quantity	**1**
Power Supply Location	**Outlet Box**
Dimming Type	**TRIAC/ELV**

Installation

Installation	**Licensed electrician required**

Diffuser(s), Shade(s) and Lens(es)

Diffuser Type	**White Polycarbonate**
Lens Type	**Plate Lens**

Shipping

Carton 1 L x W x H	**9" X 9" X 6"**
Carton 1 Gross Weight	**3 LBS**

General Listings

Color/Finish	**Textured Bronze (.72)**
Features	**Wet Rated**
Certification	**C-ETL-US**
Dark Sky Friendly	**Y**

Available Finishes

Available Finishes	**Textured Bronze (.72), Textured Gray (.74), Textured White (.98)**

Available Color Temperatures

Available Color Temperatures	**3000k**

Options In This Family

SKU	Size	Wattage	CRI	Delivered Lumens
7309.XX.DL.XX-WL	10	90		
7309.XX.FH.XX-WL	10	90		
7309.XX.FW.XX-WL	10	90		
7309.XX.PL.XX-WL	10	90		

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Tube LED Flushmount
By WAC Lighting

LUMENS
Call Us (877) 445-4486

Tube LED Flushmount
By WAC Lighting

Product Options

Finish: Bronze

Details

Etched glass diffuser
Cylindrical aluminum body
Powder-coat finishes
Round ceiling canopy
Rated Lifespan: 70,000 hours
Dimmable with standard electronic low-voltage dimmer (not included)

Dimensions

Canopy: Diameter 5"
Fixture: Height 5", Diameter 4.5"

Lighting

Lamp Type	LED Built-in
Volts	120 /277 Volt
Color Temp	3000 (Soft White)
Average Lifespan (Hours)	70,000
CRI	90
Equivalent Halogen, CFL or LED Bulb Can Be Used	No

Additional Details

Product URL:
https://www.lumens.com/tube-led-flushmount-by-wac-lighting-R375110.html
Rating: ETL Listed Wet



Notes:

Prepared by:

Prepared for:
Project:
Room:
Placement:
Approval:

Product Description
Powerful and compact, the WAC Lighting Tube LED Flushmount does one thing, and does it well--providing strong, energy-efficient LED downlight. Cleanly finished with no visible hardware, this tidy aluminum cylinder presents a low profile, allowing for placement versatility. The built-in reflector is engineered for superior optics, and a durable powder-coat finish ensures years of beautiful performance.

About the Brand
WAC Lighting, founded in 1984, has developed a strong reputation for high quality decorative and task lighting. Based in Garden City, New York, WAC Lighting is a leading manufacturer of low voltage, line voltage and LED lighting, including track systems, transformers, lamps, cabinet lighting and recessed downlights.

ITEM#: R375110

Created February 24th, 2026

Details
Etched glass diffuser
Cylindrical aluminum body
Powder-coat finishes
Round ceiling canopy
Rated Lifespan: 70,000 hours
Material: Aluminum
Shade Material: Glass

Dimmable: Yes
Location Rating: ETL Listed Wet
Title 24 Compliant: This design is compliant with California's expansive Title 24 energy use regulations.
Warranty: 5 year
Made In China
OK for Outdoor Use
Warranty: 5 year
Made In China

Tube LED Pendant
By WAC Lighting

LUMENS
Call Us (877) 445-4486

Tube LED Pendant
By WAC Lighting

Product Options

Finish: Bronze

Details

Hang straight swivel
Three 12" and one 6" down rods included
Adjustable up to 90 degrees for slope ceiling application
Mounts directly to junction box
Dimmer Range: 100%-10%

Dimensions

Fixture: Height 5", Diameter 4.5", Hanging Length Adjustable To 50"

Additional Details

Product URL:
https://www.lumens.com/tube-led-pendant-by-wac-lighting-WAC509718.html
Rating: ETL Listed Wet



Notes:

Prepared by:

Prepared for:
Project:
Room:
Placement:
Approval:

ITEM#: WAC509718

Created February 24th, 2026

Details
Hang straight swivel
Three 12" and one 6" down rods included
Adjustable up to 90 degrees for slope ceiling application
Mounts directly to junction box
Dimmer Range: 100%-10%
Material: Aluminum with etched glass
Dimmable: No
Dimmer Not Included
Dimmer Type: Glass
Location Rating: ETL Listed Wet
Dark Sky Compliant: This design is compliant with International Dark Sky Association standards to reduce outdoor light pollution.
Title 24 Compliant: This design is compliant with California's expansive Title 24 energy use regulations.
ENERGY STAR® Certified: Rated energy efficient by the Environmental Protection Agency.
Made In China
Dimensions
Fixture: Height 5", Diameter 4.5", Hanging Length Adjustable To 50"
Compare Brightness

VIEW CHART
Manufacturer IDs: view

California Residents: Prop 65 regulations

Oslo Outdoor Wall Sconce
By Hinkley

LUMENS
Call Us (877) 445-4486

Oslo Outdoor Wall Sconce
By Hinkley

Product Options

Finish: Black

Dimensions

Backplate: Diameter 4.75"
Fixture: Width 4.75", Height 18.25", Depth 4.25", Weight 3.25Lbs

Lighting

Lamp Type	LED
Total Lumens	1000.0
# of Bulbs	2 (Included)
Bulb Type	6W MR16 GU10
Volts	120
Color Temp	3000 (Soft White)
Average Lifespan (Hours)	25,000
CRI	80
Equivalent Halogen, CFL or LED Bulb Can Be Used	Yes

Additional Details

Product URL:
https://www.lumens.com/oslo-outdoor-wall-sconce-by-hinkley-HKY2001853.html
Rating: UL Listed Wet



Notes:

Prepared by:

Prepared for:
Project:
Room:
Placement:
Approval:

ITEM#: HKY2001853

Key Features
2 Year on finish and 3 Years on LED Components
Eco-Friendly
Contract Grade
Product Description
Bring a comforting layer of light to the outside of your home with the Oslo Outdoor Wall Sconce from Hinkley Lighting. A smooth aluminum cylinder mounts to a matching rounded wall plate. Within the center of the piece is an etched glass shade that contains an integrated LED module. The LED sends out a welcoming glow that instantly transforms the ambiance of the surrounding area. With a rating for wet locations and Dark Sky compliant, this is a versatile piece that shapes the atmosphere of the home.

About the Brand
Cleveland-based Hinkley is driven by a passion to combine design and function to create exceptional lighting solutions. Family-owned Hinkley began as a traditional lantern company in 1922, and, still today, they produce top quality outdoor lighting. Hinkley has also expanded to include a full range of interior lighting solutions, including chandeliers, sconces, pendants and vanity lights.

CANOPY LIGHTING
LED Surface Mounted Puck

SOFFIT LIGHTING
LED Flush Mounted Can

ACCENT PENDANT LIGHT
Tube LED Pedant

ACCENT WALL SCONCE
Outdoor LED Wall Sconce

Stormwater Management Report

Front Street Place
Mankato, Minnesota

February 24th, 2026

Project No. 25-33587

ISG
Architecture
Engineering
Environmental
Planning
ISGInc.com

REPORT FOR:
City of Mankato
Cory Bienfang, City Engineer
10 Civic Center Plaza
Mankato, MN 56001
507.387.8643
cbienfang@mankatomn.gov

FROM:
ISG
Nathan Hermer, **P.E.**
115 East Hickory Street + Suite 300
Mankato, Minnesota 56001
507.387.6651
Nathan.Hermer@ISGInc.com

SIGNATURE SHEET

I HEREBY CERTIFY THAT THESE CALCULATIONS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.



Nathan J. Hermer, **P.E.**
Project Engineer
Reg. No. 54848

ISG
115 East Hickory Street + Suite 300
Mankato, MN 56001

Front Street Place
Mankato, MN

Engineer's Project Number: 25-33587

Dated this 24th day of February 2026

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Water Quality 2
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APPENDICES

Appendix A: Existing + Proposed Condition Drainage Maps ..... A
Appendix B: Basin Calculations ..... B

INTRODUCTION

This stormwater management report was prepared for the redevelopment of the city block contained within South Front Street, Warren Street, West Liberty Street, and South Riverfront Drive in Mankato, MN. The property area is 2.61 acres. The proposed development will include new mixed use development including apartments, office space, restaurants, retail and a parking garage. The improvements will include grading, underground utility installation, curb and gutter, underground stormwater management, and pavement surfacing.

In concurrence with the production of site plans, hydrologic and hydraulic models were developed to generate the data presented within this report. Given that the project will disturb more than one acre of land, an NPDES Construction Stormwater Permit will be required. This project is also subject to the City of Mankato's stormwater rate control and water quality requirements.

DRAINAGE CONDITIONS

Existing Site

The project property has historically been the site of local businesses, a Walgreens, and one residential house. The site drains in two different directions. The first direction is to the north, towards the corner of Riverfront Drive and Warren Street. The North drainage area is approximately 1.53 acres in size and accepts water from portions of the historical Walgreens and the parking lot associated with it. The second direction is to the west, towards the corner of West Liberty Street and S Riverfront Drive. The West drainage area is approximately 1.08 acres in size, and accepts water from the local businesses, the residential house, and the final portions of the Walgreens. More information on the existing drainage areas can be found on the Existing Conditions Drainage Map in Appendix A.

Table 1. Existing Drainage Areas

Drainage Area	Total Area [ac]	Impervious Area [ac]	Pervious Area [ac]	Discharge Point
North	1.53	1.53	0	S Riverfront Dr & Warren St Corner
West	1.08	1.08	0	W Liberty St & S Riverfront Dr Corner
Total	2.61	2.61	0	-

Proposed Site

The proposed project will provide a multitude of different spaces for offices, residential, and businesses alike. These spaces are not increasing any impervious area to the site, as the exiting site is entirely impervious. Additionally, there are no wetlands on site, and the proposed project will not have any increased impact on any downstream waters.

The proposed site is to be captured in one drainage area that is approximately 2.61 acres in size. This drainage area will outlet into the existing storm sewer on Warren Street, in-line with the alleyway to the City Center parking ramp.

Table 2. Proposed Drainage Areas

Drainage Area	Total Area [ac]	Impervious Area [ac]	Pervious Area [ac]	Discharge Point
Total	**2.61**	**2.61**	**0**	**Warren Street**

Soil Conditions

The USDA's Web Soil Survey (WSS) was used to review the existing soils. Based on the findings from WSS, the soil type on site is to be modeled using Hydraulic Soil Group (HSG) D soils.

STORMWATER MANAGEMENT

Stormwater Regulations

The location of the project involves two agencies with stormwater management requirements: the Minnesota Pollution Control Agency (MPCA NPDES Construction Stormwater Permit) and the City of Mankato. The project exceeds all agencies' disturbance thresholds, and as such, must meet all applicable stormwater rate control and water quality requirements. The City of Mankato standards are more stringent than the MPCA requirements; thus, meeting the City of Mankato's requirements indicates that the site inherently complies with MPCA regulations.

Stormwater System Overview

Hydrologic and hydraulic calculations were performed for the existing and proposed drainage conditions using the rainfalls depths obtained for the City of Mankato and the MSE-3 24-hour rainfall distribution curve. The stormwater management system consists of two drainage areas and one storage basin that were modeled in HydroCAD to ensure the site meets rate control and water quality standards. Given the poor soils, infiltration was deemed infeasible for the site. Given the limitation on drained soils and lack of available space, the Engineer opted to pursue underground storage.

The underground basin discharge point is shown on the Proposed Drainage Map in Appendix A. Final design elevations and discharge rates for each storm event will be provided with the final design.

Stormwater Rate Control

The City of Mankato requires that the proposed peak discharge rate does not exceed the existing peak discharge rates for the 2-, 10-, and 100-year 24-hour rainfall. In addition to these storm events, the City of Mankato also requires that peak discharge rates do not exceed the existing peak discharge rates for two back-to-back 10-year 24-hour storm events. An overall summary of the existing and proposed peak discharge rates is available in Table 3. The peak discharge rates decrease from existing conditions for each storm event.

Table 3. Peak Discharge Rates

Storm Event	Existing [cfs]	Proposed [cfs]
2-year	9.25	7.88
10-year	13.92	12.19
10-year Back-to-Back	14.01	12.28
100-year	23.50	19.56

Water Quality

WATER QUALITY VOLUME

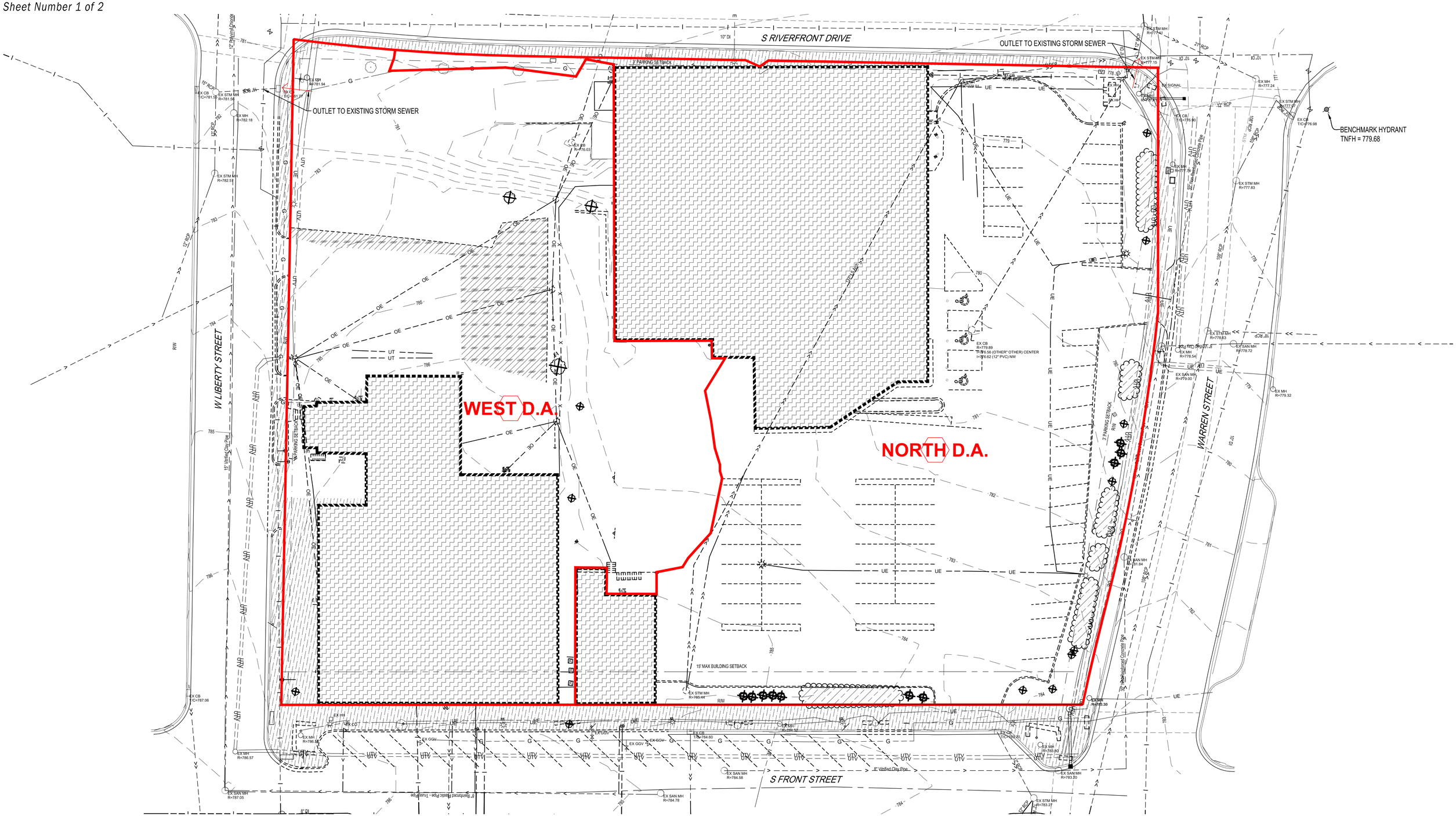
The City of Mankato requires that 1.1 inches of runoff across new and reconstructed impervious surfaces be retained as the water quality volume. If the volume requirement is met, then Total Suspended Solids (TSS) and Total Phosphorus (TP) requirements shall be considered met.

Due to the predominately clay soil and lack of space on the site, underground storage basins are proposed to meet the water quality requirements. Appendix B shows the calculations of water quality discharge rate for the underground storage basin.

CONCLUSION

The proposed project provides a stormwater management system that meets all MPCA NPDES and City of Mankato requirements. The NPDES Construction Stormwater Permit will be applied for prior to construction and available as soon as the permit is obtained. The proposed project as designed provides rate control, water quality volume, and detention requirements.

Appendix A: Existing + Proposed Condition Drainage Maps



EXISTING DRAINAGE MAP

SCALE IN FEET 0 20 40

PROPOSED DRAINAGE MAP

SCALE IN FEET 0 20 40

ISG
Architecture + Engineering + Environmental + Planning

FRONT STREET REDEVELOPMENT
MANKATO, MINNESOTA - 02/24/2026
ISG PROJECT NO. 25-33587

ISGInc.com

Appendix B: Storage Calculations

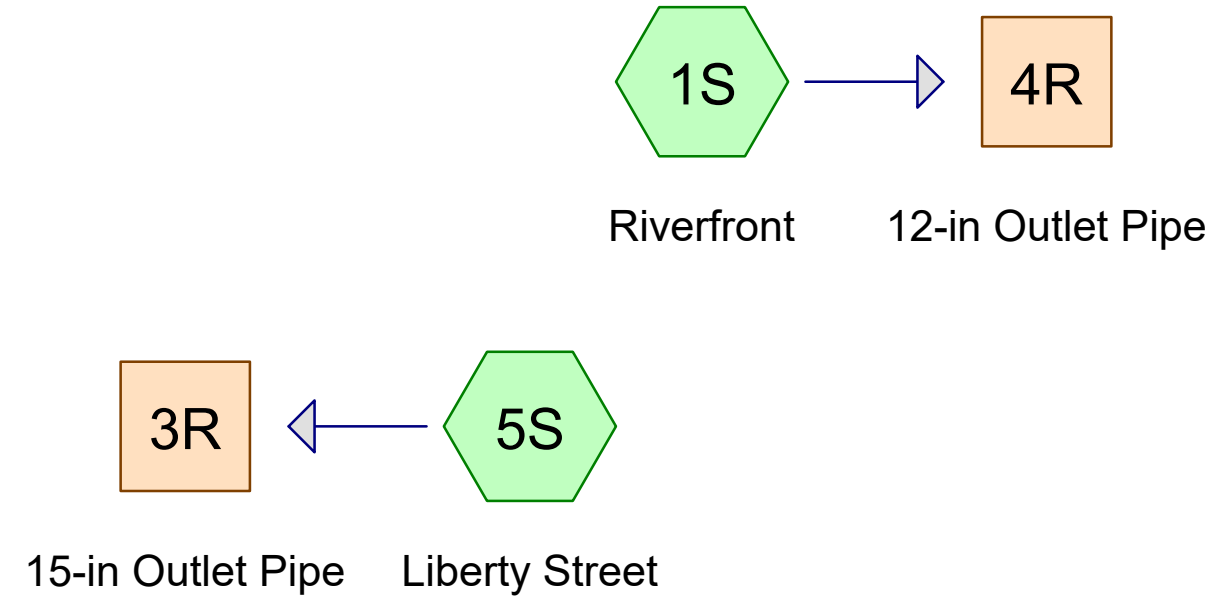
Storage Calculations

Project No. 33587
Date 2/18/26
By Ian Moran

Project Name: Front Street
Pond ID: Underground Detention

INFILTRATION BASIN

Total Drainage Area to Basin	2.61	Acres
New Impervious Area to Basin	2.61	Acres
New Impervious Area to Basin	113692	Square Feet
Required Water Quality Volume	0.24	Acre-Feet
Required Water Quality Volume	10421.73	Cubic Feet



Subcat Reach Pond Link

Routing Diagram for 33587 Front Street Existing
Prepared by I&S Group, Inc, Printed 2/24/2026
HydroCAD® 10.20-5c s/n 02403 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	MSE 24-hr	3	Default	24.00	1	2.87	2
2	10-yr	MSE 24-hr	3	Default	24.00	1	4.28	2
3	10-yrb2b	MSE 24-hr	3	Default	24.00	2	4.28	2
4	100-yr	MSE 24-hr	3	Default	24.00	1	7.19	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.613	98	Paved parking, HSG D (1S, 5S)
2.613	**98**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
2.613	HSG D	1S, 5S
0.000	Other	
2.613		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	2.613	0.000	2.613	Paved parking	1S, 5S
0.000	**0.000**	**0.000**	**2.613**	**0.000**	**2.613**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	3R	772.21	772.10	27.5	0.0040	0.013	0.0	15.0	0.0	
2	4R	773.11	771.98	14.5	0.0779	0.013	0.0	12.0	0.0	

Time span=0.00-108.00 hrs, dt=0.05 hrs, 2161 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Riverfront Runoff Area=1.527 ac 100.00% Impervious Runoff Depth=2.64"
Tc=10.0 min CN=98 Runoff=5.41 cfs 0.336 af

Subcatchment5S: Liberty Street Runoff Area=1.086 ac 100.00% Impervious Runoff Depth=2.64"
Tc=10.0 min CN=98 Runoff=3.85 cfs 0.239 af

Reach 3R: 15-in Outlet Pipe Avg. Flow Depth=0.96' Max Vel=3.78 fps Inflow=3.85 cfs 0.239 af
15.0" Round Pipe n=0.013 L=27.5' S=0.0040 '/' Capacity=4.09 cfs Outflow=3.82 cfs 0.239 af

Reach 4R: 12-in Outlet Pipe Avg. Flow Depth=0.53' Max Vel=12.87 fps Inflow=5.41 cfs 0.336 af
12.0" Round Pipe n=0.013 L=14.5' S=0.0779 '/' Capacity=9.95 cfs Outflow=5.40 cfs 0.336 af

Total Runoff Area = 2.613 ac Runoff Volume = 0.575 af Average Runoff Depth = 2.64"
0.00% Pervious = 0.000 ac 100.00% Impervious = 2.613 ac

Summary for Subcatchment 1S: Riverfront

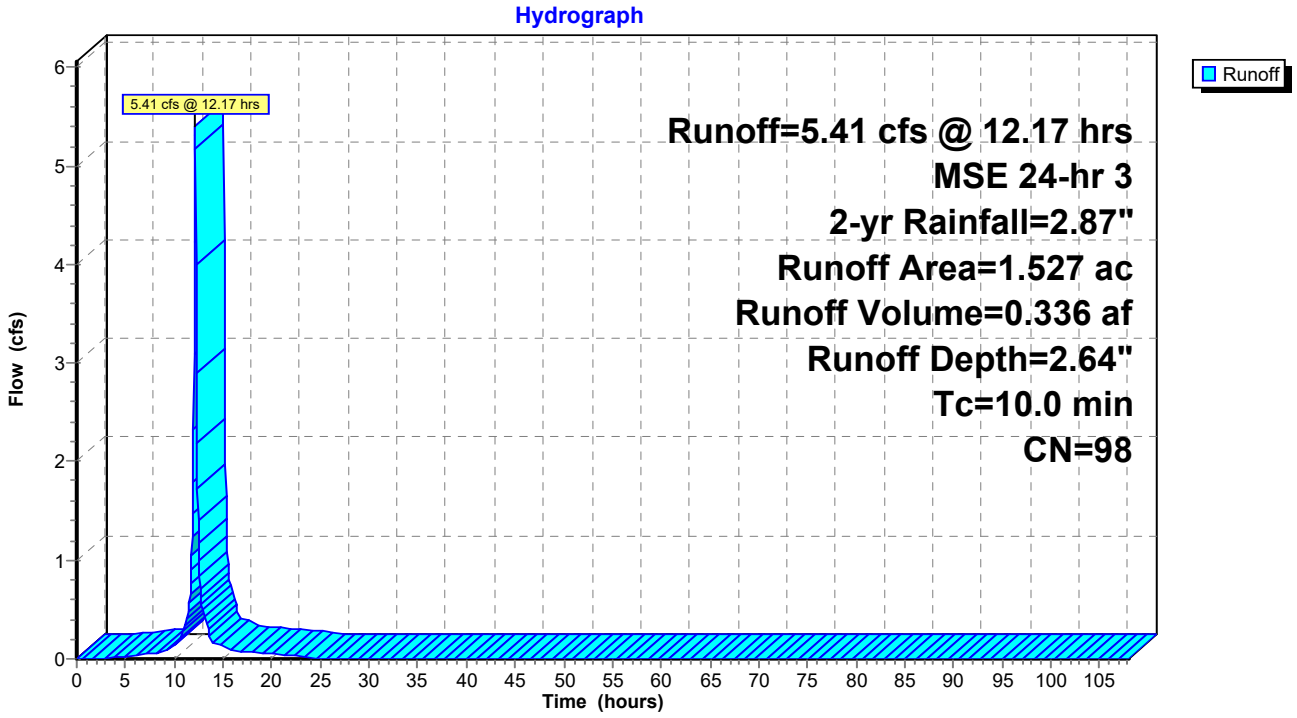
Runoff = 5.41 cfs @ 12.17 hrs, Volume= 0.336 af, Depth= 2.64"
Routed to Reach 4R : 12-in Outlet Pipe

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-yr Rainfall=2.87"

Area (ac)	CN	Description
1.527	98	Paved parking, HSG D
1.527		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 Minute Minimum**

Subcatchment 1S: Riverfront



Summary for Subcatchment 5S: Liberty Street

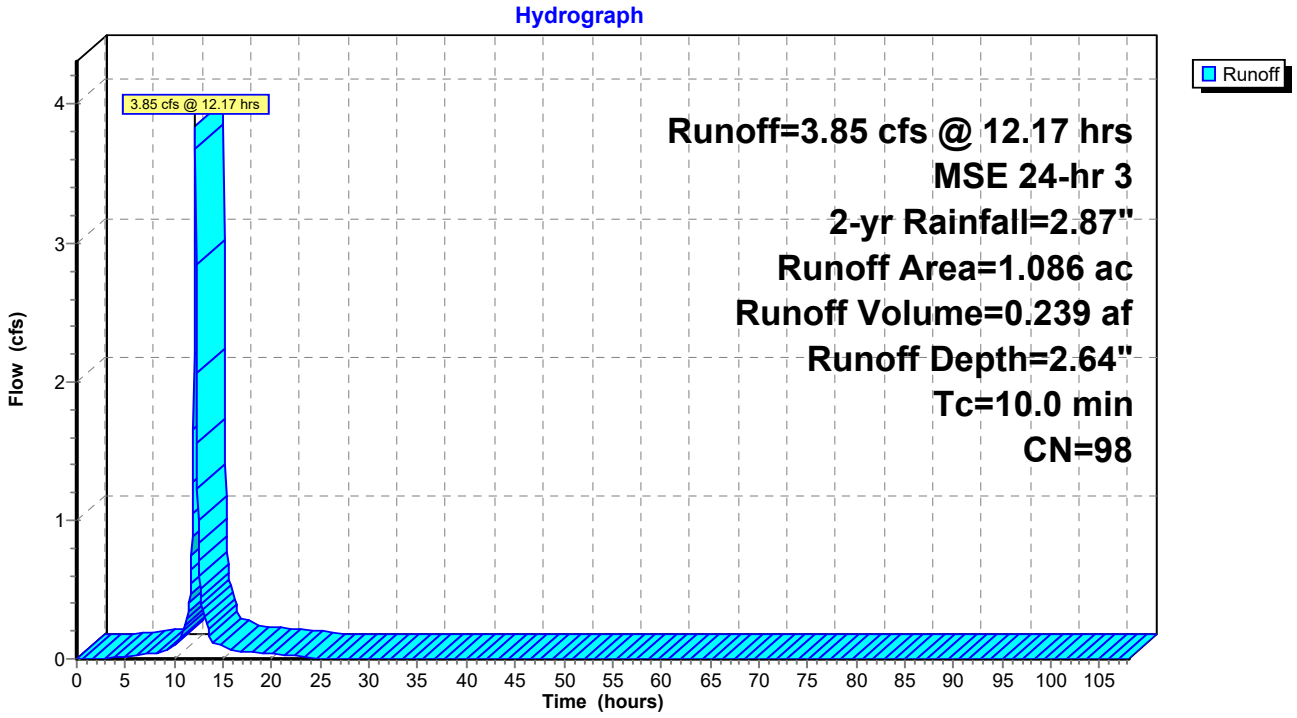
Runoff = 3.85 cfs @ 12.17 hrs, Volume= 0.239 af, Depth= 2.64"
Routed to Reach 3R : 15-in Outlet Pipe

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-yr Rainfall=2.87"

Area (ac)	CN	Description
1.086	98	Paved parking, HSG D
1.086		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 min Minimum**

Subcatchment 5S: Liberty Street



Summary for Reach 3R: 15-in Outlet Pipe

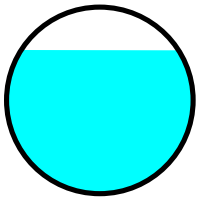
[52] Hint: Inlet/Outlet conditions not evaluated

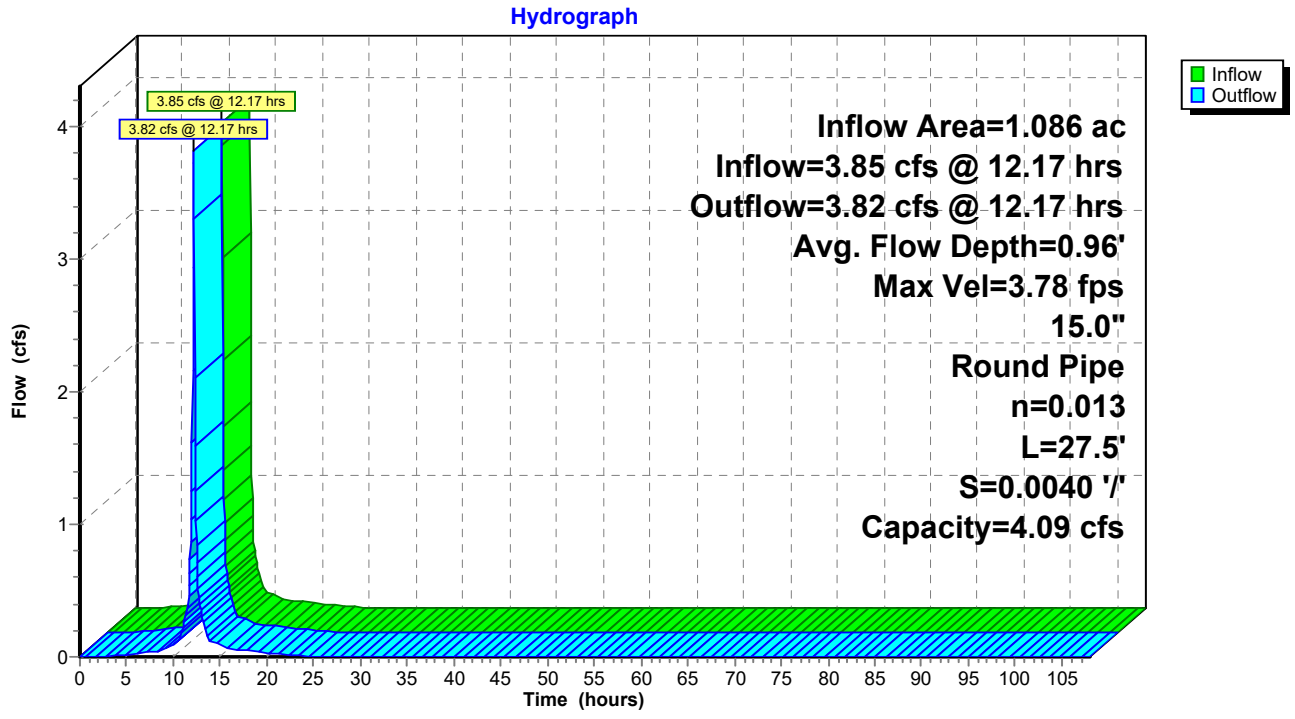
Inflow Area = 1.086 ac,100.00% Impervious, Inflow Depth = 2.64" for 2-yr event
Inflow = 3.85 cfs @ 12.17 hrs, Volume= 0.239 af
Outflow = 3.82 cfs @ 12.17 hrs, Volume= 0.239 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.78 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.18 fps, Avg. Travel Time= 0.4 min

Peak Storage= 28 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.96' , Surface Width= 1.05'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 4.09 cfs

15.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 27.5' Slope= 0.0040 '/'
Inlet Invert= 772.21', Outlet Invert= 772.10'





Summary for Reach 4R: 12-in Outlet Pipe

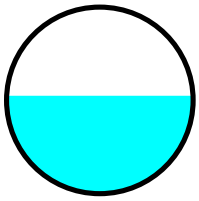
[52] Hint: Inlet/Outlet conditions not evaluated

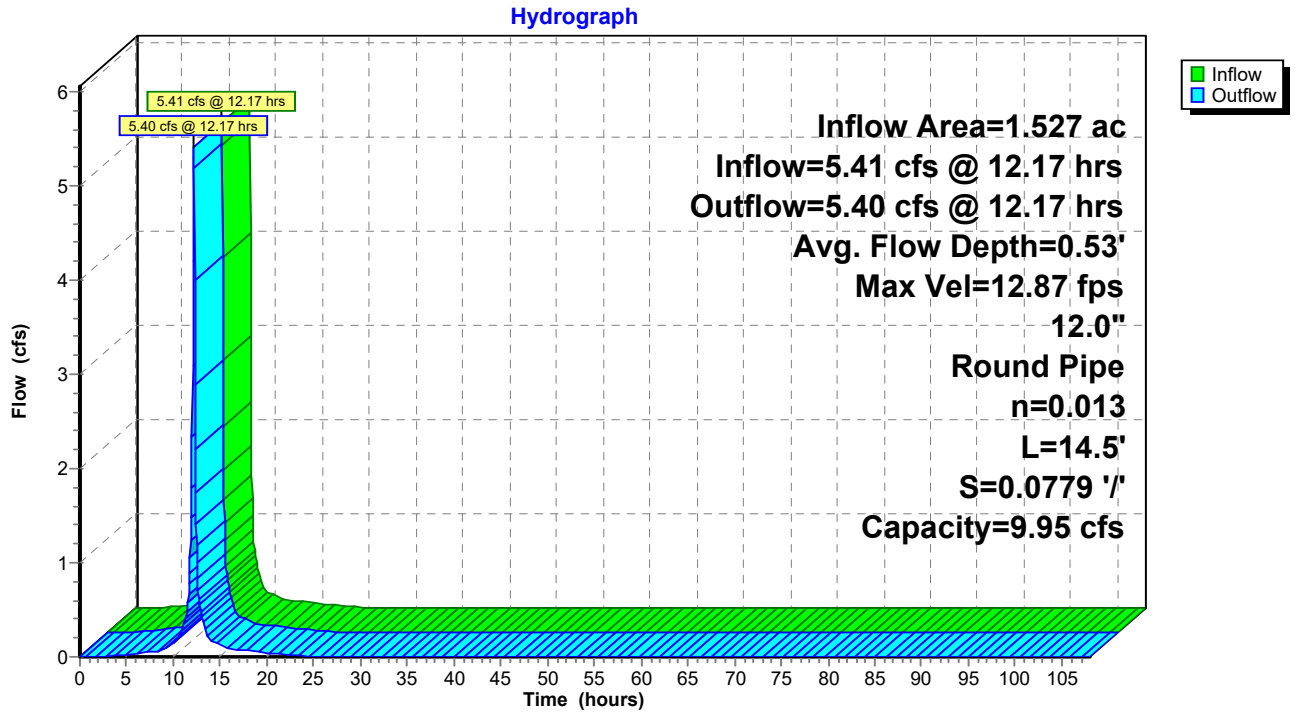
Inflow Area = 1.527 ac,100.00% Impervious, Inflow Depth = 2.64" for 2-yr event
Inflow = 5.41 cfs @ 12.17 hrs, Volume= 0.336 af
Outflow = 5.40 cfs @ 12.17 hrs, Volume= 0.336 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.87 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.82 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.53' , Surface Width= 1.00'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.95 cfs

12.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 14.5' Slope= 0.0779 '/'
Inlet Invert= 773.11', Outlet Invert= 771.98'





Time span=0.00-108.00 hrs, dt=0.05 hrs, 2161 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Riverfront Runoff Area=1.527 ac 100.00% Impervious Runoff Depth=4.04"
Tc=10.0 min CN=98 Runoff=8.13 cfs 0.515 af

Subcatchment5S: Liberty Street Runoff Area=1.086 ac 100.00% Impervious Runoff Depth=4.04"
Tc=10.0 min CN=98 Runoff=5.78 cfs 0.366 af

Reach 3R: 15-in Outlet Pipe Avg. Flow Depth=1.25' Max Vel=3.71 fps Inflow=5.78 cfs 0.366 af
15.0" Round Pipe n=0.013 L=27.5' S=0.0040 '/' Capacity=4.09 cfs Outflow=4.09 cfs 0.366 af

Reach 4R: 12-in Outlet Pipe Avg. Flow Depth=0.69' Max Vel=14.08 fps Inflow=8.13 cfs 0.515 af
12.0" Round Pipe n=0.013 L=14.5' S=0.0779 '/' Capacity=9.95 cfs Outflow=8.13 cfs 0.515 af

Total Runoff Area = 2.613 ac Runoff Volume = 0.881 af Average Runoff Depth = 4.04"
0.00% Pervious = 0.000 ac 100.00% Impervious = 2.613 ac

Summary for Subcatchment 1S: Riverfront

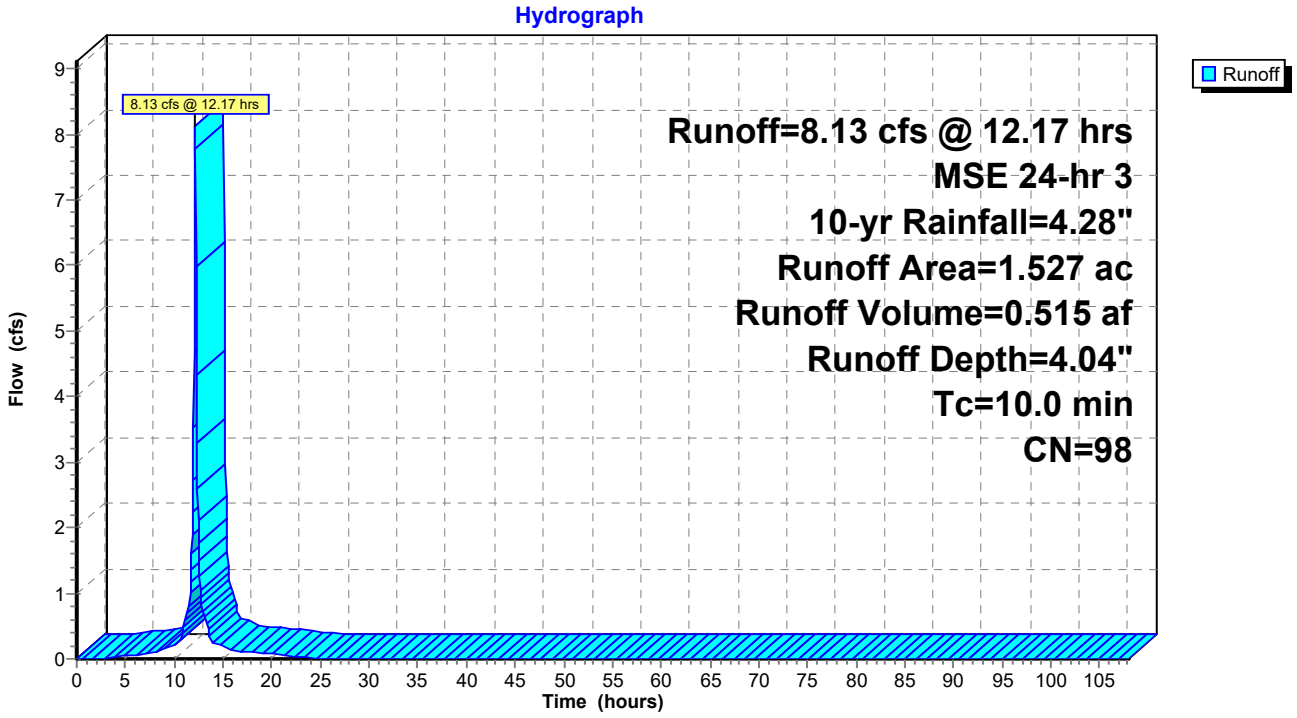
Runoff = 8.13 cfs @ 12.17 hrs, Volume= 0.515 af, Depth= 4.04"
Routed to Reach 4R : 12-in Outlet Pipe

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-yr Rainfall=4.28"

Area (ac)	CN	Description
1.527	98	Paved parking, HSG D
1.527		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 Minute Minimum**

Subcatchment 1S: Riverfront



Summary for Subcatchment 5S: Liberty Street

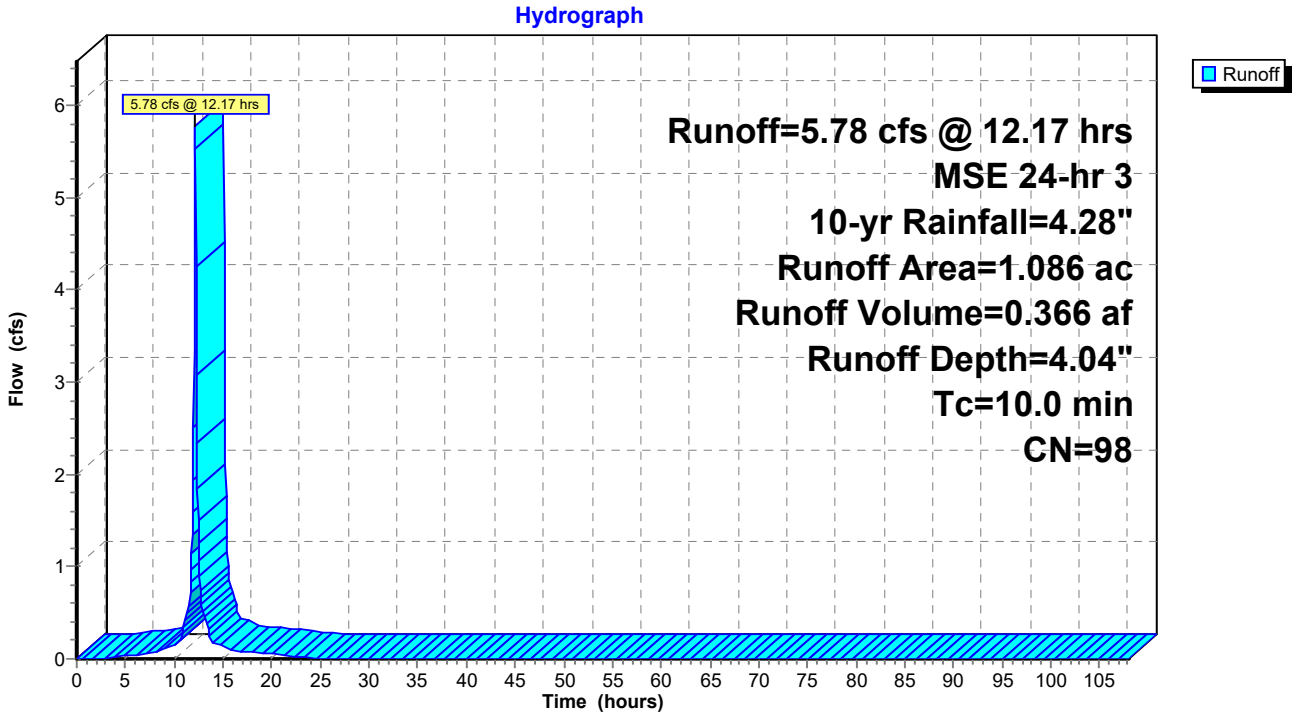
Runoff = 5.78 cfs @ 12.17 hrs, Volume= 0.366 af, Depth= 4.04"
Routed to Reach 3R : 15-in Outlet Pipe

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-yr Rainfall=4.28"

Area (ac)	CN	Description
1.086	98	Paved parking, HSG D
1.086		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 min Minimum**

Subcatchment 5S: Liberty Street



Summary for Reach 3R: 15-in Outlet Pipe

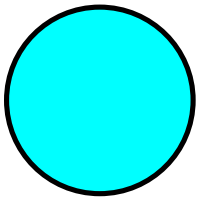
[52] Hint: Inlet/Outlet conditions not evaluated
[55] Hint: Peak inflow is 142% of Manning's capacity
[76] Warning: Detained 0.015 af (Pond w/culvert advised)

Inflow Area = 1.086 ac,100.00% Impervious, Inflow Depth = 4.04" for 10-yr event
Inflow = 5.78 cfs @ 12.17 hrs, Volume= 0.366 af
Outflow = 4.09 cfs @ 12.15 hrs, Volume= 0.366 af, Atten= 29%, Lag= 0.0 min

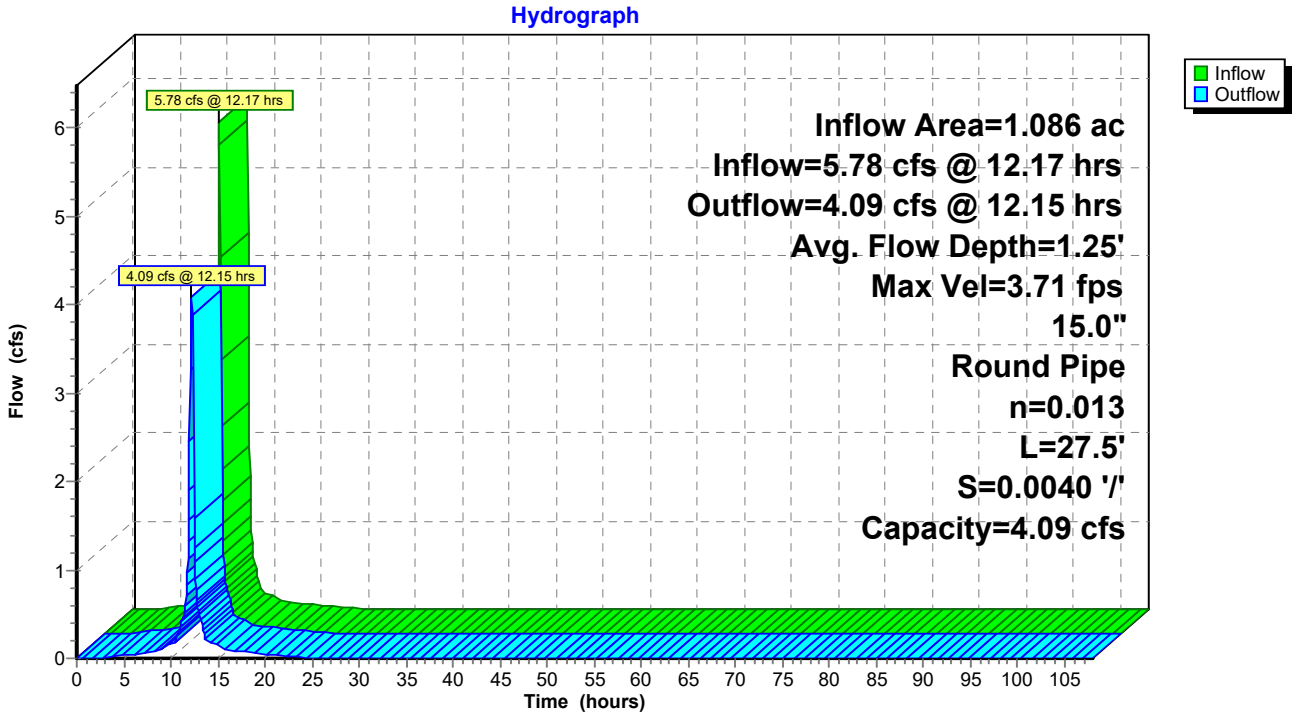
Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.71 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 0.3 min

Peak Storage= 34 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.25'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 4.09 cfs

15.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 27.5' Slope= 0.0040 '/'
Inlet Invert= 772.21', Outlet Invert= 772.10'



Reach 3R: 15-in Outlet Pipe



Summary for Reach 4R: 12-in Outlet Pipe

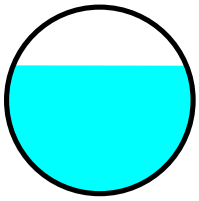
[52] Hint: Inlet/Outlet conditions not evaluated

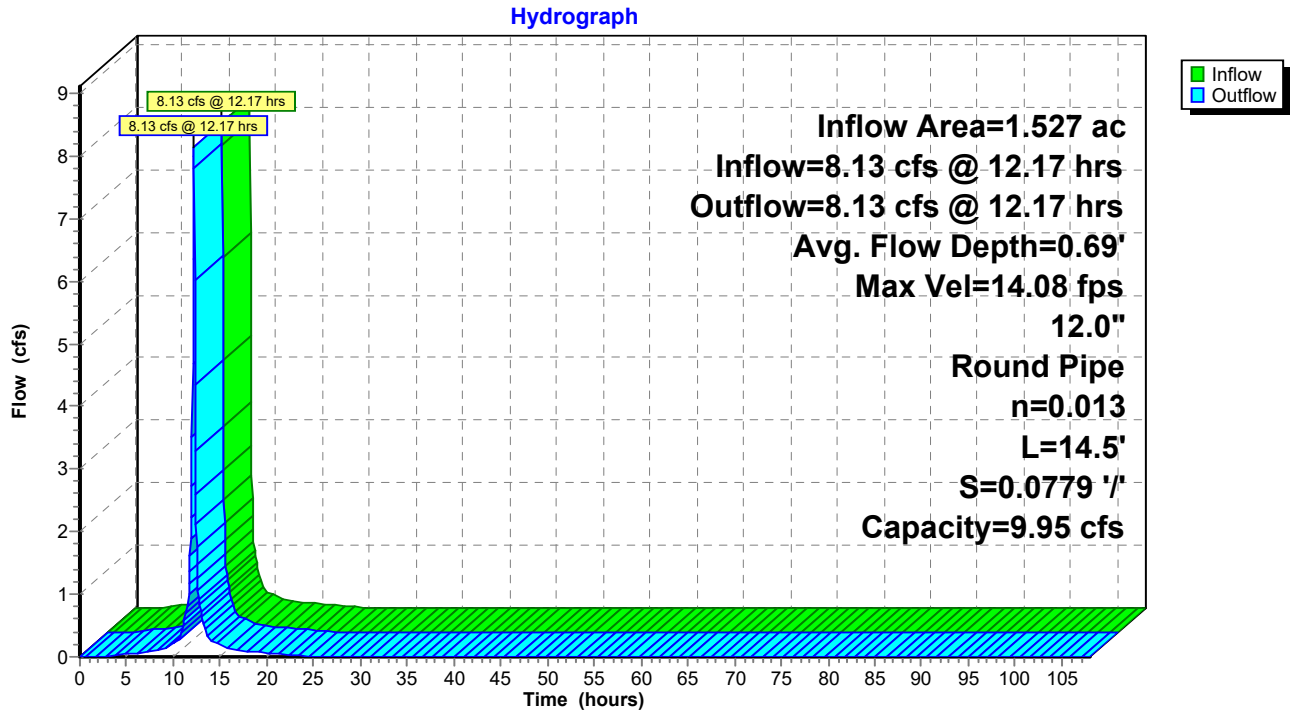
Inflow Area = 1.527 ac,100.00% Impervious, Inflow Depth = 4.04" for 10-yr event
Inflow = 8.13 cfs @ 12.17 hrs, Volume= 0.515 af
Outflow = 8.13 cfs @ 12.17 hrs, Volume= 0.515 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.08 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.33 fps, Avg. Travel Time= 0.1 min

Peak Storage= 8 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.69' , Surface Width= 0.93'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.95 cfs

12.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 14.5' Slope= 0.0779 '/'
Inlet Invert= 773.11', Outlet Invert= 771.98'





Time span=0.00-108.00 hrs, dt=0.05 hrs, 2161 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Riverfront Runoff Area=1.527 ac 100.00% Impervious Runoff Depth=8.32"
Tc=10.0 min CN=98 Runoff=8.19 cfs 1.059 af

Subcatchment5S: Liberty Street Runoff Area=1.086 ac 100.00% Impervious Runoff Depth=8.32"
Tc=10.0 min CN=98 Runoff=5.82 cfs 0.753 af

Reach 3R: 15-in Outlet Pipe Avg. Flow Depth=1.25' Max Vel=3.71 fps Inflow=5.82 cfs 0.753 af
15.0" Round Pipe n=0.013 L=27.5' S=0.0040 '/' Capacity=4.09 cfs Outflow=4.09 cfs 0.753 af

Reach 4R: 12-in Outlet Pipe Avg. Flow Depth=0.69' Max Vel=14.10 fps Inflow=8.19 cfs 1.059 af
12.0" Round Pipe n=0.013 L=14.5' S=0.0779 '/' Capacity=9.95 cfs Outflow=8.18 cfs 1.059 af

Total Runoff Area = 2.613 ac Runoff Volume = 1.812 af Average Runoff Depth = 8.32"
0.00% Pervious = 0.000 ac 100.00% Impervious = 2.613 ac

Summary for Subcatchment 1S: Riverfront

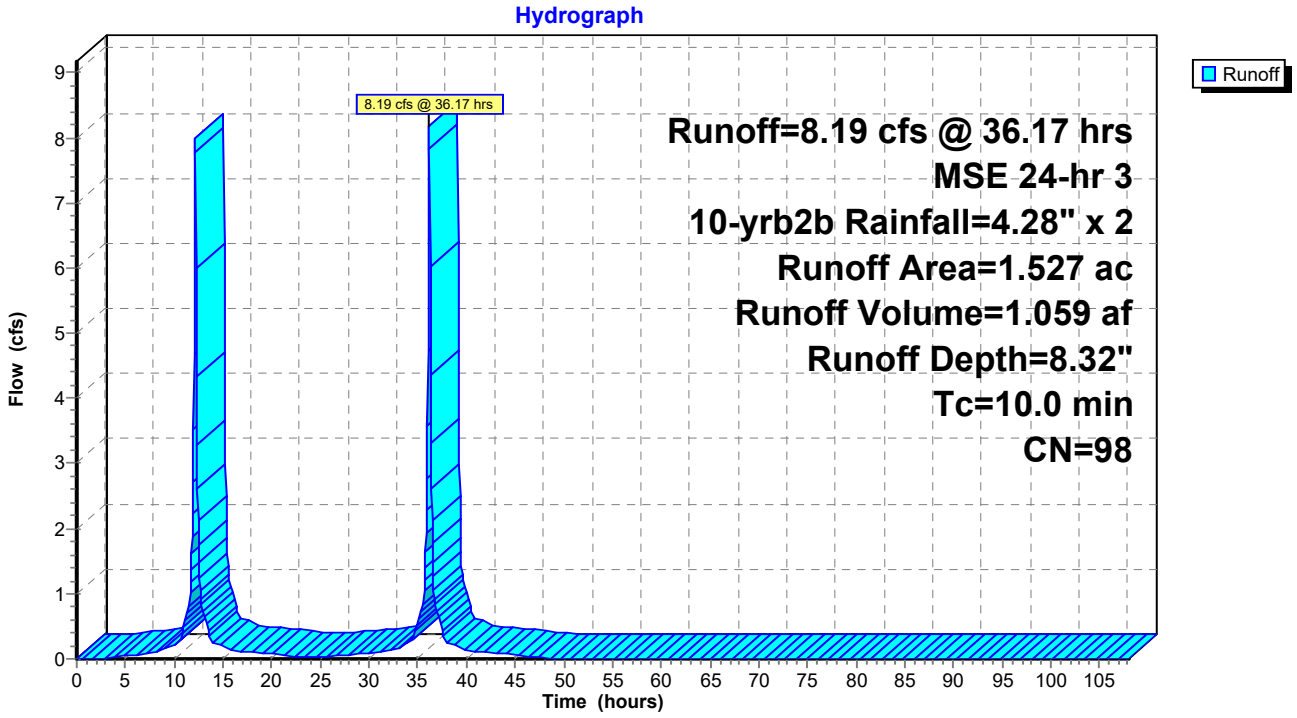
Runoff = 8.19 cfs @ 36.17 hrs, Volume= 1.059 af, Depth= 8.32"
Routed to Reach 4R : 12-in Outlet Pipe

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-yrb2b Rainfall=4.28" x 2

Area (ac)	CN	Description
1.527	98	Paved parking, HSG D
1.527		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 Minute Minimum**

Subcatchment 1S: Riverfront



Summary for Subcatchment 5S: Liberty Street

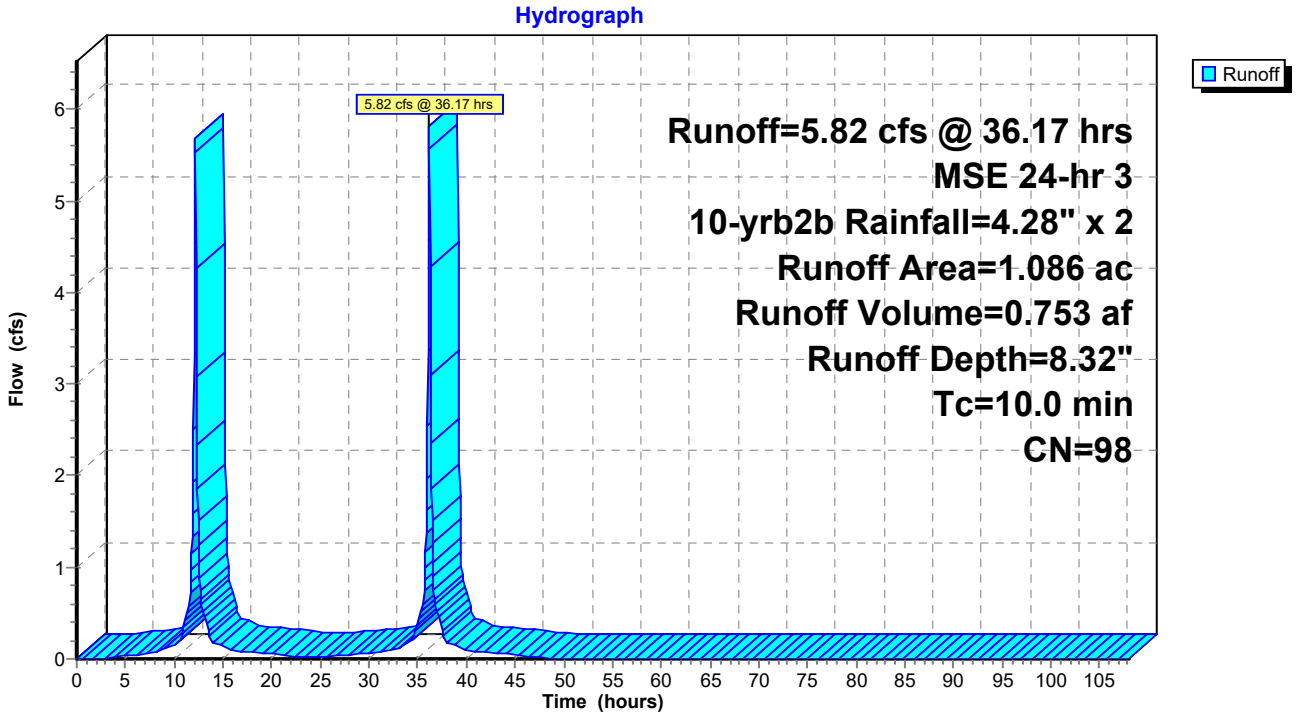
Runoff = 5.82 cfs @ 36.17 hrs, Volume= 0.753 af, Depth= 8.32"
Routed to Reach 3R : 15-in Outlet Pipe

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-yrb2b Rainfall=4.28" x 2

Area (ac)	CN	Description
1.086	98	Paved parking, HSG D
1.086		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 min Minimum**

Subcatchment 5S: Liberty Street



Summary for Reach 3R: 15-in Outlet Pipe

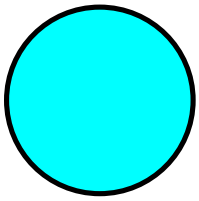
[52] Hint: Inlet/Outlet conditions not evaluated
[55] Hint: Peak inflow is 143% of Manning's capacity
[76] Warning: Detained 0.016 af (Pond w/culvert advised)

Inflow Area = 1.086 ac,100.00% Impervious, Inflow Depth = 8.32" for 10-yrb2b event
Inflow = 5.82 cfs @ 36.17 hrs, Volume= 0.753 af
Outflow = 4.09 cfs @ 12.15 hrs, Volume= 0.753 af, Atten= 30%, Lag= 0.0 min

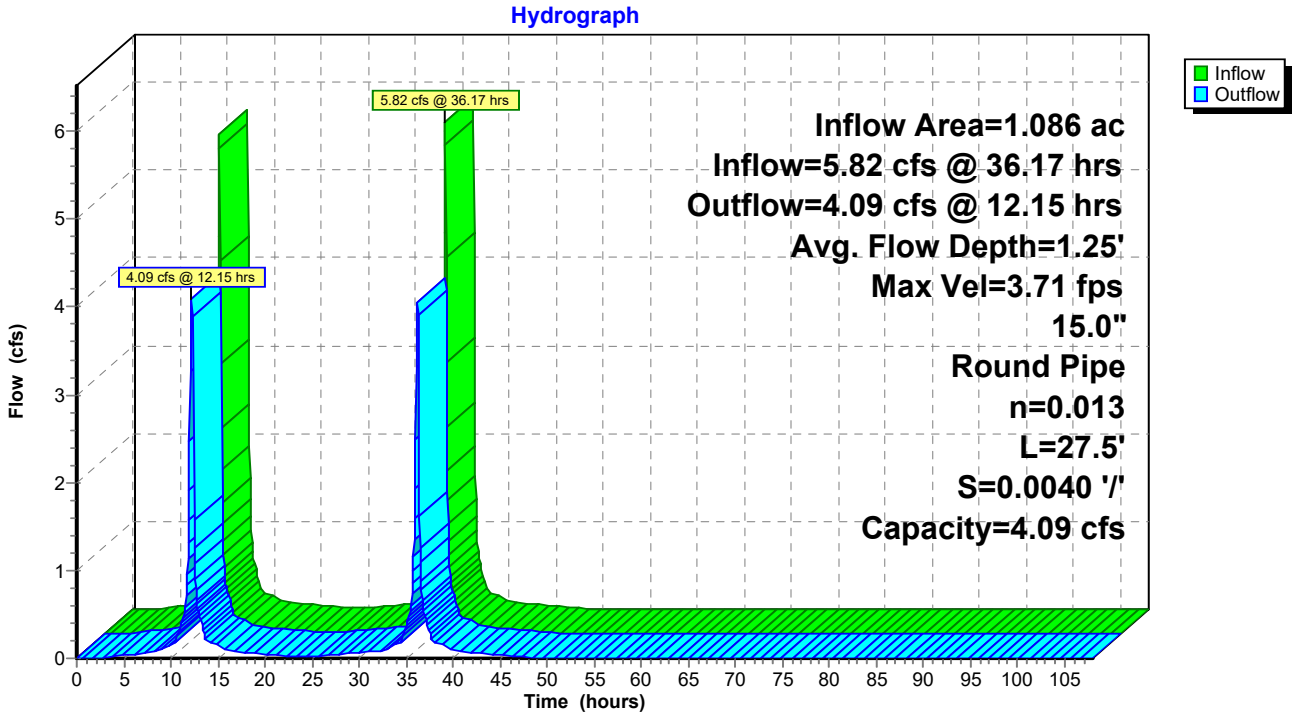
Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.71 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.35 fps, Avg. Travel Time= 0.3 min

Peak Storage= 34 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.25'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 4.09 cfs

15.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 27.5' Slope= 0.0040 '/'
Inlet Invert= 772.21', Outlet Invert= 772.10'



Reach 3R: 15-in Outlet Pipe



Summary for Reach 4R: 12-in Outlet Pipe

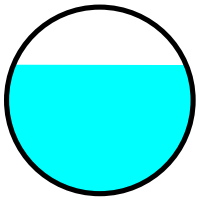
[52] Hint: Inlet/Outlet conditions not evaluated

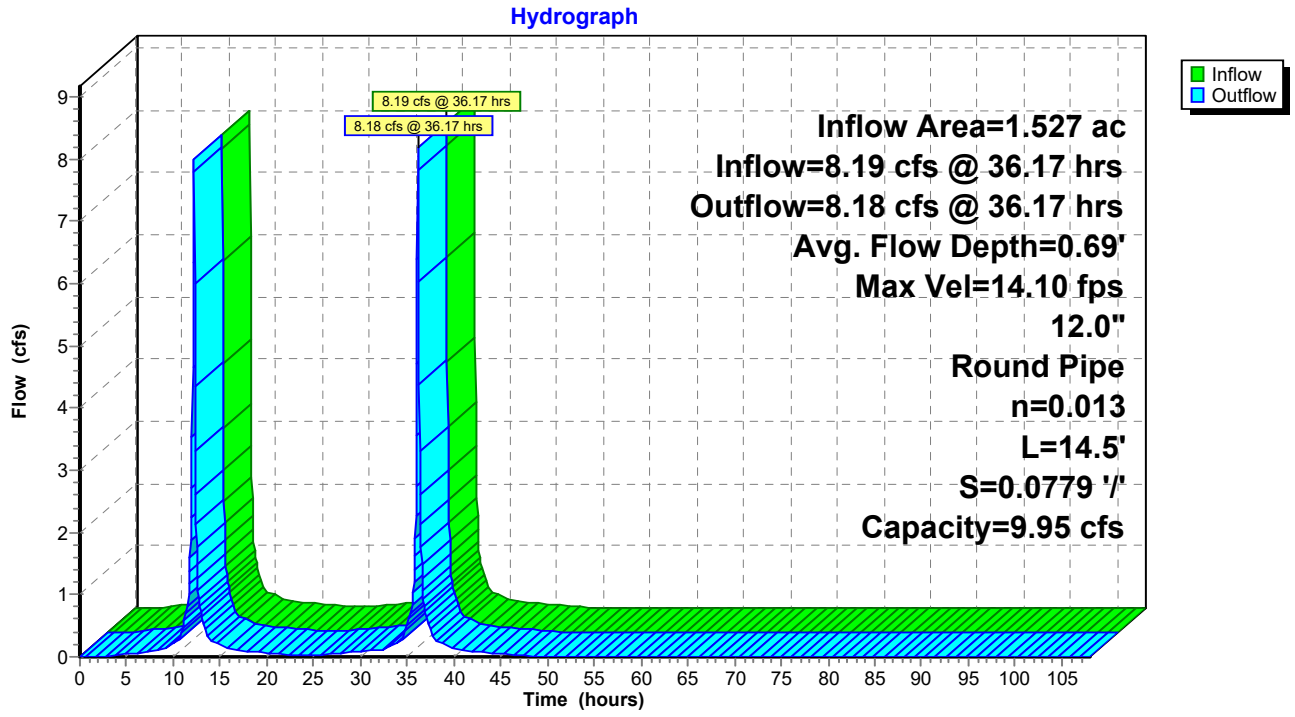
Inflow Area = 1.527 ac,100.00% Impervious, Inflow Depth = 8.32" for 10-yrb2b event
Inflow = 8.19 cfs @ 36.17 hrs, Volume= 1.059 af
Outflow = 8.18 cfs @ 36.17 hrs, Volume= 1.059 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.10 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.38 fps, Avg. Travel Time= 0.1 min

Peak Storage= 8 cf @ 36.17 hrs
Average Depth at Peak Storage= 0.69' , Surface Width= 0.92'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.95 cfs

12.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 14.5' Slope= 0.0779 '/'
Inlet Invert= 773.11', Outlet Invert= 771.98'





Time span=0.00-108.00 hrs, dt=0.05 hrs, 2161 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Riverfront Runoff Area=1.527 ac 100.00% Impervious Runoff Depth=6.95"
Tc=10.0 min CN=98 Runoff=13.73 cfs 0.884 af

Subcatchment5S: Liberty Street Runoff Area=1.086 ac 100.00% Impervious Runoff Depth=6.95"
Tc=10.0 min CN=98 Runoff=9.77 cfs 0.629 af

Reach 3R: 15-in Outlet Pipe Avg. Flow Depth=1.25' Max Vel=3.79 fps Inflow=9.77 cfs 0.629 af
15.0" Round Pipe n=0.013 L=27.5' S=0.0040 '/' Capacity=4.09 cfs Outflow=4.26 cfs 0.629 af

Reach 4R: 12-in Outlet Pipe Avg. Flow Depth=1.00' Max Vel=14.22 fps Inflow=13.73 cfs 0.884 af
12.0" Round Pipe n=0.013 L=14.5' S=0.0779 '/' Capacity=9.95 cfs Outflow=11.17 cfs 0.884 af

Total Runoff Area = 2.613 ac Runoff Volume = 1.514 af Average Runoff Depth = 6.95"
0.00% Pervious = 0.000 ac 100.00% Impervious = 2.613 ac

Summary for Subcatchment 1S: Riverfront

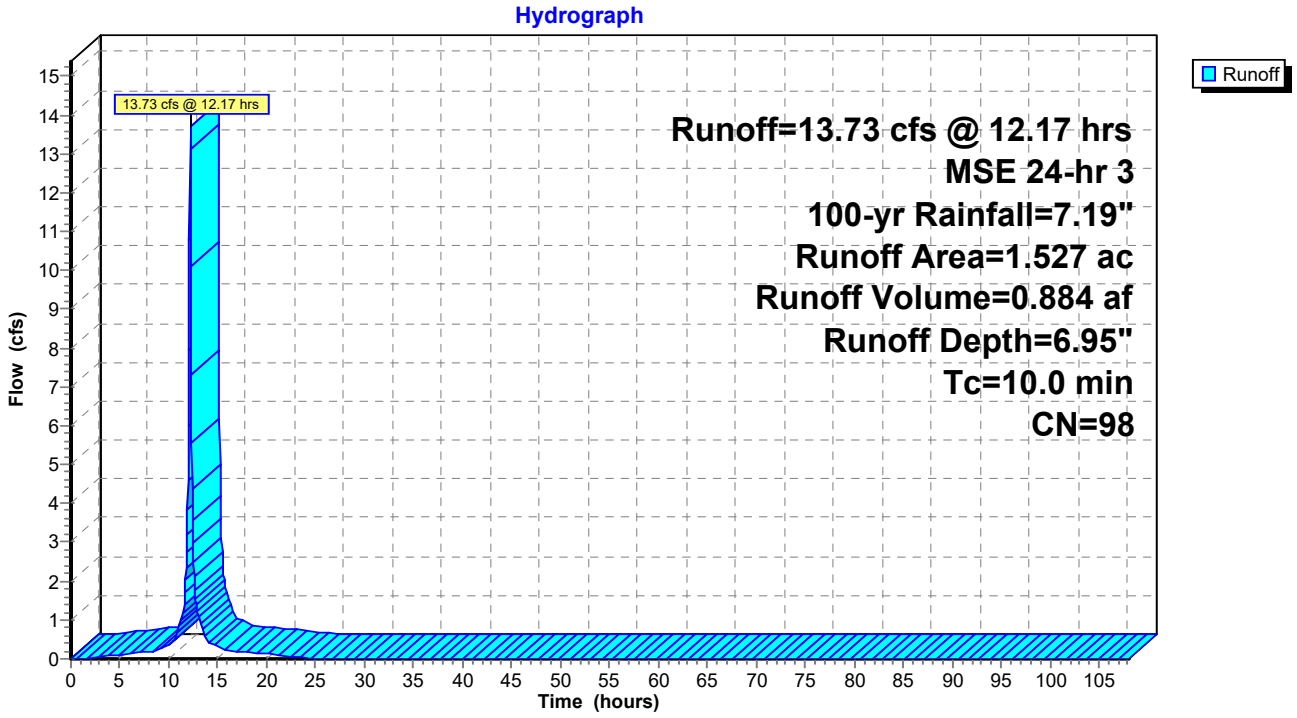
Runoff = 13.73 cfs @ 12.17 hrs, Volume= 0.884 af, Depth= 6.95"
Routed to Reach 4R : 12-in Outlet Pipe

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-yr Rainfall=7.19"

Area (ac)	CN	Description
1.527	98	Paved parking, HSG D
1.527		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 Minute Minimum**

Subcatchment 1S: Riverfront



Summary for Subcatchment 5S: Liberty Street

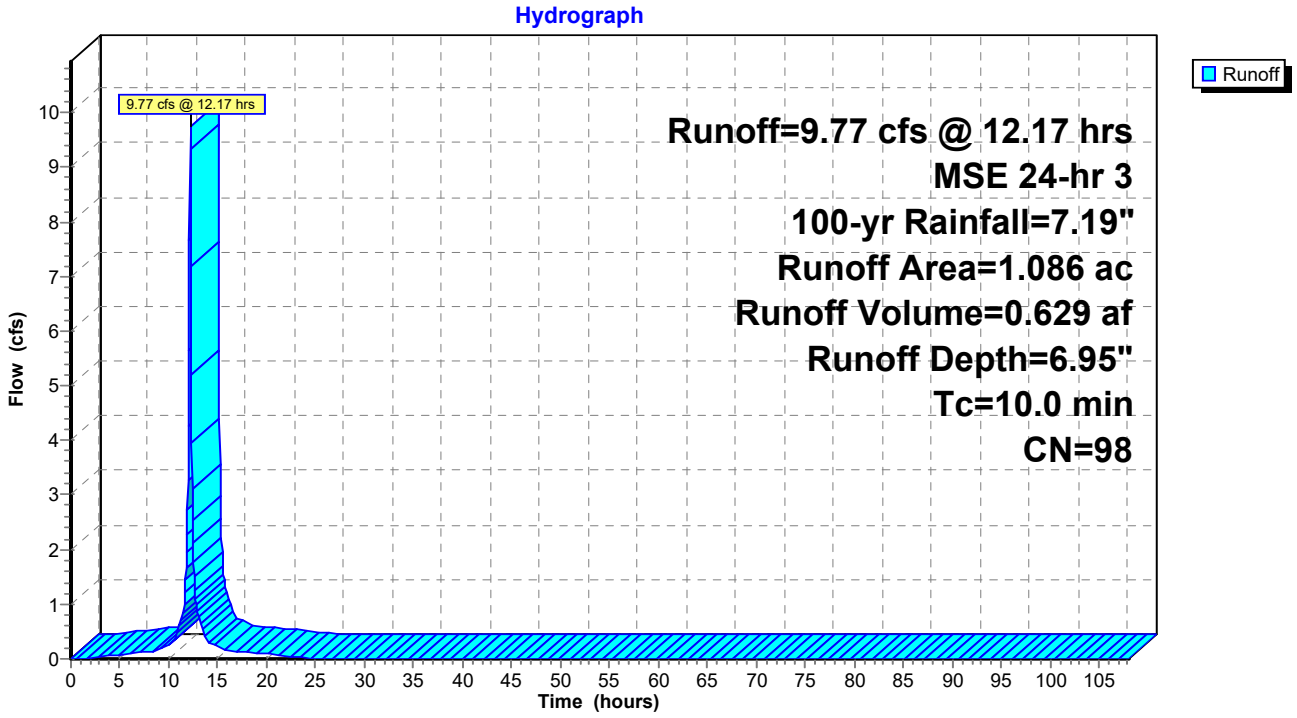
Runoff = 9.77 cfs @ 12.17 hrs, Volume= 0.629 af, Depth= 6.95"
Routed to Reach 3R : 15-in Outlet Pipe

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-yr Rainfall=7.19"

Area (ac)	CN	Description
1.086	98	Paved parking, HSG D
1.086		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 min Minimum**

Subcatchment 5S: Liberty Street



Summary for Reach 3R: 15-in Outlet Pipe

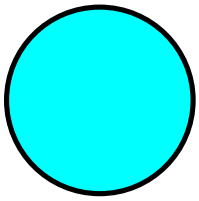
[52] Hint: Inlet/Outlet conditions not evaluated
[55] Hint: Peak inflow is 239% of Manning's capacity
[76] Warning: Detained 0.083 af (Pond w/culvert advised)

Inflow Area = 1.086 ac,100.00% Impervious, Inflow Depth = 6.95" for 100-yr event
Inflow = 9.77 cfs @ 12.17 hrs, Volume= 0.629 af
Outflow = 4.26 cfs @ 12.02 hrs, Volume= 0.629 af, Atten= 56%, Lag= 0.0 min

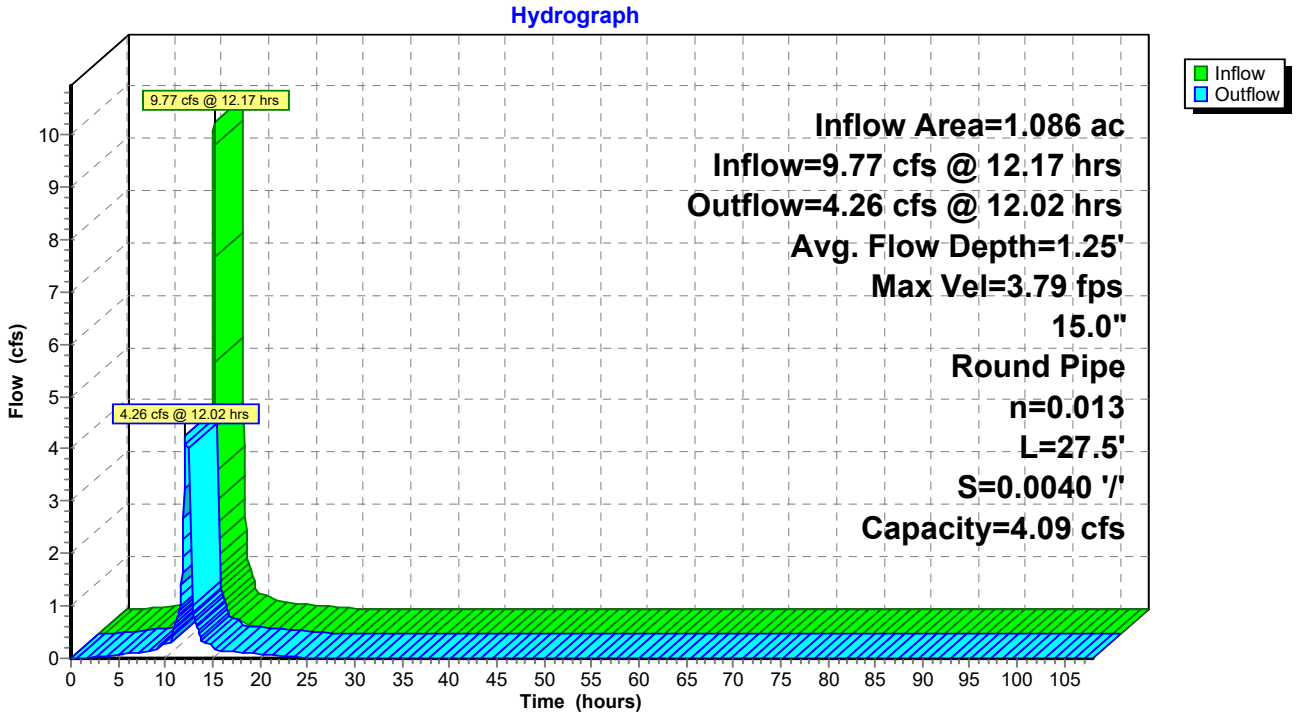
Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.79 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.55 fps, Avg. Travel Time= 0.3 min

Peak Storage= 34 cf @ 12.05 hrs
Average Depth at Peak Storage= 1.25'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 4.09 cfs

15.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 27.5' Slope= 0.0040 '/'
Inlet Invert= 772.21', Outlet Invert= 772.10'



Reach 3R: 15-in Outlet Pipe



Summary for Reach 4R: 12-in Outlet Pipe

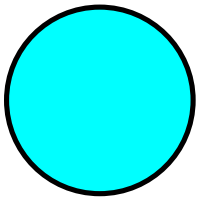
[52] Hint: Inlet/Outlet conditions not evaluated
[55] Hint: Peak inflow is 138% of Manning's capacity
[76] Warning: Detained 0.032 af (Pond w/culvert advised)

Inflow Area = 1.527 ac,100.00% Impervious, Inflow Depth = 6.95" for 100-yr event
Inflow = 13.73 cfs @ 12.17 hrs, Volume= 0.884 af
Outflow = 11.17 cfs @ 12.33 hrs, Volume= 0.884 af, Atten= 19%, Lag= 9.7 min

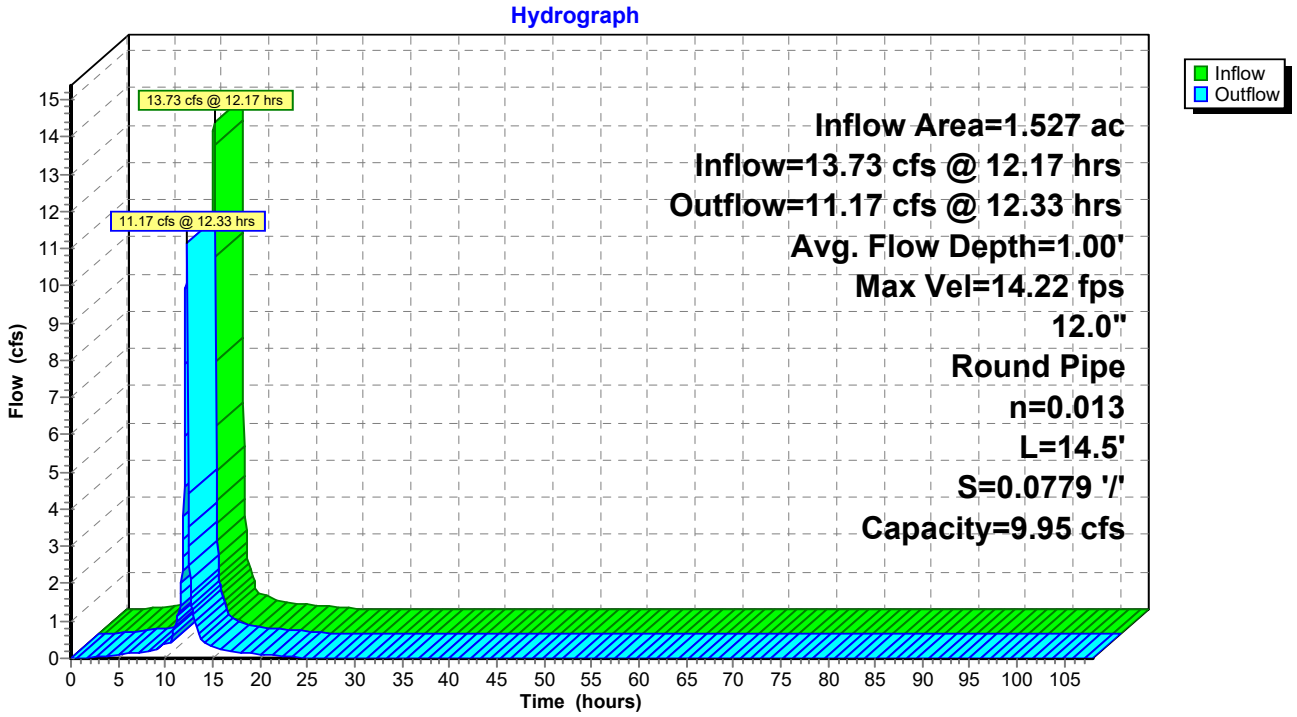
Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.22 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 5.03 fps, Avg. Travel Time= 0.0 min

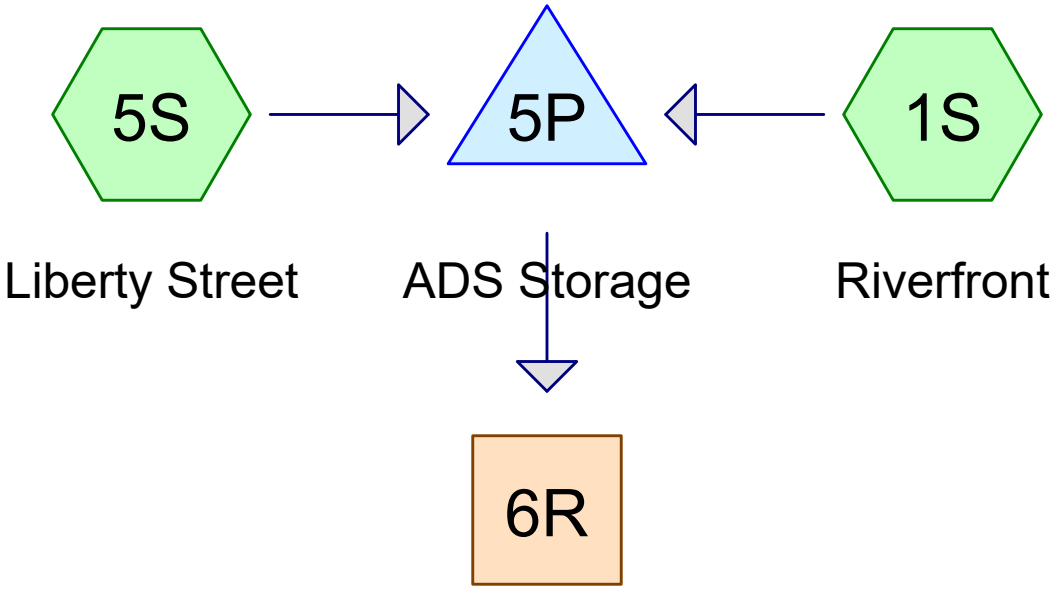
Peak Storage= 11 cf @ 12.10 hrs
Average Depth at Peak Storage= 1.00'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.95 cfs

12.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 14.5' Slope= 0.0779 '/'
Inlet Invert= 773.11', Outlet Invert= 771.98'



Reach 4R: 12-in Outlet Pipe





Subcat Reach Pond Link

Routing Diagram for 33587 Front Street Proposed
Prepared by I&S Group, Inc, Printed 2/24/2026
HydroCAD® 10.20-5c s/n 02403 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	MSE 24-hr	3	Default	24.00	1	2.87	2
2	10-yr	MSE 24-hr	3	Default	24.00	1	4.28	2
3	10-yrb2b	MSE 24-hr	3	Default	24.00	2	4.28	2
4	100-yr	MSE 24-hr	3	Default	24.00	1	7.19	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.613	98	Paved parking, HSG D (1S, 5S)
2.613	**98**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
2.613	HSG D	1S, 5S
0.000	Other	
2.613		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	2.613	0.000	2.613	Paved parking	1S, 5S
0.000	**0.000**	**0.000**	**2.613**	**0.000**	**2.613**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	6R	762.62	761.37	66.0	0.0189	0.013	0.0	108.0	0.0	
2	5P	771.19	770.12	215.0	0.0050	0.013	0.0	24.0	0.0	

Time span=0.00-108.00 hrs, dt=0.05 hrs, 2161 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Riverfront Runoff Area=1.527 ac 100.00% Impervious Runoff Depth=2.64"
Tc=10.0 min CN=98 Runoff=5.41 cfs 0.336 af

Subcatchment5S: Liberty Street Runoff Area=1.086 ac 100.00% Impervious Runoff Depth=2.64"
Tc=10.0 min CN=98 Runoff=3.85 cfs 0.239 af

Reach 6R: 108-inch RCP Warren Avg. Flow Depth=0.44' Max Vel=6.84 fps Inflow=7.88 cfs 0.575 af
108.0" Round Pipe n=0.013 L=66.0' S=0.0189 '/' Capacity=1,718.39 cfs Outflow=7.86 cfs 0.575 af

Pond 5P: ADS Storage Peak Elev=772.59' Storage=0.080 af Inflow=9.25 cfs 0.575 af
24.0" Round Culvert n=0.013 L=215.0' S=0.0050 '/' Outflow=7.88 cfs 0.575 af

Total Runoff Area = 2.613 ac Runoff Volume = 0.575 af Average Runoff Depth = 2.64"
0.00% Pervious = 0.000 ac 100.00% Impervious = 2.613 ac

Summary for Subcatchment 1S: Riverfront

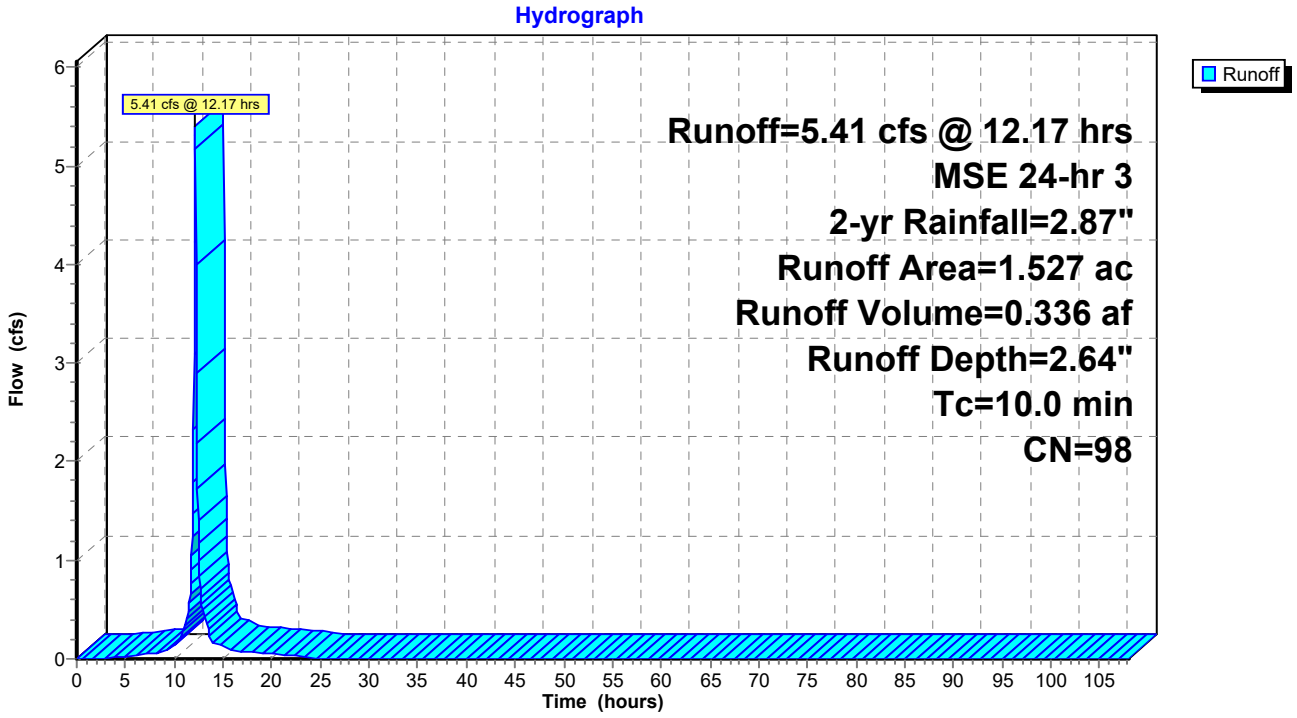
Runoff = 5.41 cfs @ 12.17 hrs, Volume= 0.336 af, Depth= 2.64"
Routed to Pond 5P : ADS Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-yr Rainfall=2.87"

Area (ac)	CN	Description
1.527	98	Paved parking, HSG D
1.527		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 Minute Minimum**

Subcatchment 1S: Riverfront



Summary for Subcatchment 5S: Liberty Street

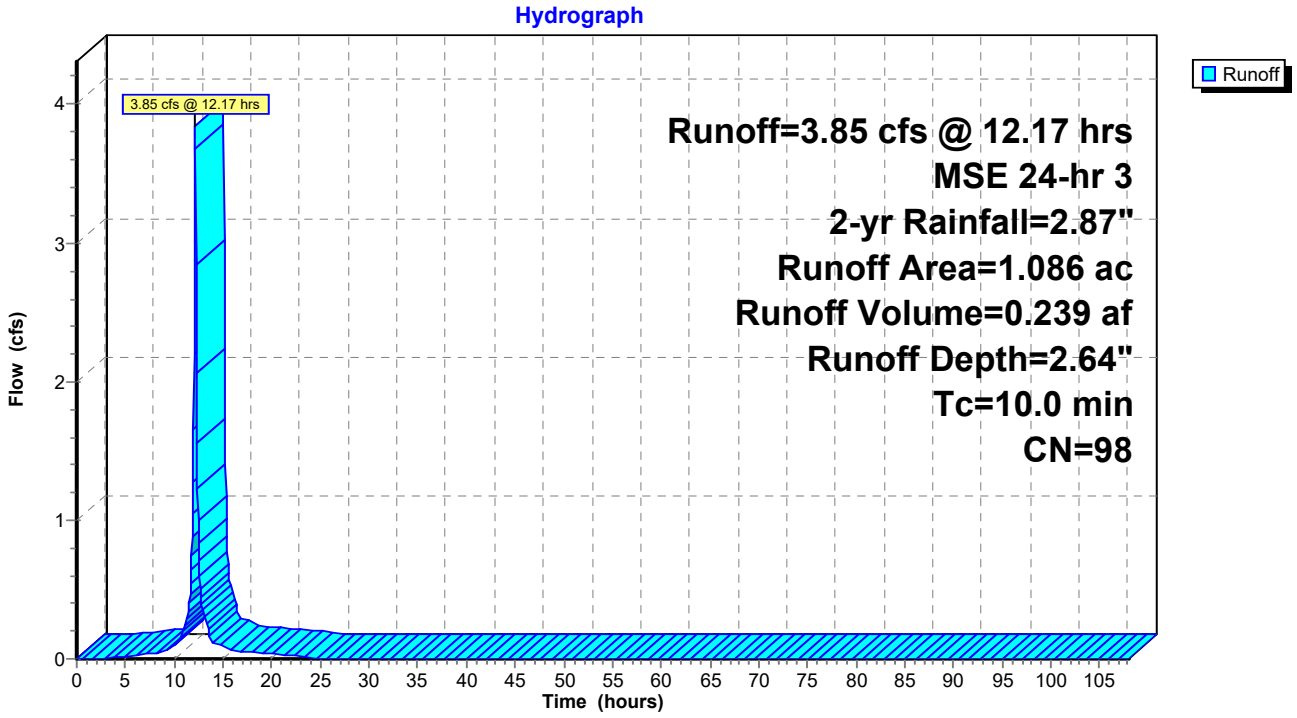
Runoff = 3.85 cfs @ 12.17 hrs, Volume= 0.239 af, Depth= 2.64"
Routed to Pond 5P : ADS Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-yr Rainfall=2.87"

Area (ac)	CN	Description
1.086	98	Paved parking, HSG D
1.086		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 min Minimum**

Subcatchment 5S: Liberty Street



Summary for Reach 6R: 108-inch RCP Warren

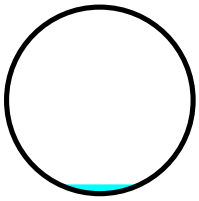
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2.613 ac,100.00% Impervious, Inflow Depth = 2.64" for 2-yr event
Inflow = 7.88 cfs @ 12.23 hrs, Volume= 0.575 af
Outflow = 7.86 cfs @ 12.23 hrs, Volume= 0.575 af, Atten= 0%, Lag= 0.4 min

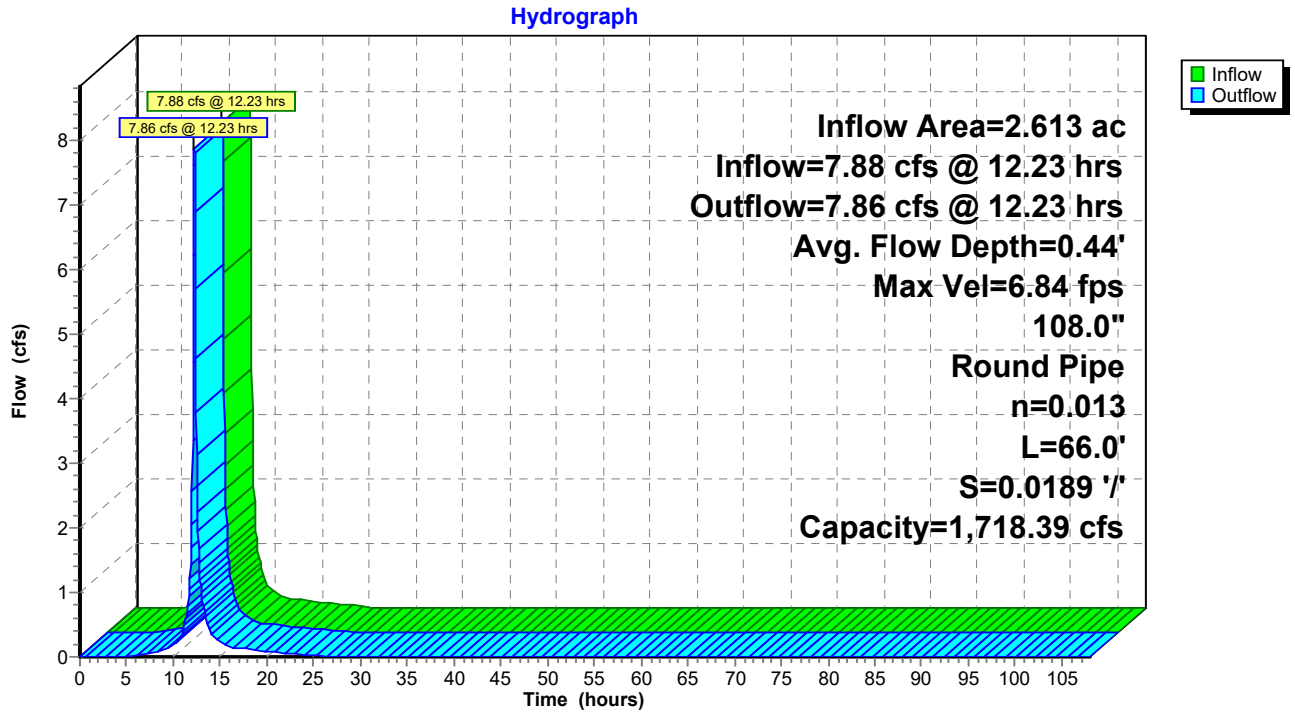
Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.84 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.55 fps, Avg. Travel Time= 0.4 min

Peak Storage= 76 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.44' , Surface Width= 3.88'
Bank-Full Depth= 9.00' Flow Area= 63.6 sf, Capacity= 1,718.39 cfs

108.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 66.0' Slope= 0.0189 '/'
Inlet Invert= 762.62', Outlet Invert= 761.37'



Reach 6R: 108-inch RCP Warren



Summary for Pond 5P: ADS Storage

[44] Hint: Outlet device #1 is below defined storage

Inflow Area = 2.613 ac,100.00% Impervious, Inflow Depth = 2.64" for 2-yr event
Inflow = 9.25 cfs @ 12.17 hrs, Volume= 0.575 af
Outflow = 7.88 cfs @ 12.23 hrs, Volume= 0.575 af, Atten= 15%, Lag= 3.5 min
Primary = 7.88 cfs @ 12.23 hrs, Volume= 0.575 af
Routed to Reach 6R : 108-inch RCP Warren

Routing by Stor-Ind method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Peak Elev= 772.59' @ 12.23 hrs Surf.Area= 0.053 ac Storage= 0.080 af

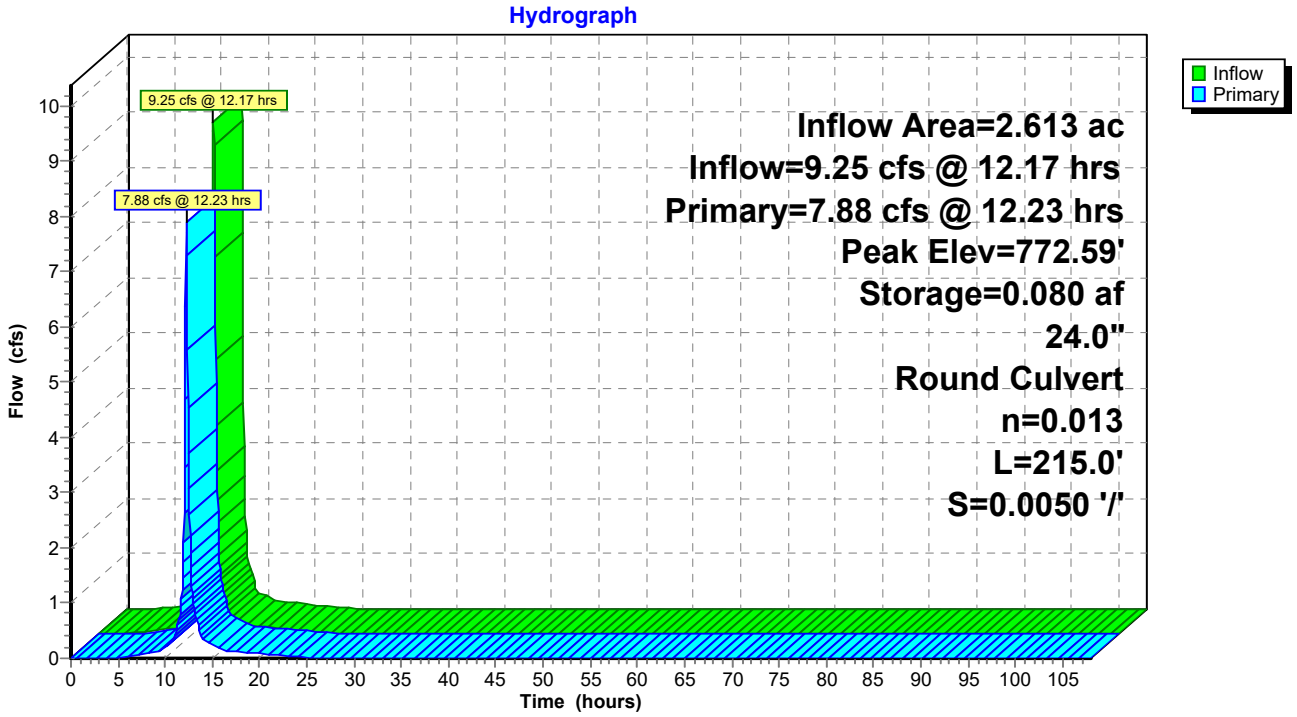
Plug-Flow detention time= 25.8 min calculated for 0.574 af (100% of inflow)
Center-of-Mass det. time= 26.1 min (783.5 - 757.4)

Volume	Invert	Avail.Storage	Storage Description
#1	771.20'	0.159 af	**ADS_StormTech MC-3500 d +Cap @ 111.00' L**x 4 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 111.00'L = 1,702.2 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 4 Chambers in 4 Rows Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf

Device	Routing	Invert	Outlet Devices
#1	Primary	771.19'	**24.0" Round Culvert** L= 215.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 771.19' / 770.12' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=7.75 cfs @ 12.23 hrs HW=772.57' (Free Discharge)
1=Culvert (Barrel Controls 7.75 cfs @ 4.72 fps)

Pond 5P: ADS Storage



Time span=0.00-108.00 hrs, dt=0.05 hrs, 2161 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Riverfront Runoff Area=1.527 ac 100.00% Impervious Runoff Depth=4.04"
Tc=10.0 min CN=98 Runoff=8.13 cfs 0.515 af

Subcatchment5S: Liberty Street Runoff Area=1.086 ac 100.00% Impervious Runoff Depth=4.04"
Tc=10.0 min CN=98 Runoff=5.78 cfs 0.366 af

Reach 6R: 108-inch RCP Warren Avg. Flow Depth=0.54' Max Vel=7.77 fps Inflow=12.19 cfs 0.881 af
108.0" Round Pipe n=0.013 L=66.0' S=0.0189 '/' Capacity=1,718.39 cfs Outflow=12.09 cfs 0.881 af

Pond 5P: ADS Storage Peak Elev=773.05' Storage=0.103 af Inflow=13.92 cfs 0.881 af
24.0" Round Culvert n=0.013 L=215.0' S=0.0050 '/' Outflow=12.19 cfs 0.881 af

Total Runoff Area = 2.613 ac Runoff Volume = 0.881 af Average Runoff Depth = 4.04"
0.00% Pervious = 0.000 ac 100.00% Impervious = 2.613 ac

Summary for Subcatchment 1S: Riverfront

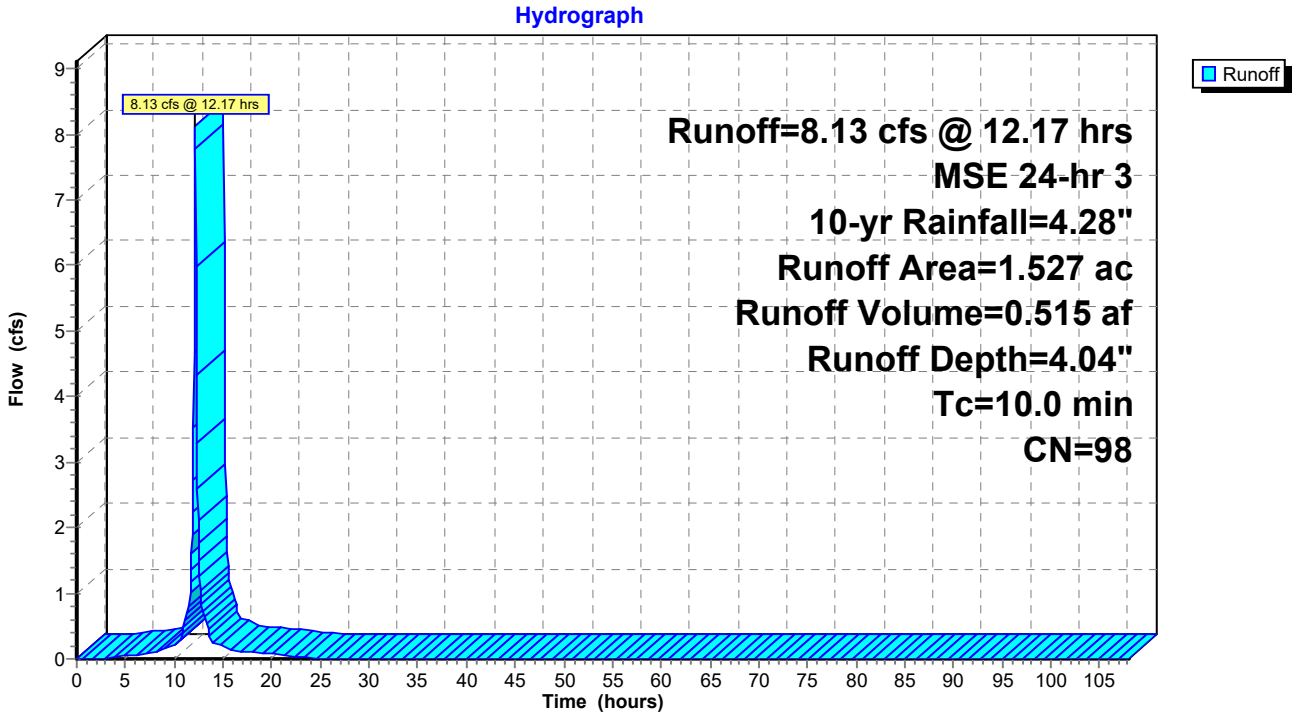
Runoff = 8.13 cfs @ 12.17 hrs, Volume= 0.515 af, Depth= 4.04"
Routed to Pond 5P : ADS Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-yr Rainfall=4.28"

Area (ac)	CN	Description
1.527	98	Paved parking, HSG D
1.527		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 Minute Minimum**

Subcatchment 1S: Riverfront



Summary for Subcatchment 5S: Liberty Street

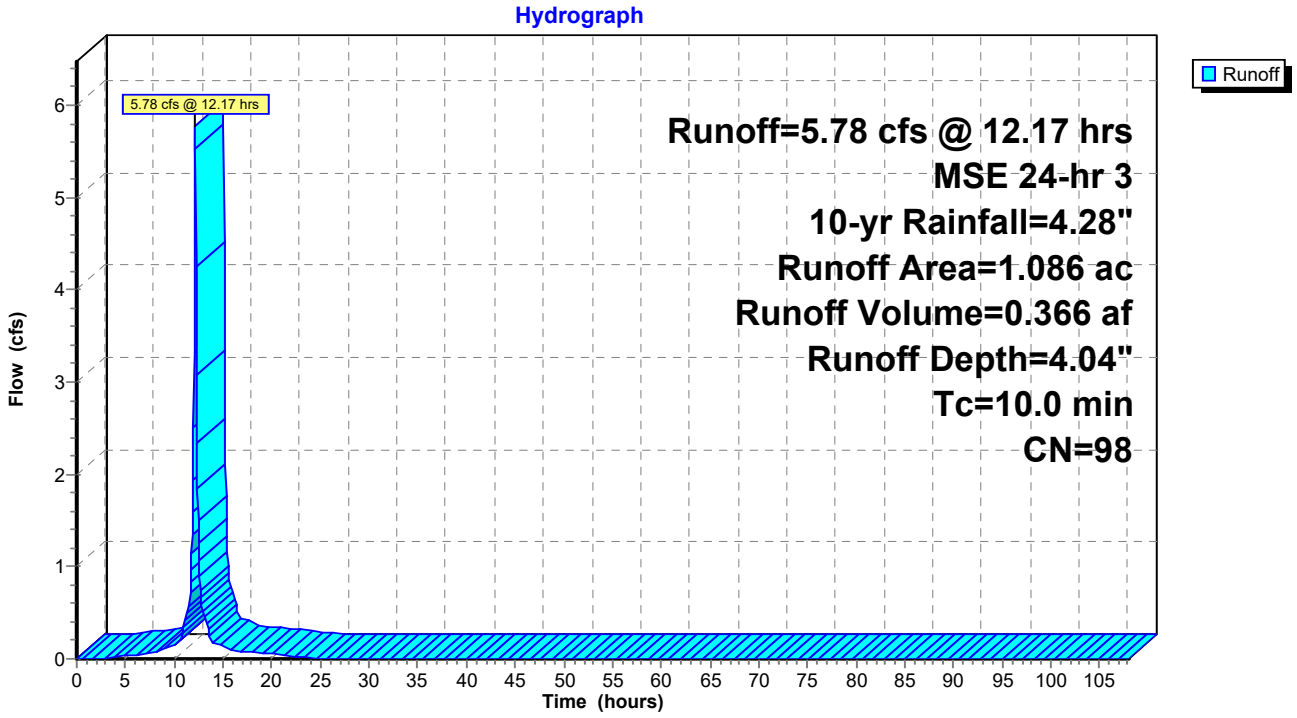
Runoff = 5.78 cfs @ 12.17 hrs, Volume= 0.366 af, Depth= 4.04"
Routed to Pond 5P : ADS Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-yr Rainfall=4.28"

Area (ac)	CN	Description
1.086	98	Paved parking, HSG D
1.086		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 min Minimum**

Subcatchment 5S: Liberty Street



Summary for Reach 6R: 108-inch RCP Warren

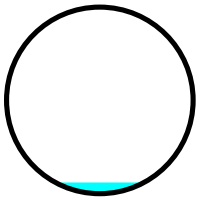
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2.613 ac,100.00% Impervious, Inflow Depth = 4.04" for 10-yr event
Inflow = 12.19 cfs @ 12.22 hrs, Volume= 0.881 af
Outflow = 12.09 cfs @ 12.23 hrs, Volume= 0.881 af, Atten= 1%, Lag= 0.3 min

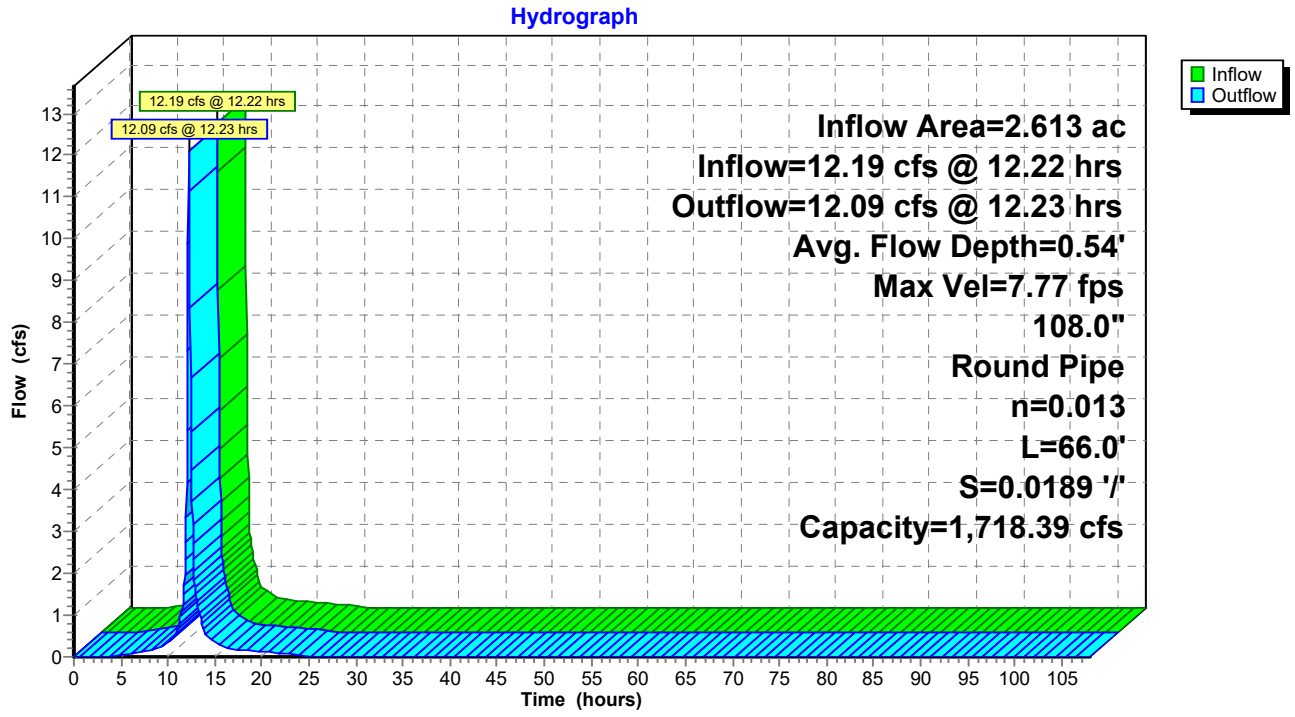
Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.77 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.62 fps, Avg. Travel Time= 0.4 min

Peak Storage= 103 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.54' , Surface Width= 4.28'
Bank-Full Depth= 9.00' Flow Area= 63.6 sf, Capacity= 1,718.39 cfs

108.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 66.0' Slope= 0.0189 '/'
Inlet Invert= 762.62', Outlet Invert= 761.37'



Reach 6R: 108-inch RCP Warren



Summary for Pond 5P: ADS Storage

[44] Hint: Outlet device #1 is below defined storage

Inflow Area = 2.613 ac,100.00% Impervious, Inflow Depth = 4.04" for 10-yr event
Inflow = 13.92 cfs @ 12.17 hrs, Volume= 0.881 af
Outflow = 12.19 cfs @ 12.22 hrs, Volume= 0.881 af, Atten= 12%, Lag= 3.2 min
Primary = 12.19 cfs @ 12.22 hrs, Volume= 0.881 af
Routed to Reach 6R : 108-inch RCP Warren

Routing by Stor-Ind method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Peak Elev= 773.05' @ 12.22 hrs Surf.Area= 0.048 ac Storage= 0.103 af

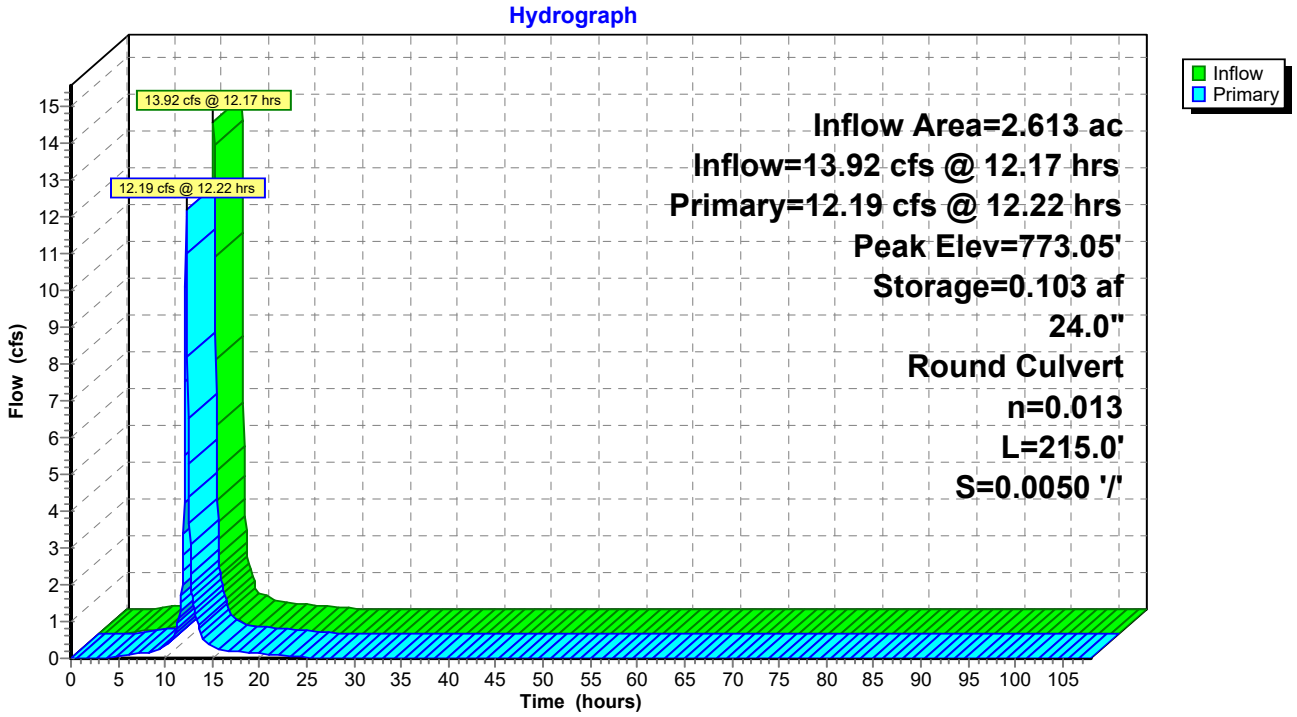
Plug-Flow detention time= 21.3 min calculated for 0.880 af (100% of inflow)
Center-of-Mass det. time= 21.6 min (772.6 - 751.1)

Volume	Invert	Avail.Storage	Storage Description
#1	771.20'	0.159 af	**ADS_StormTech MC-3500 d +Cap @ 111.00' L**x 4 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 111.00'L = 1,702.2 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 4 Chambers in 4 Rows Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf

Device	Routing	Invert	Outlet Devices
#1	Primary	771.19'	**24.0" Round Culvert** L= 215.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 771.19' / 770.12' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=11.94 cfs @ 12.22 hrs HW=773.02' (Free Discharge)
1=Culvert (Barrel Controls 11.94 cfs @ 5.19 fps)

Pond 5P: ADS Storage



Time span=0.00-108.00 hrs, dt=0.05 hrs, 2161 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Riverfront Runoff Area=1.527 ac 100.00% Impervious Runoff Depth=8.32"
Tc=10.0 min CN=98 Runoff=8.19 cfs 1.059 af

Subcatchment5S: Liberty Street Runoff Area=1.086 ac 100.00% Impervious Runoff Depth=8.32"
Tc=10.0 min CN=98 Runoff=5.82 cfs 0.753 af

Reach 6R: 108-inch RCP Warren Avg. Flow Depth=0.54' Max Vel=7.79 fps Inflow=12.28 cfs 1.812 af
108.0" Round Pipe n=0.013 L=66.0' S=0.0189 '/' Capacity=1,718.39 cfs Outflow=12.19 cfs 1.812 af

Pond 5P: ADS Storage Peak Elev=773.06' Storage=0.104 af Inflow=14.01 cfs 1.812 af
24.0" Round Culvert n=0.013 L=215.0' S=0.0050 '/' Outflow=12.28 cfs 1.812 af

Total Runoff Area = 2.613 ac Runoff Volume = 1.812 af Average Runoff Depth = 8.32"
0.00% Pervious = 0.000 ac 100.00% Impervious = 2.613 ac

Summary for Subcatchment 1S: Riverfront

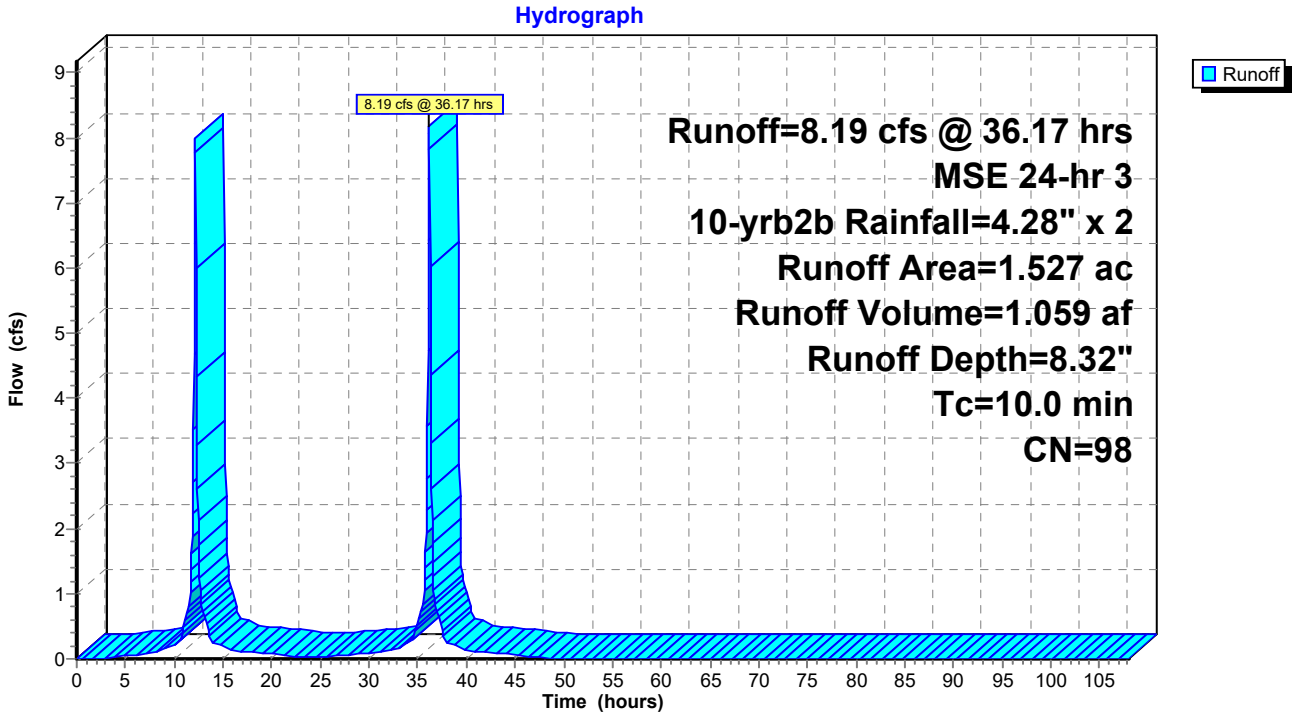
Runoff = 8.19 cfs @ 36.17 hrs, Volume= 1.059 af, Depth= 8.32"
Routed to Pond 5P : ADS Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-yrb2b Rainfall=4.28" x 2

Area (ac)	CN	Description
1.527	98	Paved parking, HSG D
1.527		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 Minute Minimum**

Subcatchment 1S: Riverfront



Summary for Subcatchment 5S: Liberty Street

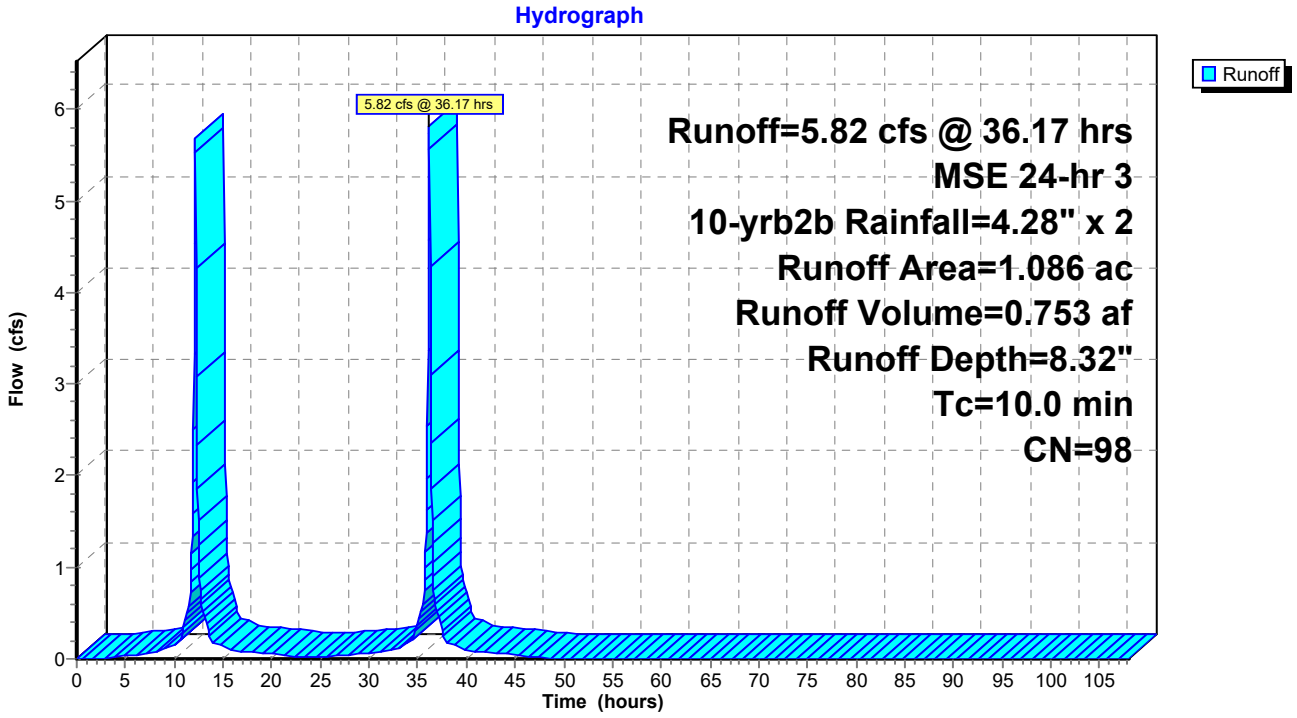
Runoff = 5.82 cfs @ 36.17 hrs, Volume= 0.753 af, Depth= 8.32"
Routed to Pond 5P : ADS Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-yrb2b Rainfall=4.28" x 2

Area (ac)	CN	Description
1.086	98	Paved parking, HSG D
1.086		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 min Minimum**

Subcatchment 5S: Liberty Street



Summary for Reach 6R: 108-inch RCP Warren

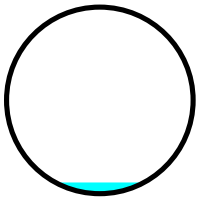
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2.613 ac,100.00% Impervious, Inflow Depth = 8.32" for 10-yrb2b event
Inflow = 12.28 cfs @ 36.22 hrs, Volume= 1.812 af
Outflow = 12.19 cfs @ 36.23 hrs, Volume= 1.812 af, Atten= 1%, Lag= 0.3 min

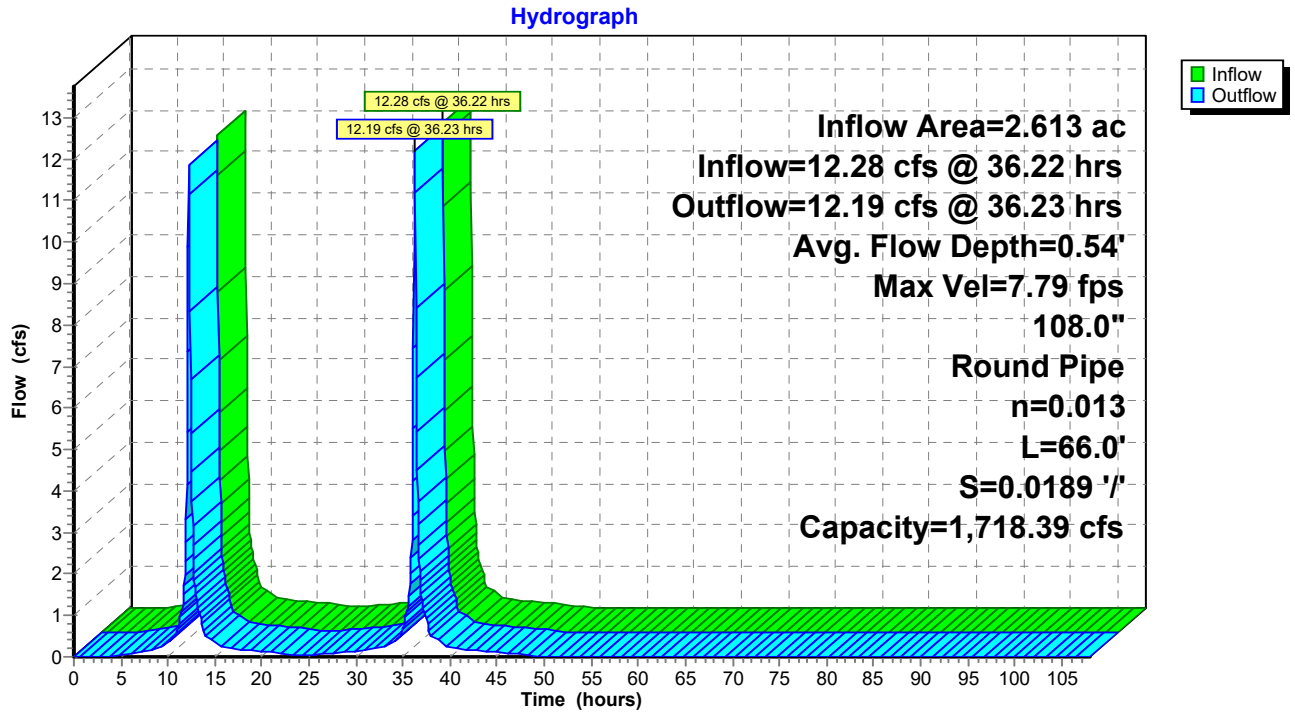
Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.79 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.66 fps, Avg. Travel Time= 0.4 min

Peak Storage= 103 cf @ 36.22 hrs
Average Depth at Peak Storage= 0.54' , Surface Width= 4.28'
Bank-Full Depth= 9.00' Flow Area= 63.6 sf, Capacity= 1,718.39 cfs

108.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 66.0' Slope= 0.0189 '/'
Inlet Invert= 762.62', Outlet Invert= 761.37'



Reach 6R: 108-inch RCP Warren



Summary for Pond 5P: ADS Storage

[44] Hint: Outlet device #1 is below defined storage

Inflow Area = 2.613 ac,100.00% Impervious, Inflow Depth = 8.32" for 10-yrb2b event
Inflow = 14.01 cfs @ 36.17 hrs, Volume= 1.812 af
Outflow = 12.28 cfs @ 36.22 hrs, Volume= 1.812 af, Atten= 12%, Lag= 3.2 min
Primary = 12.28 cfs @ 36.22 hrs, Volume= 1.812 af
Routed to Reach 6R : 108-inch RCP Warren

Routing by Stor-Ind method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Peak Elev= 773.06' @ 36.22 hrs Surf.Area= 0.048 ac Storage= 0.104 af

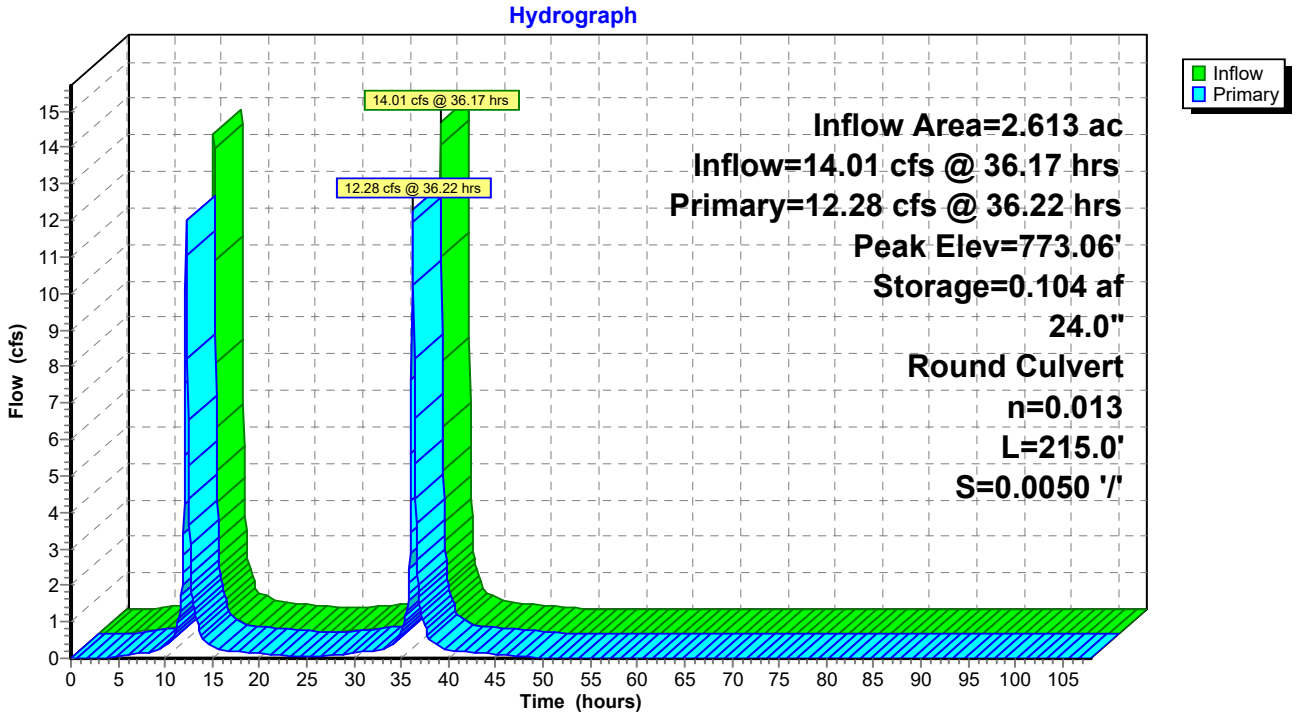
Plug-Flow detention time= 22.4 min calculated for 1.812 af (100% of inflow)
Center-of-Mass det. time= 21.8 min (1,501.8 - 1,480.0)

Volume	Invert	Avail.Storage	Storage Description
#1	771.20'	0.159 af	**ADS_StormTech MC-3500 d +Cap @ 111.00' L**x 4 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 111.00'L = 1,702.2 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 4 Chambers in 4 Rows Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf

Device	Routing	Invert	Outlet Devices
#1	Primary	771.19'	**24.0" Round Culvert** L= 215.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 771.19' / 770.12' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=12.03 cfs @ 36.22 hrs HW=773.03' (Free Discharge)
1=Culvert (Barrel Controls 12.03 cfs @ 5.20 fps)

Pond 5P: ADS Storage



Time span=0.00-108.00 hrs, dt=0.05 hrs, 2161 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Riverfront Runoff Area=1.527 ac 100.00% Impervious Runoff Depth=6.95"
Tc=10.0 min CN=98 Runoff=13.73 cfs 0.884 af

Subcatchment5S: Liberty Street Runoff Area=1.086 ac 100.00% Impervious Runoff Depth=6.95"
Tc=10.0 min CN=98 Runoff=9.77 cfs 0.629 af

Reach 6R: 108-inch RCP Warren Avg. Flow Depth=0.67' Max Vel=9.02 fps Inflow=19.56 cfs 1.514 af
108.0" Round Pipe n=0.013 L=66.0' S=0.0189 '/' Capacity=1,718.39 cfs Outflow=19.47 cfs 1.514 af

Pond 5P: ADS Storage Peak Elev=774.63' Storage=0.158 af Inflow=23.50 cfs 1.514 af
24.0" Round Culvert n=0.013 L=215.0' S=0.0050 '/' Outflow=19.56 cfs 1.514 af

Total Runoff Area = 2.613 ac Runoff Volume = 1.514 af Average Runoff Depth = 6.95"
0.00% Pervious = 0.000 ac 100.00% Impervious = 2.613 ac

Summary for Subcatchment 1S: Riverfront

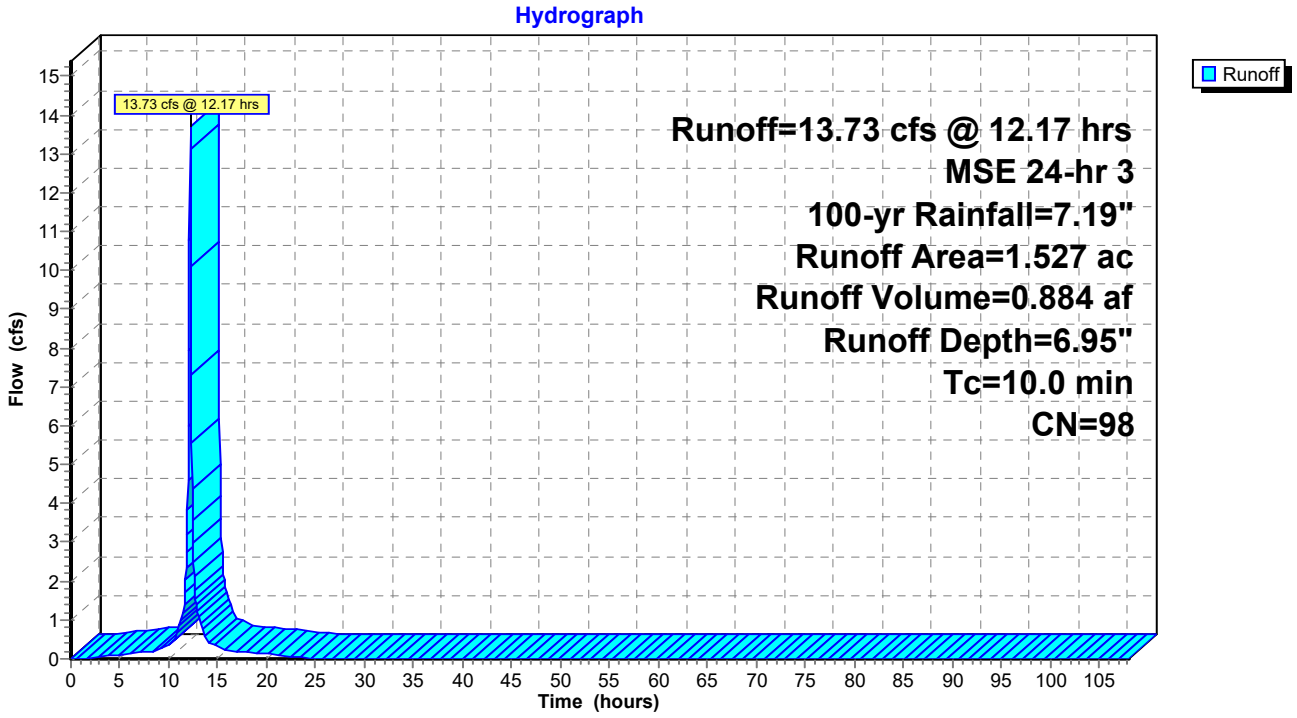
Runoff = 13.73 cfs @ 12.17 hrs, Volume= 0.884 af, Depth= 6.95"
Routed to Pond 5P : ADS Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-yr Rainfall=7.19"

Area (ac)	CN	Description
1.527	98	Paved parking, HSG D
1.527		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 Minute Minimum**

Subcatchment 1S: Riverfront



Summary for Subcatchment 5S: Liberty Street

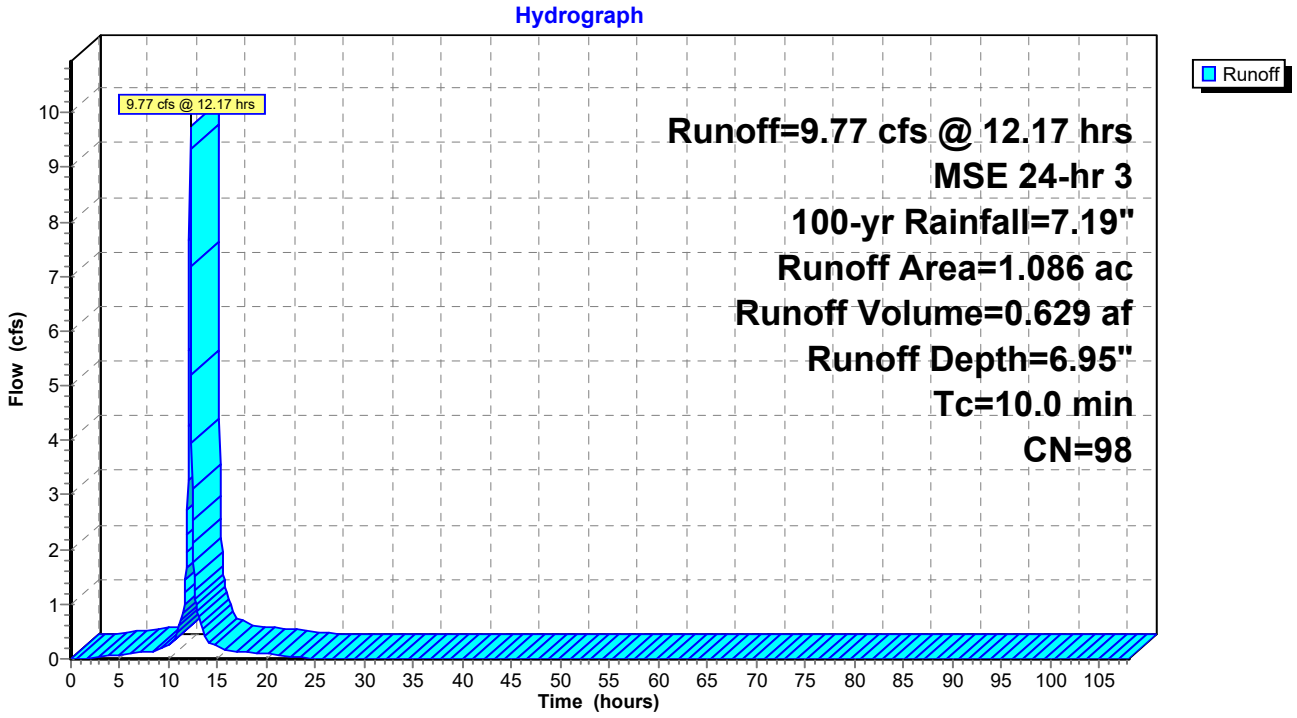
Runoff = 9.77 cfs @ 12.17 hrs, Volume= 0.629 af, Depth= 6.95"
Routed to Pond 5P : ADS Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-yr Rainfall=7.19"

Area (ac)	CN	Description
1.086	98	Paved parking, HSG D
1.086		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, 10 min Minimum**

Subcatchment 5S: Liberty Street



Summary for Reach 6R: 108-inch RCP Warren

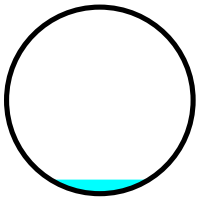
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 2.613 ac,100.00% Impervious, Inflow Depth = 6.95" for 100-yr event
Inflow = 19.56 cfs @ 12.24 hrs, Volume= 1.514 af
Outflow = 19.47 cfs @ 12.24 hrs, Volume= 1.514 af, Atten= 0%, Lag= 0.1 min

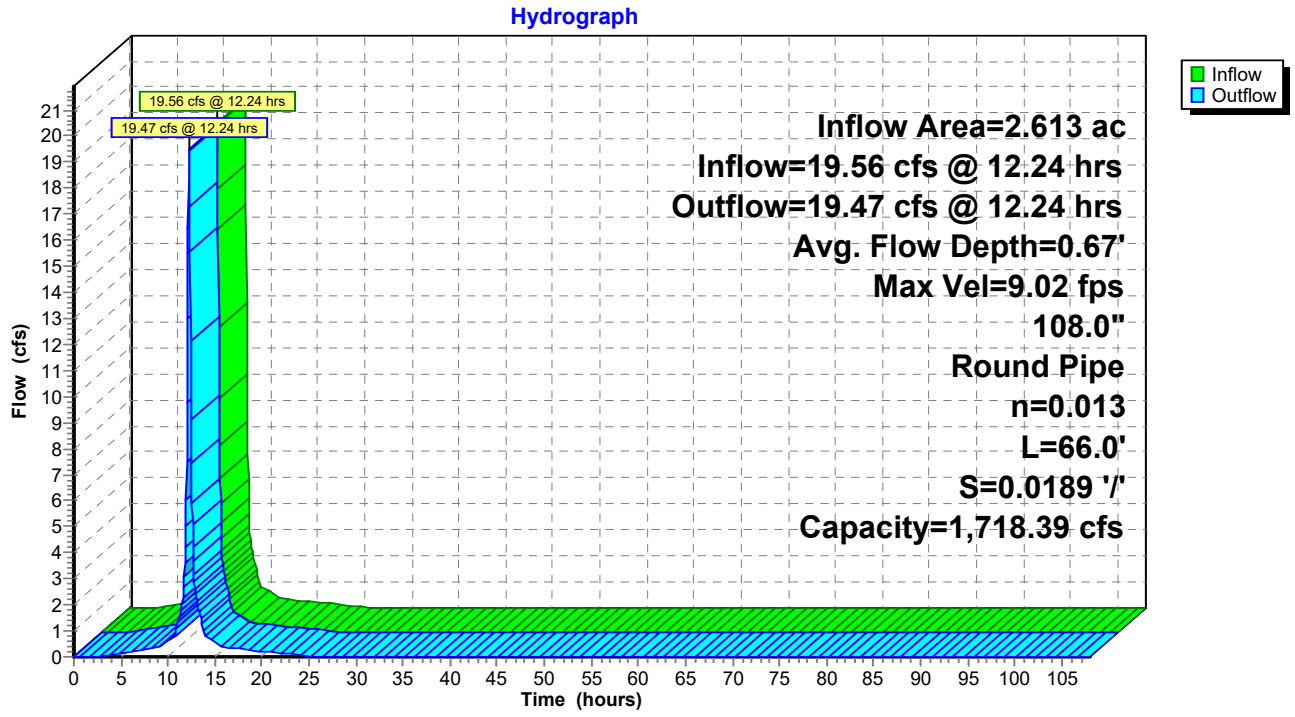
Routing by Stor-Ind+Trans method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.02 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.75 fps, Avg. Travel Time= 0.4 min

Peak Storage= 143 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.67' , Surface Width= 4.73'
Bank-Full Depth= 9.00' Flow Area= 63.6 sf, Capacity= 1,718.39 cfs

108.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 66.0' Slope= 0.0189 '/'
Inlet Invert= 762.62', Outlet Invert= 761.37'



Reach 6R: 108-inch RCP Warren



Summary for Pond 5P: ADS Storage

[44] Hint: Outlet device #1 is below defined storage

Inflow Area = 2.613 ac,100.00% Impervious, Inflow Depth = 6.95" for 100-yr event
Inflow = 23.50 cfs @ 12.17 hrs, Volume= 1.514 af
Outflow = 19.56 cfs @ 12.24 hrs, Volume= 1.514 af, Atten= 17%, Lag= 4.1 min
Primary = 19.56 cfs @ 12.24 hrs, Volume= 1.514 af
Routed to Reach 6R : 108-inch RCP Warren

Routing by Stor-Ind method, Time Span= 0.00-108.00 hrs, dt= 0.05 hrs
Peak Elev= 774.63' @ 12.24 hrs Surf.Area= 0.009 ac Storage= 0.158 af

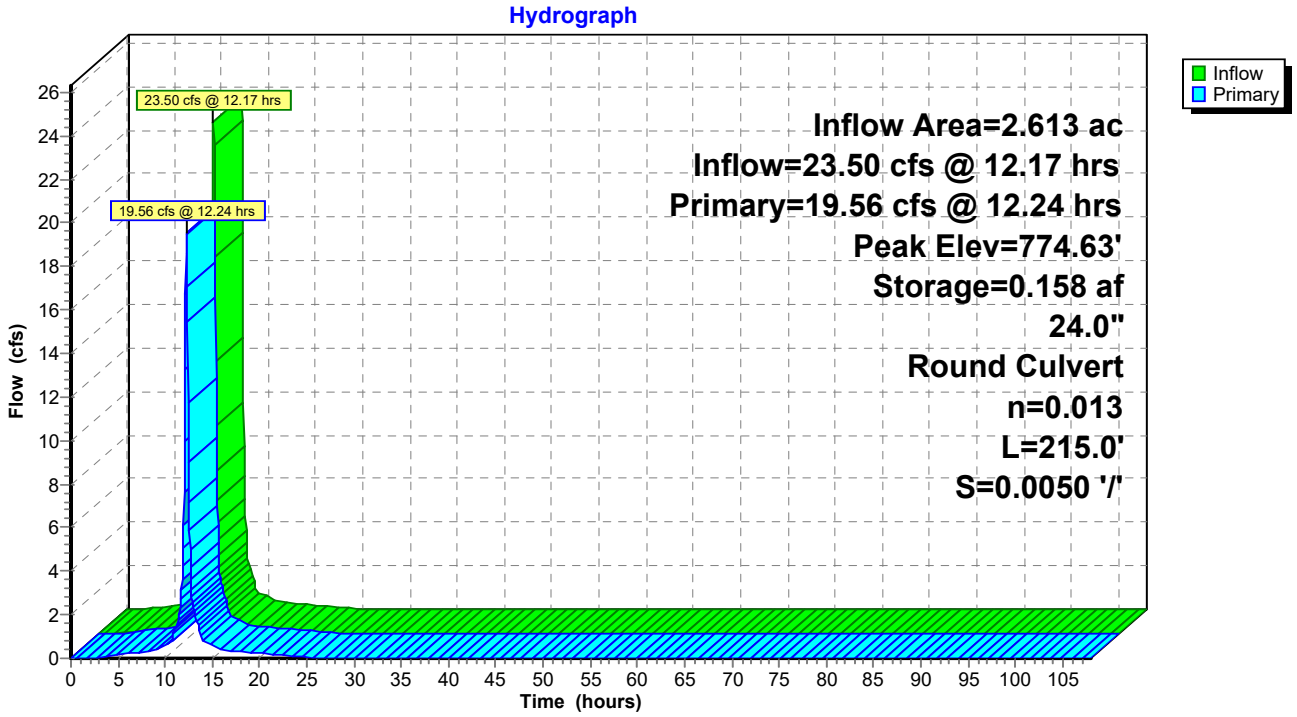
Plug-Flow detention time= 16.8 min calculated for 1.513 af (100% of inflow)
Center-of-Mass det. time= 17.0 min (761.5 - 744.5)

Volume	Invert	Avail.Storage	Storage Description
#1	771.20'	0.159 af	**ADS_StormTech MC-3500 d +Cap @ 111.00' L**x 4 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 111.00'L = 1,702.2 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 4 Chambers in 4 Rows Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf

Device	Routing	Invert	Outlet Devices
#1	Primary	771.19'	**24.0" Round Culvert** L= 215.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 771.19' / 770.12' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=19.26 cfs @ 12.24 hrs HW=774.56' (Free Discharge)
1=Culvert (Barrel Controls 19.26 cfs @ 6.13 fps)

Pond 5P: ADS Storage



LEGEND	
SYMBOL	DESCRIPTION
	FIRST FLOOR BUILDING AREA
	ADDED SECOND FLOOR BUILDING AREA
	REMOVED SECOND FLOOR BUILDING AREA
	CITY OWNED LOTS

S RIVERFRONT DRIVE

B618 CURB AND GUTTER (TYP)

30'x111'
UNDER GROUND STORMWATER
TREATMENT SYSTEM

PROPOSED
BUSINESS USE
FFE = 780.81

BENCHMARK HYDRANT
TNFH = 779.68

BIKE RACKS
(6 BIKES)

PROPOSED PARKING STRUCTURE
(REFER TO STRUCTURE)

TRASH ENCLOSURE

TRASH ROOM

LOADING DOCK

ABOVE GRADE BUILDING OVERHANG (TYP)

PROPOSED
RETAIL 2
FFE = 785.00

PROPOSED
CAFE/LOBBY/B.O.H
FFE = 785.57

PROPOSED
RETAIL 1
FFE = 785.57

PROPOSED
RESTAURANT
FFE = 784.81

PRIVATE PATIO

LOADING/UNLOADING BERTH

W LIBERTY STREET

WARREN STREET

S FRONT STREET

BENCHMARK HYDRANT
TNFH = 785.78

0 20 40
SCALE IN FEET

PRELIMINARY NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LIC. NO. _____

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LIC. NO. _____

SHEET NOT VALID UNLESS THIS TEXT IS COLOR

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PROJECT

FRONT STREET PLACE

MIXED USE DEVELOPMENT

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33587
FILE NAME	33587-C3-SITE
DRAWN BY	SMW
DESIGNED BY	SMW, NJH
REVIEWED BY	NJH
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

LOT COVERAGE EXHIBIT

SHEET

March 3, 2026

Community Development
City of Mankato
Intergovernmental Center
10 Civic Center Plaza
Mankato, MN 56001

RE: Variance Narrative - ZONE-0012-26
Front Street Redevelopment

City Community Development team:

ISG is submitting a variance application associated with the Front Street redevelopment project in downtown Mankato for the block bound by S. Riverfront Dr/S Front Street/Warren St / Liberty Street. This variance submittal is in conjunction with the CDC and CUP applications, Project ZONE-0012-26.

PROJECT NARRATIVE

The Front Street Place redevelopment site is a block in downtown Mankato that is zoned CBD-F (Central Business District – Fringe) and within the Front Street Connectivity Plan. Last month, our team submitted the Preliminary Plat application to consolidate the 13 parcels on this city block into 1 lot, totaling a size of 2.5 acres (109,036 square feet) to prepare the project area for a new cohesive development on one lot. The Preliminary Plat is currently in review with the city.

Front Street Plaza, LLC is proposing a mixed-use redevelopment project that will include retail, office, residential, and a shared parking facility. A 5-story office building is situated at the corner of Riverfront Drive and Warren Street. The building along Front Street will be six stories. Retail will occupy the first floor with residential on floors 2-6. A private outdoor terrace for residents will be located on the east side of the building. In between the two buildings will be a 3-story parking ramp. There will be direct access from the parking ramp to the residential, office, and café mezzanine.

VARIANCE REQUEST

We are requesting a variance to exceed the Lot Coverage Area by 2%. The code standard is a maximum of 75% lot coverage. This project is proposing a 77% lot coverage. The Mankato City Code defines Lot Coverage as, “the area of the lot covered by buildings or roofed areas, excluding permitted projecting eaves.” Following are the calculations of the proposed project Lot Coverage to show how a variance is needed:

Lot Area = 109,036 SF
Allowable Lot Coverage Area = 75% (81,777 SF)
Proposed Lot Coverage Area = 77% (83,217 SF)

First Floor Building Area = 65% (70,676 SF)
Second Floor Building Area = 64% (69,576 SF)

Following are the Standards from Section 10-883 of the City of Mankato code for the review of a Conditional Use Permit (CUP) request. Each standard is listed below verbatim from the city code followed with a response on how this project addresses each CUP standard:

1. In your opinion, is the variance in harmony with the purposes and intent of the ordinance?

   Response: The purpose and intent of the ordinance is being upheld with a minor variance request that is a 2% deviation from the code requirement. The ground level Lot Coverage area is compliant so at a pedestrian level, the amount of open space is compliant. The 2% increase is to accommodate additional roof area for upper-level floors

that are architectural enhancements to the building through various bump outs that provide more dimension, interest to the overall site appearance, and pedestrian level areas protected from the weather.

2. In your opinion, is the variance consistent with the comprehensive plan?

   Response: This development supports goals for additional housing options where a walkable neighborhood character is being built. It also supports economic development and revitalization downtown. Additionally, this property is located within the Front Street Connectivity Plan and supports the following goals stated in the plan, with the main elements bulleted below:

   - Improve the economic viability, market position, and accessibility of Front Street
   - Maintain Pedestrian Access through Front Street
   - Provide parking in expandable parking ramps or within the building itself. Building upwards for commercial, office, residential uses along with parking purposes provides for greater utilization of space and limits the presence of expansive hard-surfaced parking lots. Reducing expansive hard surface parking lots …

   The proposed development designed the buildings along Front Street as the dominant pedestrian side, with the goal to enhance the streetscape and engage the pedestrian. Surface parking is limited overall, with the majority of parking in a parking ramp. No parking is accessed from Front Street and parking is screened by buildings and not visible to Front Street.

3. In your opinion, does the proposal put property to use in a reasonable manner?

   Response: The proposed mix of apartments, office and retail are compatible with adjacent uses and the character of the area, are not uses that pose safety or nuisance issues. The variance is for an additional ~ 1,440 SF of upper-level roof area beyond what is allowed, which is only 2% of a large city-block redevelopment project. Total Project Lot Coverage Area when including upper floors additional roof area (83,217 SF) - Allowable Lot Coverage Area (81,777 SF) = 1,440 SF additional roof area requested through the variance. An additional 2% would not be noticeable with this scale of project.

4. In your opinion, are there circumstances unique to the property?

   Response: There are two small slivers of city-owned lots between the ROW and this site's private property which creates unusual and unique right-of-way lines adjacent to the site. These city-owned parcels will be perceived as surface areas included with this project/private property. If you include either of these city-owned parcels to the overall lot area (adjusted lot area), our project would not need a variance. See calculations below.

   City Parcel (Riverfront) = 2415 SF / 111,451 SF (Adjusted lot area)
   Overall Lot Coverage Area = 83,217 SF 74.7%
   City Parcel (Warren) = 2129 SF / 111,165 SF (Adjusted lot area)
   Overall Lot Coverage Area = 83,217 SF 74.9%

   The right-of-way line along Riverfront Drive is not linear paralleling the street. There is a city-owned parcel for a third of the portion of the property line along Riverfront that jogs into this site area and takes up 2,415 SF of area that will appear as part of this property's lot surface area to the public eye. With this area being included, our project would meet the Lot Coverage Area, being at 74.7% and a variance would not be needed. There is also a small city-owned parcel between the Warren Street ROW and our site, taking 2,129 SF of lot area that would also be perceived as surface area for this project.

5. In your opinion, will the variance maintain the essential character of the locality?

   Response: The building footprint at pedestrian level is well within the city code requirement at 65%, or 10% below the maximum allowed. However, when you add the upper-level roofed areas, it then bumps the project to exceed the Lot

Coverage Area by 2%. This upper-level additional lot coverage area will not be felt at a pedestrian level and provide more architectural building variation and interest.

Thank you again for reviewing the application and attached materials. Please contact us with any questions or if there is any additional information we can provide in support of this project. Andrea Rand is the application coordinator and her contact is Andrea.Rand@ISGInc.com or 952.426.0699. Nate Hermer is the project manager and civil engineer and his contact information is Nathan.Hermer@ISGInc.com or 507-387-6651.

Sincerely,

Andrea Rand, AICP
Development Services Coordinator

Nate Hermer, PE
Project Manager

Site Plan and Traffic Advisory Review Committee **1. 2.**

Meeting Date: 03/10/2026

Title

CY11-26

Request of ISG, on behalf of the owner, Snell Real Estate, LLC, for a preliminary plat review of Snell Addition. The subject properties are described as Lots 3, 4, and 5, Block 1, Menard Addition; except a portion of Lot 5, Block (1900 and 1990 Madison Avenue).

Applicant

The applicant is ISG, on behalf of the property owner, Snell Real Estate, LLC.

Request

The applicant has requested the review of Snell Addition preliminary plat.

Location

The subject properties are addressed at 1900 and 1990 Madison Avenue, and are legally described as Lots 3, 4, and 5, Block 1, Menard Addition; except a portion of Lot 5, Block.

Existing Land Use

The property is the location of Snell Motors and the Snell Motors Carwash.

Zoning

The properties are zoned B-3, Highway Commercial District.

Environmentally Sensitive Areas

There are no known environmentally sensitive areas on the site.

Public Utilities

The subject site will continue to be served by public utilities.

Review

ISG, on behalf of the owner, Snell Real Estate, LLC, is requesting a preliminary plat review of Snell Addition. The subject properties are described as Lots 3, 4, and 5, Block 1, Menard Addition; except a portion of Lot 5, Block (1900 and 1990 Madison Avenue).

The applicant is seeking a preliminary plat review for Snell Addition. The plat consists of a one-block subdivision that contains 2 lots: Lot 1 that contains the current dealership building and parking lot areas, and Lot 2 that contains the current carwash structure and associated areas.

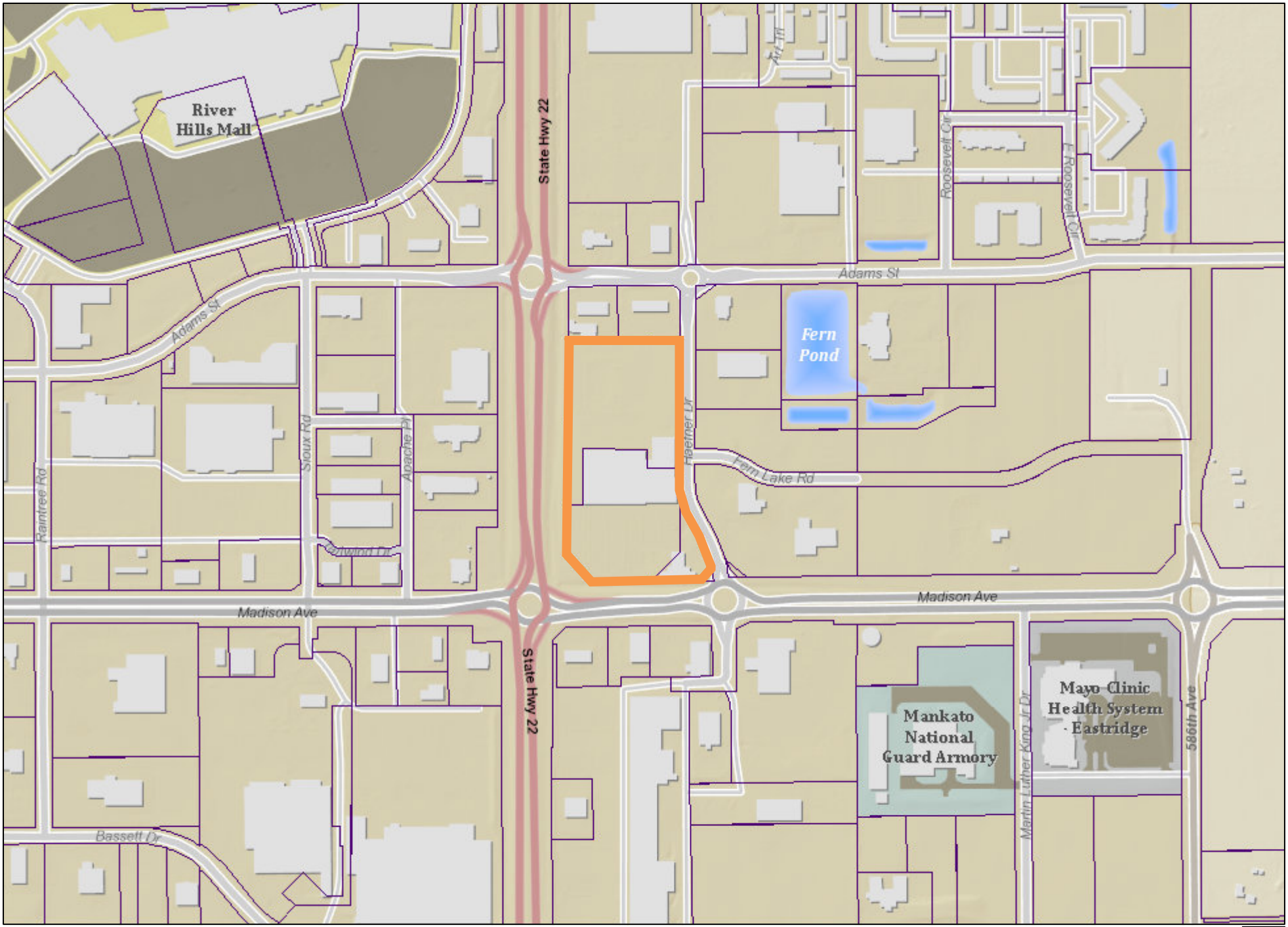
The 10.23 acre plat is the site of Snell Motors and the accessory car wash structure and associated parking lot areas.

The intent of the replat is to amend the existing property lines of the three current parcels to better coincide with the location of current structures.

Attachments

General Location Map
Aerial Plan
Preliminary Plat
Preliminary Plat - Aerial
Parking Analysis

General Location Map



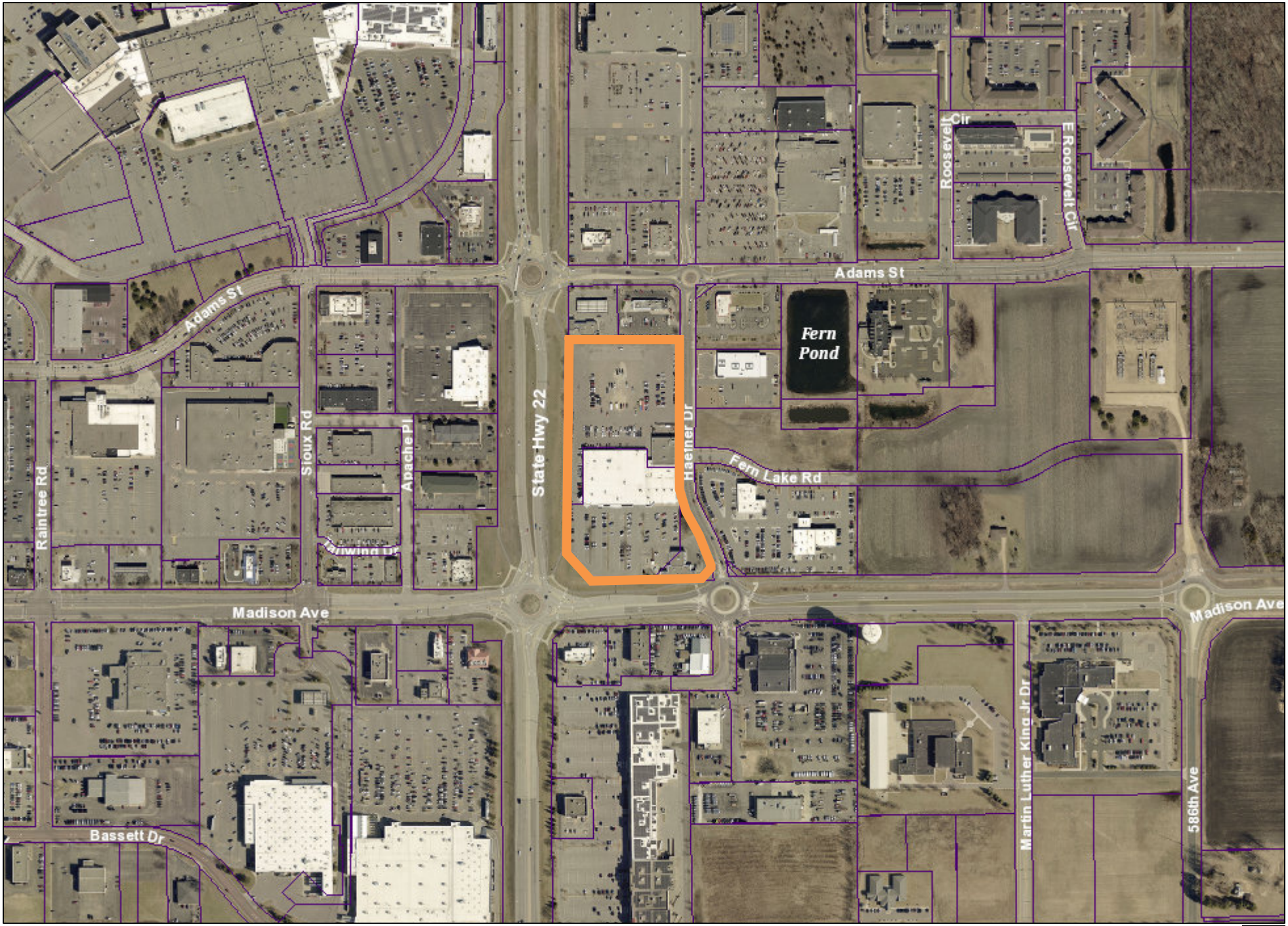
Date: March 2026

Author:

This information is to be used for reference purposes only. The City of Mankato does not guarantee accuracy of the material contained herein and is not responsible for misuse or misinterpretation.

N

Aerial Map



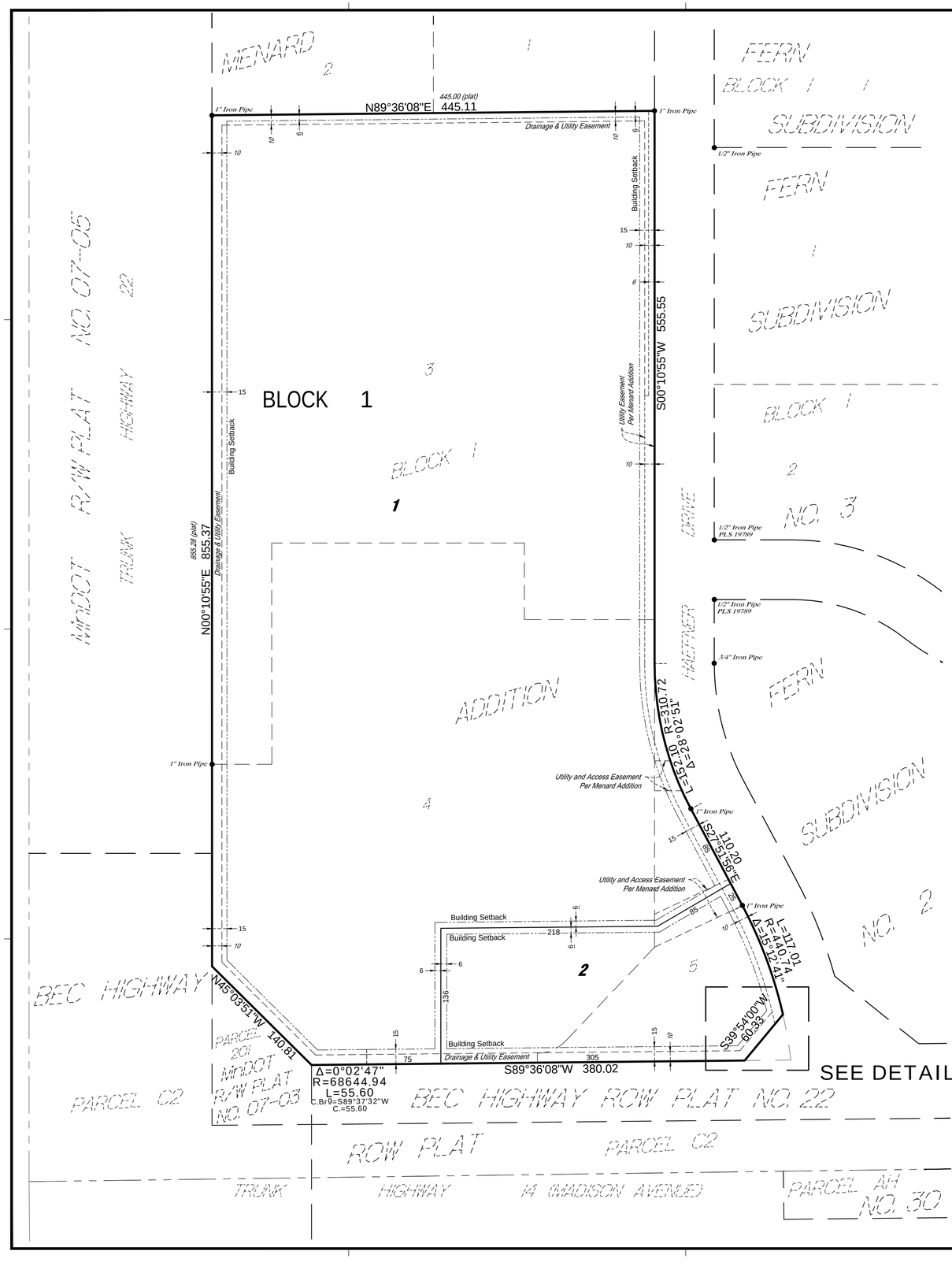
Date: March 2026

Author:

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N

SNELL ADDITION



EXISTING LEGAL DESCRIPTION:
(per Document No. 535CR492)

Lots Three (3), Four (4) and Five (5), Block One (1), Menard Addition to the City of Mankato, according to the recorded plat thereof, Blue Earth County, Minnesota

EXCEPT

That part of Lot 5, Block 1, Menard Addition, according to the recorded plat thereof, City of Mankato, Blue Earth County, Minnesota, described as:

Beginning at the Southeast corner of said Lot 5; thence South 89 degrees 26 minutes 30 seconds West along the south line of said Lot 5, a distance of 46.49 feet; thence North 39 degrees 44 minutes 22 seconds East, a distance of 60.17 feet to the easterly line of said Lot 5; thence southerly a distance of 46.53 feet along a nontangential curve to the right having a radius of 440.74 feet, a central angle of 6 degrees 02 minutes 57 seconds and a 46.51 foot chord which bears South 9 degrees 55 minutes 50 seconds East to the point of beginning.

OWNERS / DEVELOPERS:
Snell Real Estate, LLC
1900 Madison Avenue
Mankato, MN 56001

SURVEYOR:
ISG
115 E. Hickory Street Suite 300
Mankato, MN 56001
(507)-387-6651

AREA TABLE:
Lot 1, Block 1 = 398,725 sq. ft. - 9.15 acres
Lot 2, Block 1 = 46,687 sq. ft. - 1.07 acres
Total = 445,412 sq. ft. - 10.23 acres

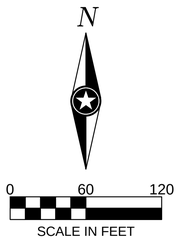
EXISTING PROPERTY:
ZONED: B-3 HIGHWAY BUSINESS DISTRICT

BUILDING SETBACKS
Front - 15 feet
Side - 3 feet hard surfaces/6 feet for building
Rear - 3 feet hard surfaces/6 feet for building
Corner - 15 feet (same as front)

FLOOD ZONE:
The surveyed premises shown on this survey map is in Flood Zone X, according to Flood Insurance Rate Map Community Panel No. 27013C0115F, published by the Federal Emergency Management Agency, effective date February 22, 2024.

PARKING REQUIREMENTS:
(Striped Stalls)

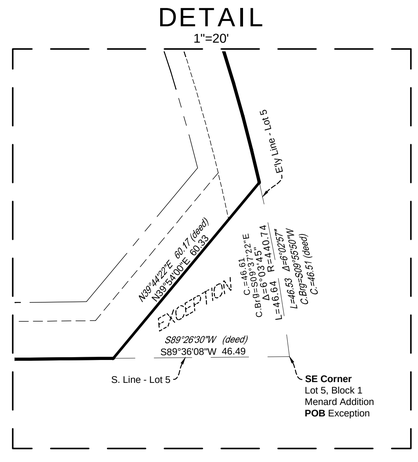
	Required	Provided
Lot 1, Block 1:	162 regular	223 Regular
	6 Handicapped	6 Handicapped
Lot 2, Block 1:	6 regular	18 Regular
	1 Handicapped	1 Handicapped
	3 stacking	3 stacking



Orientation of this bearing system is based upon the plat of Menard Addition.

LEGEND

● Iron Monument Found



ISG

I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

RYAN E. KOTTHOFF

DATE 2/24/26 LIC. NO. 61565

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PROJECT

SNELL MOTORS

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	26-33975
FILE NAME	33975 PPLAT
DRAWN BY	JW
DESIGNED BY	---
REVIEWED BY	---
ORIGINAL ISSUE DATE	2/24/26
CLIENT PROJECT NO.	-

TITLE

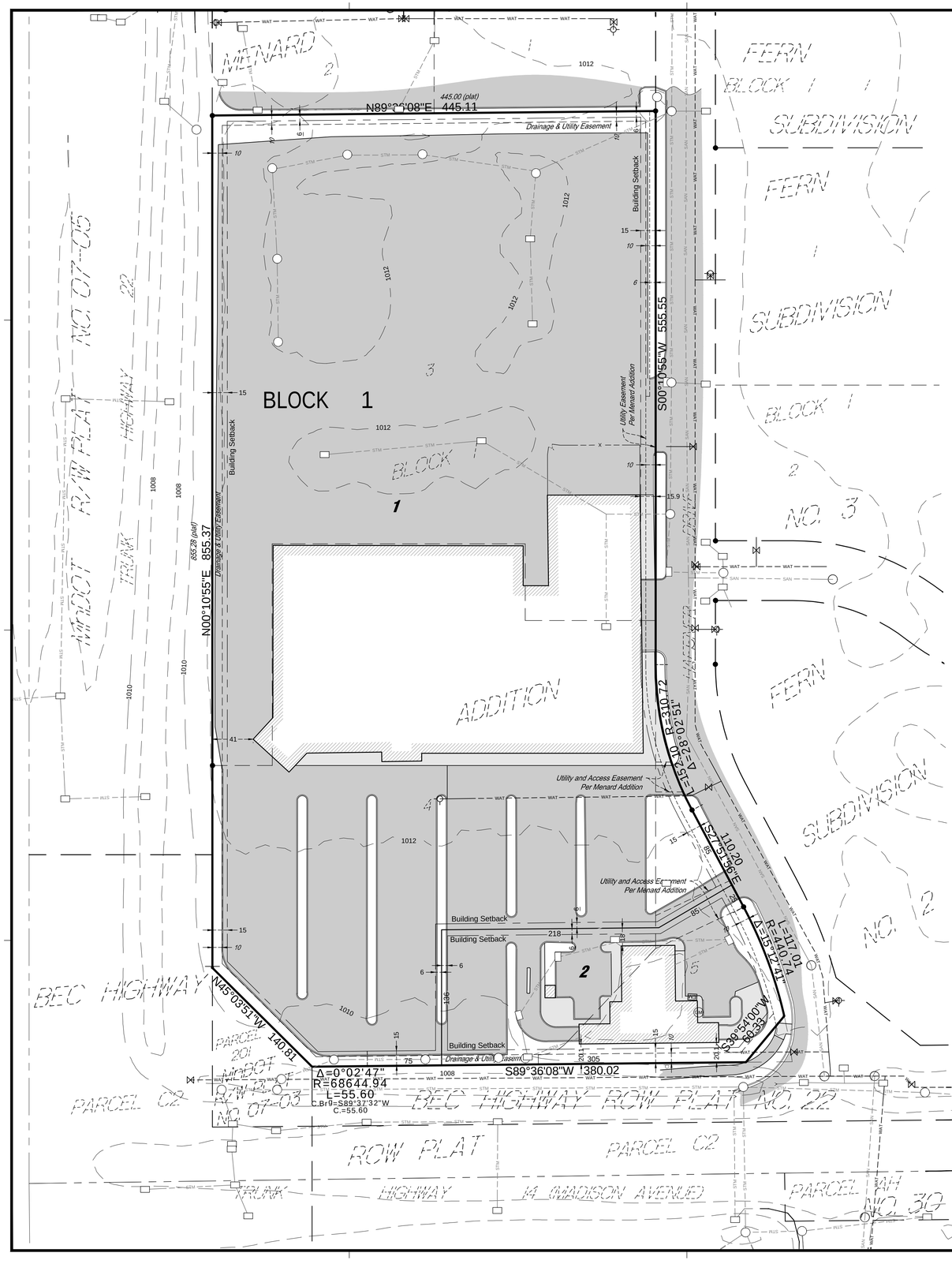
PRELIMINARY PLAT

SHEET

1

OF 2

SNELL ADDITION



LEGEND

- Bituminous Surface
- Concrete Surface
- Existing Building
- SAN — Sanitary Sewer Line Per City Mapping
- STM — Storm Sewer Line Per City Mapping
- WAT — Water Line Per City Mapping
- EM — Electric Meter
- GM — Gas Meter
- Hydrant
- Water Valve
- Manhole/Catch Basin
- Sign
- Iron Monument Found

NOTE:

Contours shown on this sheet are LiDAR contours provided by the State of Minnesota.

N

0 60 120

SCALE IN FEET

ISG

I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

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PROJECT

SNELL MOTORS

MANKATO MINNESOTA

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DESIGNED BY	---
REVIEWED BY	---
ORIGINAL ISSUE DATE	2/24/26
CLIENT PROJECT NO.	-

TITLE

PRELIMINARY PLAT

SHEET

2

OF 2

SNELL ADDITION



EXISTING LEGAL DESCRIPTION:
(per Document No. 535CR492)

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PARKING REQUIREMENTS:
(Striped Stalls)

	Required	Provided
Lot 1, Block 1:	162 regular	223 Regular
	6 Handicapped	6 Handicapped
Lot 2, Block 1:	6 regular	18 Regular
	1 Handicapped	1 Handicapped
	3 stacking	3 stacking

N

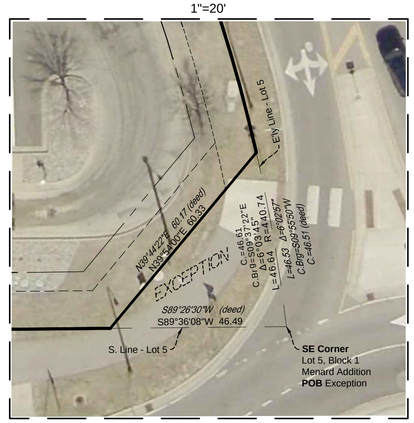
0 60 120
SCALE IN FEET

Orientation of this bearing system is based upon the plat of Menard Addition.

LEGEND

● Iron Monument Found

DETAIL
1"=20'



ISG

I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

RYAN E. KOTTHOFF

DATE 2/24/26 LIC. NO. 61565

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PROJECT

SNELL MOTORS

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	26-33975
FILE NAME	33975 PPLAT
DRAWN BY	JW
DESIGNED BY	---
REVIEWED BY	---
ORIGINAL ISSUE DATE	2/24/26
CLIENT PROJECT NO.	-

TITLE

PRELIMINARY PLAT

SHEET

1

OF 2

Snell Motors Parking Calculation

Lot 1 (main building)

24 stalls (repair & body shop) in the building x 3= 72 stalls

60 employees on major shift = 60 stalls

Office 2611 sq. ft. / 250 = 11 stalls

Sales Area 18,674 sq. ft. / 1000 = 19 stalls

Total = 162 regular stalls needed

6 handicapped stalls needed

Lot 2 (Car Wash)

1 wash stall = 3 off street stacking spaces

6 employees on major shift = 6 stalls

1 handicapped stall needed

Site Plan and Traffic Advisory Review Committee **1. 3.**

Meeting Date: 03/10/2026

Title

CY12-26

Request of Brett Skilbred for a preliminary plat review of Quarry View Addition. The subject properties are described as Lots 1-6, Block 24, Germania Park Addition; Lots 1-8, Block 8 & Lots 1-2, Block 9, Columbia Park Addition.

Applicant

Brett Skilbred, with permission of the property owner, is the applicant.

Request

The applicant is seeking a preliminary plat review of Quarry View Addition.

Location

The subject properties are described as Lots 1-6, Block 24, Germania Park Addition; Lots 1-8, Block 8 & Lots 1-2, Block 9, Columbia Park Addition.

Existing Land Use

The properties are currently vacant land.

Zoning

The subject properties are zoned R-3, Limited Multiple Dwelling District.

Other Board or Commission

Vacation of a portion of Lind Street included within the proposed preliminary plat area was reviewed and recommended for approval by the Planning Commission at their February 25, 2026, meeting. The City Council is anticipated to act on this request at their March 23, 2026, meeting.

Environmentally Sensitive Areas

The site contains bluff areas, and is under evaluation for wetlands.

Review

Brett Skilbred is seeking a preliminary plat review of Quarry View Addition. The subject properties are described as Lots 1-6, Block 24, Germania Park Addition; Lots 1-8, Block 8 & Lots 1-2, Block 9, Columbia Park Addition, and are located to the west of 8th Avenue.

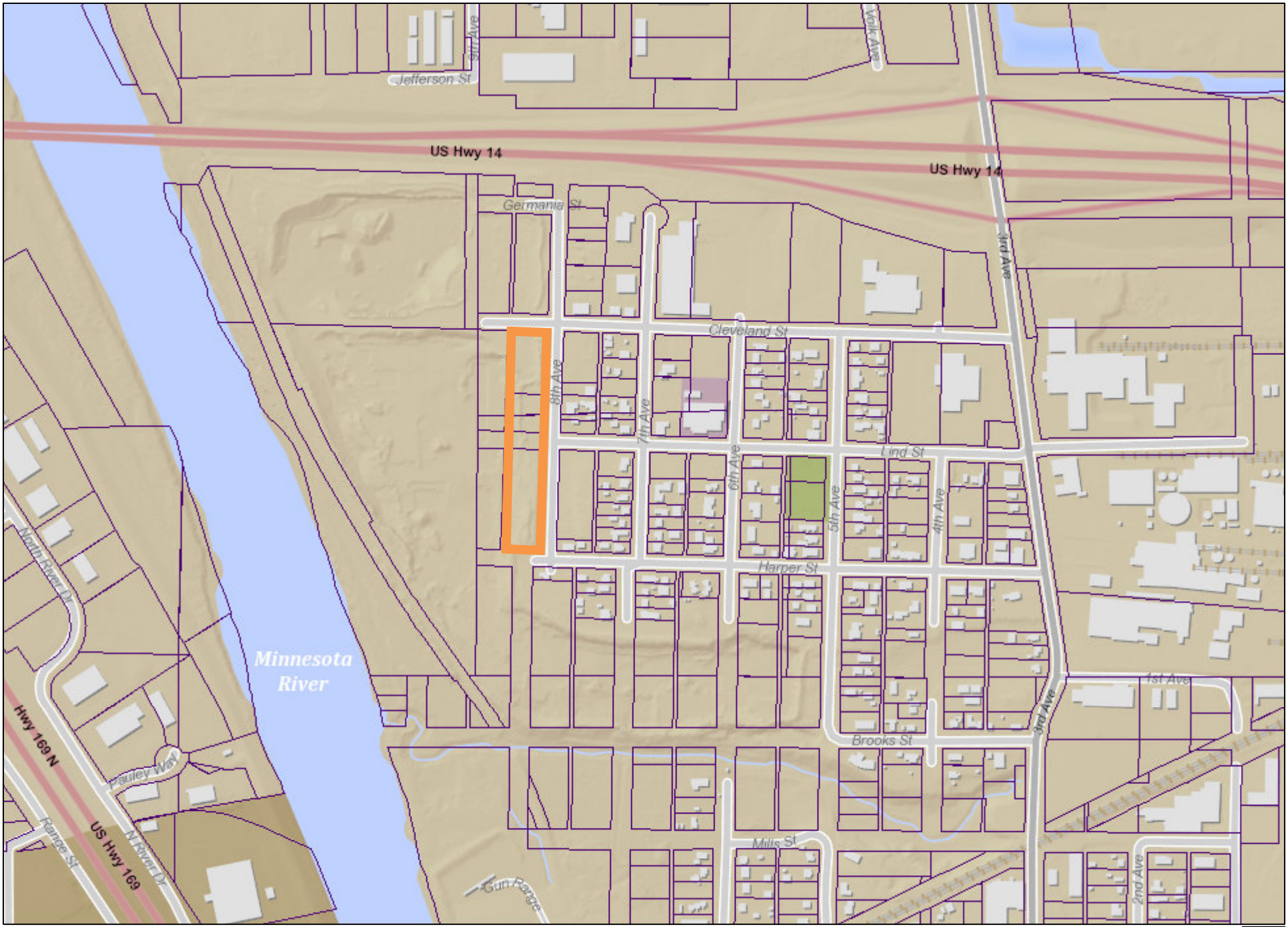
The plat consists of a one-block subdivision that contains 2 lots, Lot 1A, and Lot 1B. Lot 1A is located on the northern side of the parcel and is 1.98 acres. Lot 1B is located on the southern portion of the lot and is .98 acres. A portion of the Lind Street area located west of 8th Avenue that was recently requested for vacation is included in the plat.

Concept plans for the 2.78 acre parcel show 11 twin-home buildings, for a total of 22 new homes.

Attachments

General Location Map
Aerial Plan
Preliminary Plat
Preliminary Plat with aerial imagery
Draft Final Plat
Concept Plan

General Location Map



Date: March 2026

Author:

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N

Aerial Map

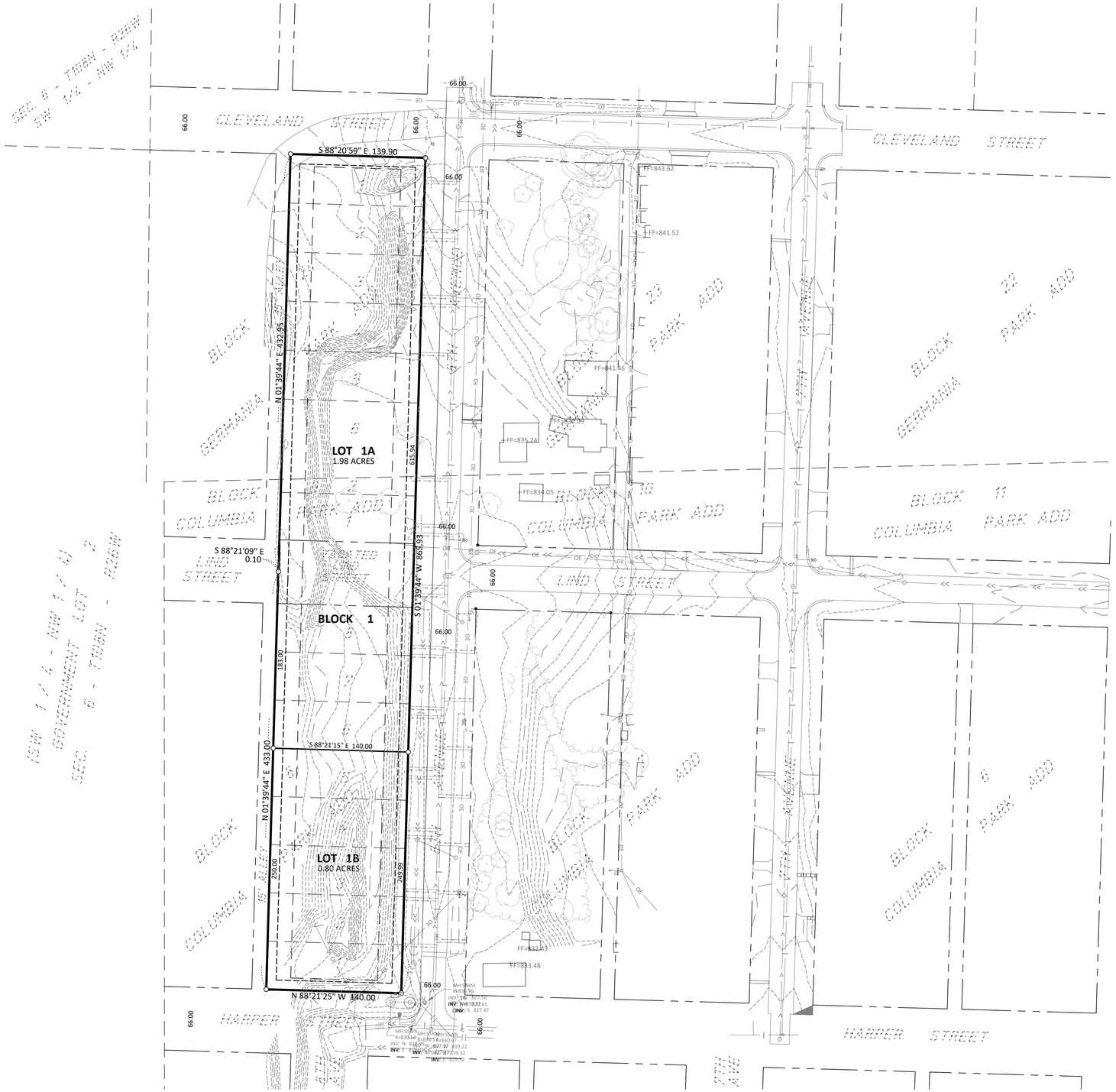


Date: March 2026

Author:

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N



0 60 120

SCALE IN FEET

LEGEND

- ○ 3/4" IRON PIPE MONUMENT SET MARKED BY LIC. NO. 46564
- ● MONUMENT FOUND

UTILITY & SITE DATA

All Zoning and Setback information was obtained from the City of Mankato Code. For detailed zoning information and specific interpretation of code requirements, contact the City of Mankato.

ZONING:
Current zone is R-3, Limited Multiple-Family Dwelling District

SETBACKS:
Front
Main and Accessory Building 25 feet

Side
Main and Accessory Buildings 6 feet

Rear
Main and Accessory Building 25 feet

Lot Area (minimum) = 10,000 sq.ft. (for the first 4 units)
Lot Width (minimum) = 60 feet
Maximum Ground Coverage = 35% by all structures
Maximum Building Height = 35 feet

LEGAL DESCRIPTION

Lots 1 to 5, inclusive, all in Block 8, all in Columbia Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Torrens)

AND

Lots 6, 7, and 8, Block 8; and Lots 1 and 2, Block 9, all in Columbia Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

AND

Lot 1, Block 24, Germania Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

AND

Lots 2 and 3, Block 24, Germania Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

AND

Lots 4, 5, and 6, Block 24, Germania Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

Containing 2.78 acres.

SURVEYOR'S CERTIFICATION

I hereby certify that this survey, plan, or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Michael M. Eichers
License Number 46564

02/04/2026
Date

QUARRY VIEW ADDITION

PRELIMINARY PLAT
MANKATO, MINNESOTA

LOTS 1-6, BLOCK 24, GERMANIA PARK ADD.; LOTS 1-8, BLOCK 8, & LOTS 1-2, BLOCK 9, COLUMBIA PARK ADDITION; AND VACATED LIND STREET

FOR: Quarry View I, LLC

BOLTON & MENK
1960 PREMIER DRIVE
MANKATO, MN 56001
(507) 625-4171

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0 60 120

SCALE IN FEET

LEGEND

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- ● MONUMENT FOUND

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Lot Width (minimum) = 60 feet
Maximum Ground Coverage = 35% by all structures
Maximum Building Height = 35 feet

LEGAL DESCRIPTION

Lots 1 to 5, inclusive, all in Block 8, all in Columbia Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Torrens)

AND

Lots 6, 7, and 8, Block 8; and Lots 1 and 2, Block 9, all in Columbia Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

AND

Lot 1, Block 24, Germania Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

AND

Lots 2 and 3, Block 24, Germania Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

AND

Lots 4, 5, and 6, Block 24, Germania Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

Containing 2.78 acres.

SURVEYOR'S CERTIFICATION

I hereby certify that this survey, plan, or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Michael M. Eichers
License Number 46564

02/04/2026
Date

QUARRY VIEW ADDITION

PRELIMINARY PLAT
MANKATO, MINNESOTA

BOLTON & MENK
1960 PREMIER DRIVE
MANKATO, MN 56001
(507) 625-4171

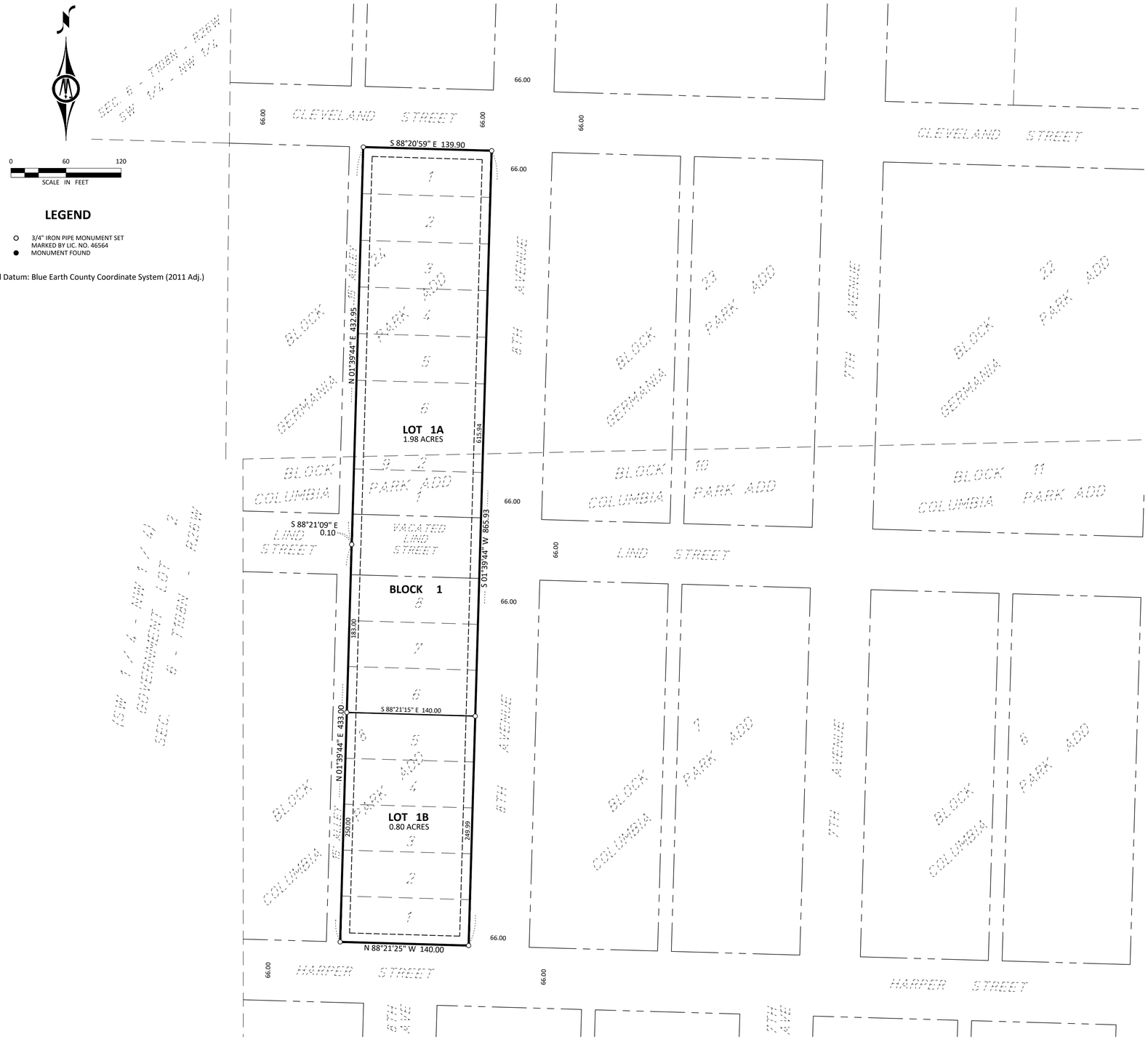
LOTS 1-6, BLOCK 24, GERMANIA PARK ADD.; LOTS 1-8, BLOCK 8, & LOTS 1-2, BLOCK 9, COLUMBIA PARK ADDITION; AND VACATED LIND STREET

FOR: Quarry View I, LLC

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OFFICIAL PLAT COPY

QUARRY VIEW ADDITION



INSTRUMENT OF DEDICATION

Know all men by these presents that we, Pentagon Acquisition, LLC, a Minnesota limited liability company, fee owner and Quarry View I, LLC, a Minnesota limited liability company, contract purchaser, of the following described property to wit:

Lots 1 to 5, inclusive, all in Block 8, all in Columbia Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Torrens)

AND

Lots 6, 7, and 8, Block 8; and Lots 1 and 2, Block 9, all in Columbia Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

AND

Lot 1, Block 24, Germania Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

AND

Lots 2 and 3, Block 24, Germania Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

AND

Lots 4, 5, and 6, Block 24, Germania Park Addition to the City of Mankato, Blue Earth County, Minnesota. (Abstract)

Containing 2.78 acres.

do hereby declare that we have caused the above described property to be surveyed and platted and monuments to be set, that we have named said platted area QUARRY VIEW ADDITION, and that we dedicate to the public use the easements as shown hereon.

Dated this _____ day of _____ , 2026 by James Voda, secretary of Pentagon Acquisition, LLC, a Minnesota limited liability company.

_____
By: James Voda, secretary

NOTARY CERTIFICATES

State of Minnesota
County of _____

The foregoing instrument was acknowledged before me on this _____ day of _____ , 2026, by James Voda, it's secretary of Pentagon Acquisition, LLC, a Minnesota limited liability company.

_____
_____ , Notary Public
Notary Public-Minnesota,
My Commission Expires _____

Dated this _____ day of _____ , 2026 by Brett Skilbred, manager of Quarry View I, LLC, a Minnesota limited liability company.

_____
By: Brett Skilbred, manager

NOTARY CERTIFICATES

State of Minnesota
County of _____

The foregoing instrument was acknowledged before me on this _____ day of _____ , 2026, by Brett Skilbred, manager of Quarry View I, LLC, a Minnesota limited liability company.

_____
_____ , Notary Public
Notary Public-Minnesota,
My Commission Expires _____

SURVEYOR'S CERTIFICATE

I, Michael M. Eichers, do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____ day of _____ , 2026.

_____
Michael M. Eichers, Licensed Land Surveyor
Minnesota License No. 46564

State of Minnesota
County of Blue Earth

The foregoing Surveyor's Certificate was acknowledged before me this ____ day of _____ , 2026, by Michael M. Eichers, a Licensed Land Surveyor.

_____
Nathan P Myhra, Notary Public
Notary Public-Minnesota
My Commission Expires Jan. 31, 2028

APPROVALS

Be it known that on this the ____ day of _____ , 2026 , the Planning Commission of the City of Mankato did duly review this plat of QUARRY VIEW ADDITION.

_____ _____
Chair person: Secretary:

Be it known that on this the ____ day of _____ , 2026 , the City Council of the City of Mankato did duly approve this plat of QUARRY VIEW ADDITION.

_____ _____
Mayor: Clerk:

TITLE OPINION

I, _____ Licensed Attorney, State of Minnesota, do hereby certify that the owner as indicated hereon represents all ownership interest in the land encompassed by this plat.

_____
_____, Licensed Attorney

BLUE EARTH COUNTY PROPERTY AND ENVIRONMENTAL RESOURCES

I hereby certify that there are no delinquent taxes and/or delinquent special assessments, that the current taxes have been paid and that the transfer has been entered on the land described herein on the _____ day of _____ , 2026.

_____
Blue Earth County Property and
Environmental Resources Director

COUNTY RECORDER

I hereby certify that this instrument was filed in my office for record on this, the ____ day of _____ , 2026, at __ o'clock, _.m., and that it was duly recorded on _____ Plats, Number _____.

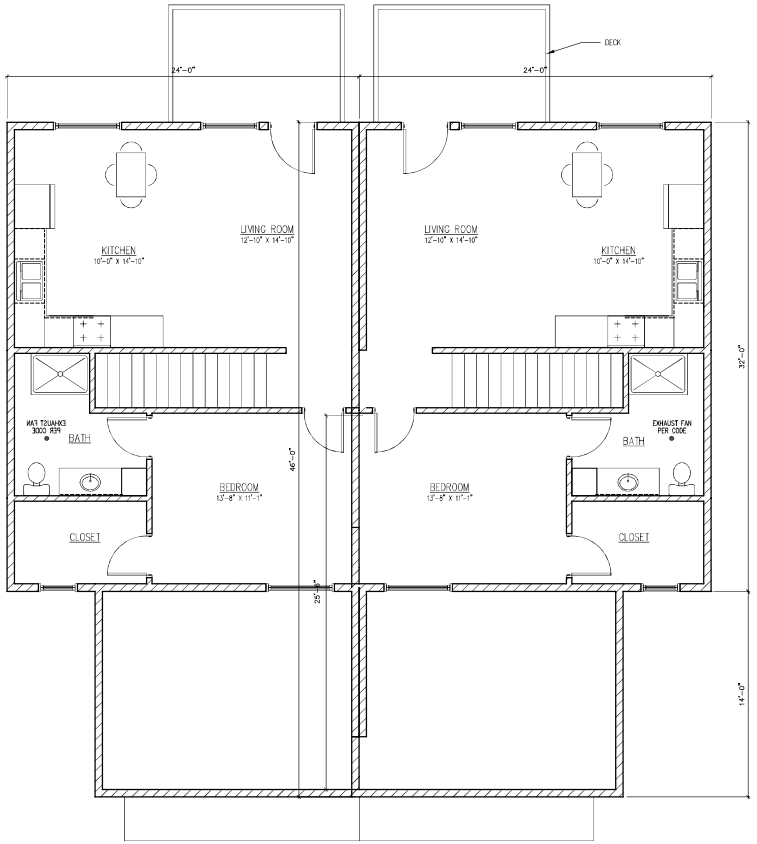
_____
County Recorder

FINAL PLAT
PENDING FINAL REVIEW
(02-04-2026)

THIS PLAT PREPARED BY BOLTON & MENK, INC.

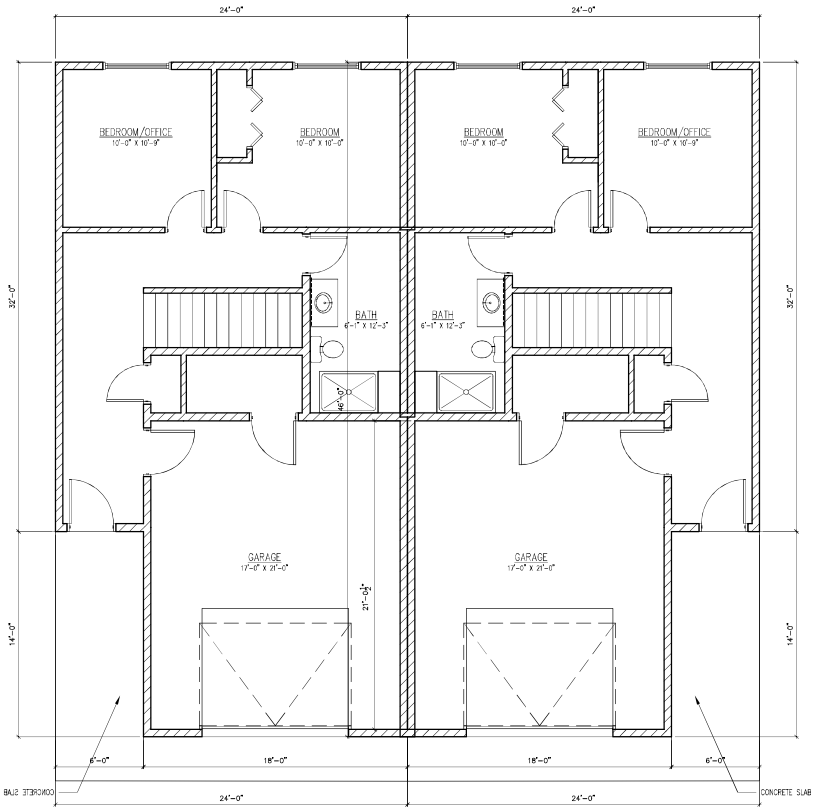
H:\FISHER_PR\25X141674000\CAD\C3D\141674_V_PLTF.dwg 2/4/2026 2:40 PM

JOB NUMBER: 25X.141674.000 FIELD BOOK: DRAWN BY:



UPPER FLOOR PLAN 755 SF EA UNIT

SCALE: 1/4" = 1'-0"



MAIN FLOOR PLAN 632 SF EA UNIT

SCALE: 1/4" = 1'-0"



PROJECT TITLE:

SMALL HOME CONCEPT
JEFFERSON QUARRY
MANKATO, MN

DEVELOPER:

CONSULTANTS:

GENERAL CONTRACTOR:

No.	SUBMISSIONS & REVISIONS	Date
1	DESIGN DOCUMENTS	09-27-2024

DISCLAIMER - Project is design build. Due to the lack of "on site" consultation & supervision, and control over the actual construction process, and because of the various local building code requirements & weather conditions, the drafter/designer/architect ASSUMES NO RESPONSIBILITY in the use of these plans for any damages. This includes structural failures due to any deficiencies, omissions, or errors in the design or blueprints. It is recommended you consult with a local building official and/or inspector prior to the start of construction. General Contractor shall verify all existing dimensions and field conditions prior to ordering or fabricating any materials. Notify designer/architect if conditions, materials, sizes or dimensions are different from what is shown on documents. Cross reference plans with all other consultant sets. All construction materials shall be installed in accordance with manufacturers current specifications and industry standards. All construction components shall meet adopted code requirements.

FLOOR PLANS
ELEVATIONS

PROJ. NO.: C2412
DATE: 09-27-2024
DRAWN BY: AMS
CHECKED BY:

A2

Site Plan and Traffic Advisory Review Committee **1. 4.**

Meeting Date: 03/10/2026

Title

*****SITE PLAN AND TRAFFIC ADVISORY COMMITTEE REVIEW ONLY. Request of Met-Con Construction for a Site Plan and Traffic Advisory Committee review for the re-shaping of the current parking lot, and adding a sanitary sewer line at the property located at 2415 3rd Avenue (Blue Earth County PID R010906226002).**

Applicant

The applicant is Met-Con, on behalf of the property owner.

Request

The applicant is seeking a Site Plan and Traffic Advisory Committee review for the reconfiguration of the parking lot, and new uses within the existing building structure.

Location

The property is located at 2415 3rd Avenue, and the Blue Earth County parcel identification number is R010906226002.

Existing Land Use

The property is currently the location of an existing warehouse/distribution facility.

Zoning

The subject property is zoned M-2, Heavy Industrial.

Review

Met-Con is requesting a Site Plan and Traffic Advisory Committee review for the re-shaping of the current parking lot, and addition of a sanitary sewer line. The subject property is located at 2415 3rd Avenue and the Blue Earth County PID is R010906226002.

Plans provided show the reconfiguration of the parking lot on the western side of the existing building. As part of the plan, the applicant is proposing to modify the connection conditions between the existing stormwater ponds. A new sanitary line and water line from 3rd Avenue is also shown.

Attachments

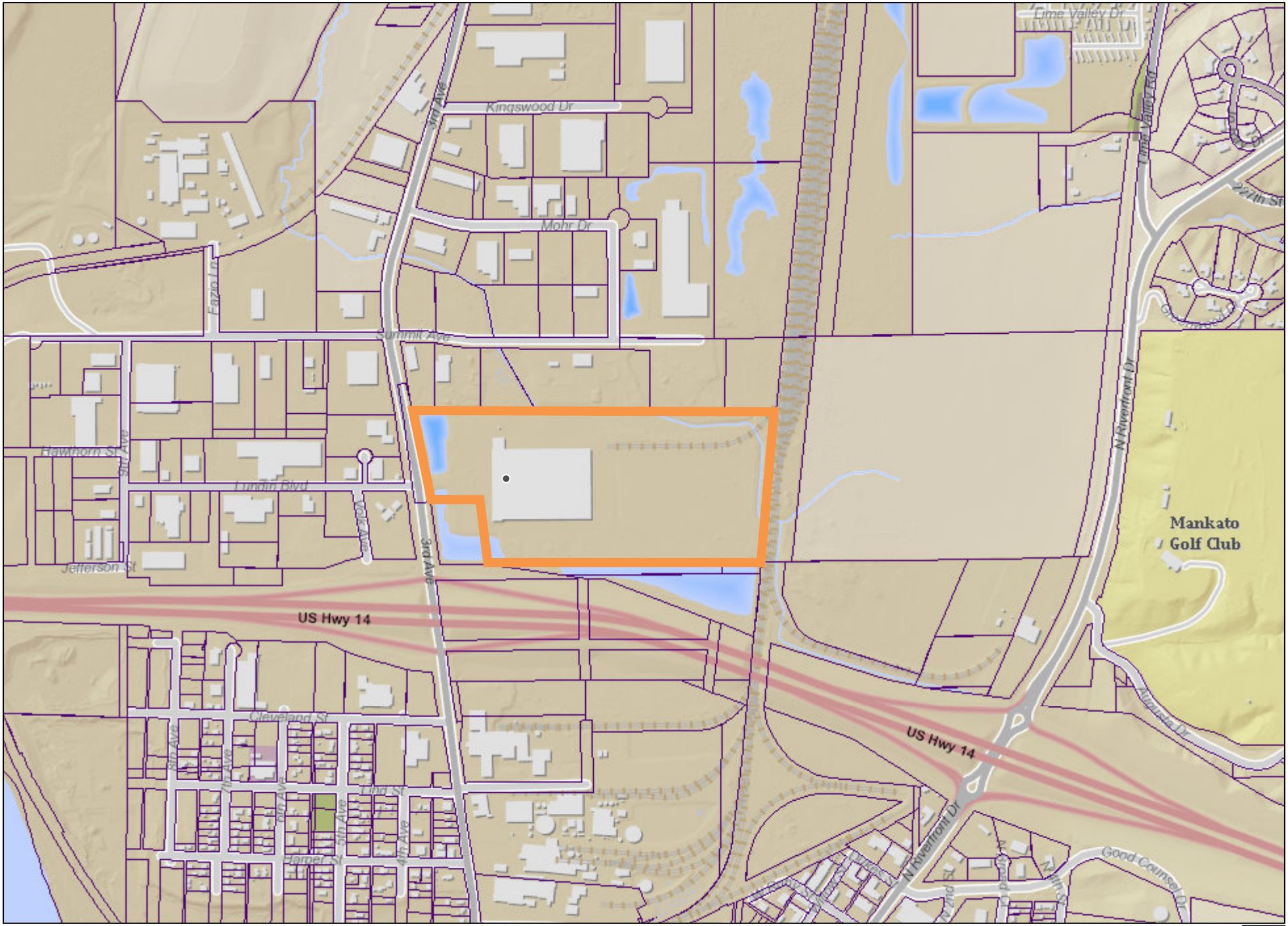
General Location Map

Aerial Plan

Civil Plans

Stormwater Memo

General Location Map



Date: March 2026

Author:

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N

Aerial Map



Date: March 2026

Author:

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VOLK PROPERTIES LLC

VIKING ELECTRIC SITE IMPROVEMENTS

MANKATO, MINNESOTA

ISG PROJECT # 25-33428



LOCATION MAP

0 1,250 2,500

SCALE IN FEET

SITE SUMMARY

PROJECT ADDRESS/LOCATION:	2415, 3RD AVE, MANKATO, MINNESOTA, 56001
ZONING:	M-2 (HEAVY INDUSTRIAL)
SITE/LOT AREA:	2,129,000 SF (48.9 AC)

REQUIRED SETBACKS

	PARKING	BUILDING
FRONT YARD	15'	30'
SIDE YARD	6'	15'
REAR YARD	0'	0'

PARKING DATA

LAND USE CLASSIFICATION	M-2 HEAVY INDUSTRIAL
PARKING SPACES REQUIRED (CODE)	WAREHOUSE: 3 STALLS + 1 PER EMPLOYEE. CONFERENCE ROOM/ OFFICE SPACES: 1 STALL PER 250 SF. SHOWROOM: 1 STALL PER 200 SF.
GOVERNING INFORMATION	3 + 15 = 18 7068 SF / 250 SF = 28 2263 SF / 200 SF = 12
PARKING SPACES REQUIRED	58
PARKING STALLS PROVIDED	
STANDARD	68
ACCESSIBLE	3
TOTAL	71

SHEET INDEX

C0-10 TITLE
C0-11 LEGEND AND NOTES
C2-10 EXISTING AND REMOVAL PLAN
C3-10 SITE AND UTILITY PLAN
C4-10 GRADING PLAN

PROJECT GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS, WHICH INCLUDE, BUT ARE NOT LIMITED TO, THE OWNER - CONTRACTOR AGREEMENT, THE PROJECT MANUAL (WHICH INCLUDES GENERAL SUPPLEMENTARY CONDITIONS AND SPECIFICATIONS), DRAWINGS OF ALL DISCIPLINES AND ALL ADDENDA, MODIFICATIONS, AND CLARIFICATIONS ISSUED BY ARCHITECT/ENGINEER.
2. CONTRACT DOCUMENTS SHALL BE ISSUED TO ALL SUBCONTRACTORS BY THE GENERAL CONTRACTOR IN COMPLETE SETS IN ORDER TO ACHIEVE THE FULL EXTENT AND COMPLETE COORDINATION OF ALL WORK.
3. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
4. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
5. DETAILS SHOWN ARE INTENDED TO BE INDICATIVE OF THE PROFILES AND TYPE OF DETAILING REQUIRED THROUGHOUT THE WORK. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO DETAILS SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS, OR DESIGN INTENT CANNOT BE DETERMINED, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
6. ALL MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, CLEANED, AND CONDITIONED ACCORDING TO MANUFACTURERS' INSTRUCTIONS. IN CASE OF DISCREPANCIES BETWEEN MANUFACTURERS' INSTRUCTIONS AND THE CONTRACT DOCUMENTS, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
7. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO AVOID GALVANIC CORROSION.
8. THE LOCATION AND TYPE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY AND ARE ACCURATE AND COMPLETE TO THE BEST OF THE KNOWLEDGE OF I & S GROUP, INC. (ISG). NO WARRANTY OR GUARANTEE IS IMPLIED. THE CONTRACTOR SHALL VERIFY THE SIZES, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM PLAN.
9. THE CONTRACTOR IS TO CONTACT "GOPHER STATE ONE CALL" FOR UTILITY LOCATIONS A MINIMUM OF 2 BUSINESS DAYS PRIOR TO ANY EXCAVATION / CONSTRUCTION (1-800-252-1166).

PROJECT INDEX:

OWNER:

VOLK PROPERTIES LLC
2415 3RD AVE
MANKATO, MINNESOTA, 56001
CONTACT: TROY VOLK
PHONE: 507.385.6161
EMAIL: TVOLK@VOLKTRANSFER.COM

PROJECT ADDRESS / LOCATION:

2415 3RD AVE
MANKATO, MINNESOTA

MANAGING OFFICE:
I & S GROUP, INC. (ISG)

MANKATO OFFICE
115 EAST HICKORY STREET
SUITE 300
MANKATO, MN 56001
PHONE: 507.387.6651

PROJECT MANAGER: BRYAN PETZEL
EMAIL: BRYAN.PETZEL@ISGINC.COM

SPECIFICATIONS REFERENCE

ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF MANKATO REQUIREMENTS AND MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2025 EDITION, THE STANDARD SPECIFICATIONS FOR SANITARY SEWER, STORM DRAIN AND WATERMAIN AS PROPOSED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA, 2025 EDITION, AND THE CURRENT VERSION OF THE MINNESOTA STATE PLUMBING CODE UNLESS DIRECTED OTHERWISE.

PROJECT DATUM

HORIZONTAL COORDINATES HAVE BEEN REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), 1996 ADJUSTMENT (NAD83(1996)) ON THE BLUE EARTH COUNTY COORDINATE SYSTEM, IN U.S. SURVEY FEET.

ELEVATIONS HAVE BEEN REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
RTK GPS METHODS WERE USED TO ESTABLISH HORIZONTAL AND VERTICAL COORDINATES FOR THIS PROJECT.

B.M. ELEVATION=832.16
TNFH LOCATED 32' WEST OF 3RD AVE AND 3' SOUTH OF LUNDIN BLD

TOPOGRAPHIC SURVEY

THIS PROJECT'S TOPOGRAPHIC SURVEY CONSISTS OF DATA COLLECTED IN SEPTEMBER 2025 BY ISG.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

BRYAN M. PETZEL

DATE_____ LIC. NO._____

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PROJECT

VOLK PROPERTIES LLC VIKING ELECTRIC SITE IMPROVEMENTS

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33428
FILE NAME	33428-C0-GENERAL
DRAWN BY	BJK & AJZ
DESIGNED BY	BJK
REVIEWED BY	BMP
ORIGINAL ISSUE DATE	----
CLIENT PROJECT NO.	-

TITLE

TITLE

SHEET

C0-10

PRELIMINARY NOT FOR CONSTRUCTION

SYMBOL LEGEND

EXISTING		PROPOSED
EX STM MH	STORM MANHOLE	
EX CB	STORM CATCH BASIN	
EX CO	STORM CLEANOUT	
	STORM CULVERT	
	DOWNSPOUT	
	ROOF DRAIN	
EX SAN MH	SANITARY MANHOLE	
EX CO	SANITARY CLEANOUT	
EX LIFT STATION	LIFT STATION	
	WATER REDUCER	
	WATER VALVE	
	WATER VALVE MAHOLE	
	WATER CURB STOP	
	WATER SHUT-OFF	
EX POST INDICATOR VALVE	POST INDICATOR VALVE	
	FIRE DEPARTMENT CONNECTION	
	WELL	
EX MW	MONITORING WELL	
	LAWN SPRINKLER BOX	
	LAWN SPRINKLER HEAD	
	HYDRANT	
EX YARD HYD	YARD HYDRANT	
	UTILITY POLE	
	LIGHT POLE	
	GROUND LIGHT	
	GUY WIRE	
	TRANSFORMER	
EX HH	HANDHOLE	
EX ELEC MH	ELECTRIC MANHOLE	
EM	ELECTRIC METER	
V	UTILITY VAULT	
AC	AIR CONDITIONER	
GM	GAS METER	
GGV	GAS VALVE	
SB-1	SOIL BORING	
	FLAG POLE	
MB	MAILBOX	
EX SIGNAL	TRAFFIC SIGNAL	
	SIGN	
	STREET SIGN	
	WHEEL STOP	
RR	RAILROAD CROSSING SIGN	
	POST	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	BUSH	
	TREE STUMP	
	WETLAND / MARSH	
	ROCK / BOULDER	

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES.

LINETYPE LEGEND

EXISTING		PROPOSED
>>	STORM DRAIN	>>
>	SANITARY SEWER	>
II>	SANITARY SEWER FORCEMAIN	II>
I	WATER MAIN	I
G	GAS	G
OE	OVERHEAD ELECTRIC	OE
UE	UNDERGROUND ELECTRIC	UE
UT	UNDERGROUND TELEPHONE	UT
UTV	UNDERGROUND TV	UTV
OHL	OVERHEAD UTILITY	OHL
UTL	UNDERGROUND UTILITY	UTL
FO	FIBER OPTIC	FO
WET	WETLAND	WET
W	WATER EDGE	
	DITCH / SWALE	
x x	FENCE LINE	x x
	TREE LINE	
	PROPERTY / LOT LINE	
	RIGHT OF WAY LINE	
Δ Δ	ACCESS CONTROL	
	EASEMENT LINE	

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES.

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT	GAL	GALLON	PP	POLYPROPYLENE
ADD	ADDENDUM	GALV	GALVANIZED	PSI	POUNDS PER SQUARE INCH
AFF	ABOVE FINISHED FLOOR	GC	GENERAL CONTRACTOR	PVC	POLYVINYL CHLORIDE
AGG	AGGREGATE	GD	GROUND	PVMT	PAVEMENT
APPROX	APPROXIMATE	GFE	GARAGE FLOOR ELEVATION	QTY	QUANTITY
ARCH	ARCHITECT, ARCHITECTURAL	GL	GUTTERLINE	R	RIM
BFE	BASEMENT FLOOR ELEVATION	GPM	GALLONS PER MINUTE	RAD	RADIUS
BIT	BITUMINOUS	GV	GATE VALVE	RCP	REINFORCED CONCRETE PIPE
BLDG	BUILDING	HDPE	HIGH DENSITY POLYETHYLENE	RD	ROOF DRAIN
BM	BENCHMARK	HD	HEAVY DUTY	REBAR	REINFORCING BAR
CAD	COMPUTER-AIDED DESIGN	HH	HANDHOLE	REM	REMOVE
CB	CATCH BASIN	HMA	HOT MIX ASPHALT	ROW	RIGHT OF WAY
CFS	CUBIC FEET PER SECOND	HORIZ	HORIZONTAL	R/W	RIGHT OF WAY
CF	CUBIC FOOT	HR	HOUR	SAN	SANITARY
CI	CAST IRON	HWL	HIGH WATER LEVEL	SCH	SCHEDULE
CIP	CAST IRON PIPE	HWY	HIGHWAY	SF	SQUARE FOOT
CIPC	CAST IN PLACE CONCRETE	HYD	HYDRANT	SPEC	SPECIFICATION
CJ	CONTROL JOINT	I	INVERT	SQ	SQUARE
CL	CENTERLINE	ID	INSIDE DIAMETER	STA	STATION
CMP	CORRUGATED METAL PIPE	IN	INCH	STM	STORM
CO	CLEANOUT	INV	INVERT	SY	SQUARE YARD
CONC	CONCRETE	IP	IRON PIPE	T/C	TOP OF CURB
CONST	CONSTRUCTION	IPS	IRON PIPE SIZE	TEL	TELEPHONE
CONT	CONTINUOUS	J-BOX	JUNCTION BOX	TEMP	TEMPORARY
CR	COUNTY ROAD	JT	JOINT	THRU	THROUGH
CY	CUBIC YARD	LF	LINEAR FEET	TNFH	TOP NUT OF FIRE HYDRANT
C&G	CURB AND GUTTER	LIN	LINEAR	TRANS	TRANSFORMER
DEMO	DEMOLITION	LPS	LOW PRESSURE STEAM	TV	TELEVISION
DI	DROP INTAKE	LS	LUMP SUM	T/W	TOP OF WALL
DIA	DIAMETER	LSO	LOWEST STRUCTURAL OPENING	TYP	TYPICAL
DIM	DIMENSION	MAX	MAXIMUM	UT	UTILITY, UNDERGROUND TELEPHONE
DS	DOWNSPOUT	MB	MAIL BOX	VCP	VITRIFIED CLAY PIPE
EA	EACH	MECH	MECHANICAL	W/O	WITHOUT
EG	EXISTING GROUND	MH	MANHOLE	W/	WITH
ELEC	ELECTRICAL	MIN	MINIMUM	YD	YARD
ELEV	ELEVATION	MISC	MISCELLANEOUS	YR	YEAR
EOF	EMERGENCY OVERFLOW	NO	NUMBER		
EQ	EQUAL	NTS	NOT TO SCALE		
EX	EXISTING	NWL	NORMAL WATER LEVEL		
FG	FINISHED GROUND	OC	ON CENTER		
F/G	FORM GRADE	OCEW	ON CENTER EACH WAY		
FDC	FIRE DEPARTMENT CONNECTION	OD	OUTSIDE DIAMETER		
FDN	FOUNDATION	OH	OVERHEAD		
FES	FLARED END SECTION	OHWL	ORDINARY HIGH WATER LEVEL		
FFE	FINISHED FLOOR ELEVATION	OHD	OVERHEAD DOOR		
FPM	FEET PER MINUTE	OZ	OUNCE		
FPS	FEET PER SECOND	PCC	PORTLAND CEMENT CONCRETE		
FT	FOOT, FEET	PED	PEDESTAL, PEDESTRIAN		
FTG	FOOTING	PERF	PERFORATED		
GA	GAUGE	PL	PROPERTY LINE		

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PROJECT

VOLK PROPERTIES LLC VIKING ELECTRIC SITE IMPROVEMENTS

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33428
FILE NAME	33428-C0-GENERAL
DRAWN BY	BJK & AJZ
DESIGNED BY	BJK
REVIEWED BY	BMP
ORIGINAL ISSUE DATE	----
CLIENT PROJECT NO.	-

TITLE

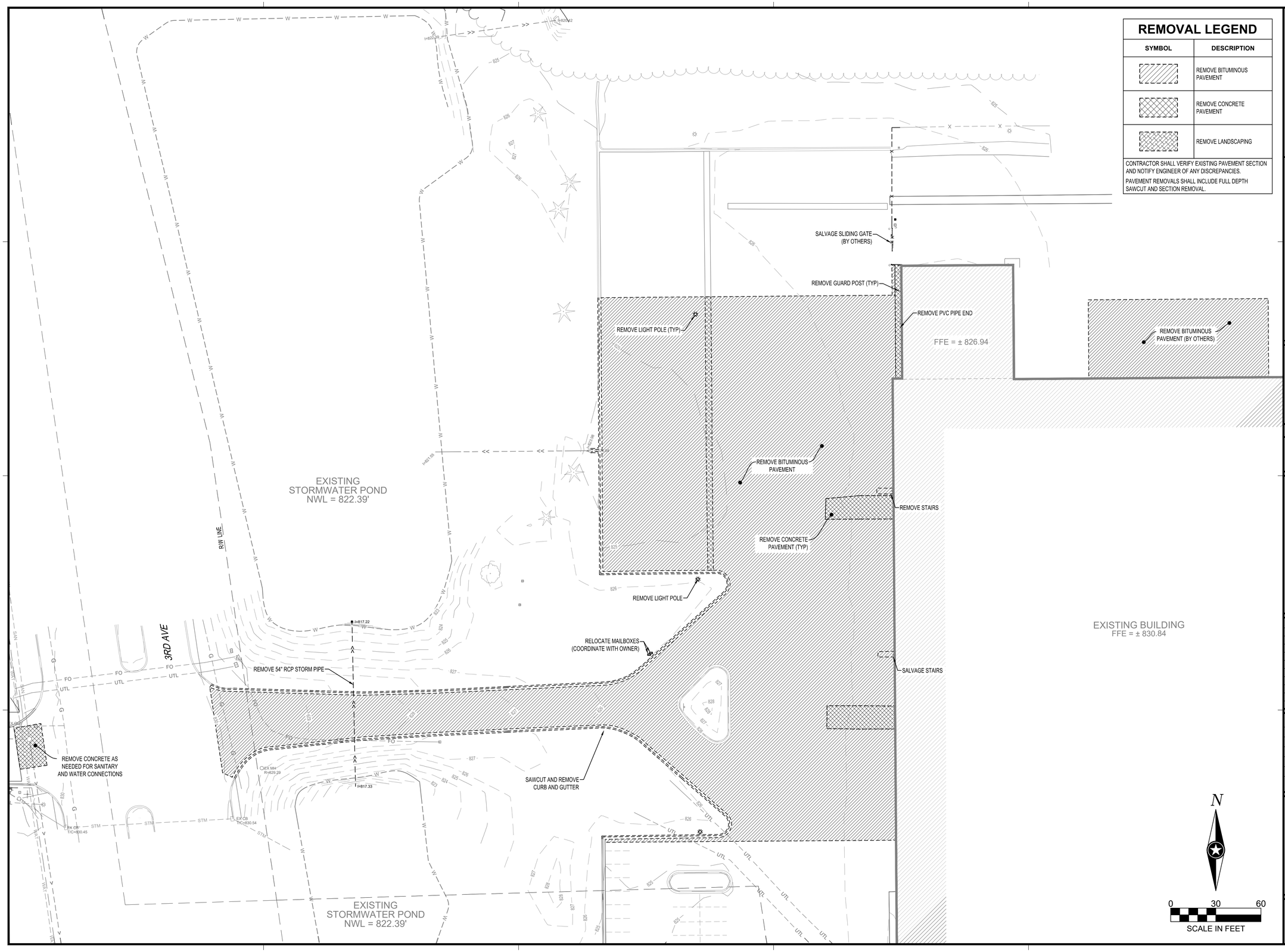
LEGEND AND NOTES

SHEET

C0-11

PRELIMINARY NOT FOR CONSTRUCTION

PRELIMINARY NOT FOR CONSTRUCTION



REMOVAL LEGEND

SYMBOL	DESCRIPTION
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE PAVEMENT
	REMOVE LANDSCAPING

CONTRACTOR SHALL VERIFY EXISTING PAVEMENT SECTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

PAVEMENT REMOVALS SHALL INCLUDE FULL DEPTH SAWCUT AND SECTION REMOVAL.

N

0 30 60

SCALE IN FEET

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VOLK PROPERTIES LLC VIKING ELECTRIC SITE IMPROVEMENTS

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33428
FILE NAME	33428-C2-EXIST
DRAWN BY	BJK & AJZ
DESIGNED BY	BJK
REVIEWED BY	BMP
ORIGINAL ISSUE DATE	----
CLIENT PROJECT NO.	-

TITLE

EXISTING AND REMOVAL PLAN

SHEET

C2-10

PRELIMINARY NOT FOR CONSTRUCTION

SANITARY SEWER STRUCTURE SCHEDULE

STRUCTURE NO.	STRUCTURE TYPE	STRUCTURE SIZE (IN)	STRUCTURE MATERIAL	CASTING	STRUCTURE HEIGHT (LN FT)	TOP OF CASTING ELEVATION	INVERT ELEVATION	OUTLET PIPE
CO-1	CLEANOUT	8 Ø	PVC	SEE DETAIL	5.11	825.41	820.30	SP-3
CO-2	CLEANOUT	8 Ø	PVC	SEE DETAIL	4.97	825.78	820.81	SP-5
CO-3	CLEANOUT	8 Ø	PVC	SEE DETAIL	4.97	826.21	821.24	SP-7
S-1	MnDOT 4007C	48 Ø	RC	NEENAH R1733 "SANITARY SEWER" STAMP SELF CLEANING PICK HOLES	10.86	829.59	818.72	SP-1
S-2	MnDOT 4007C	48 Ø	RC	NEENAH R1733 "SANITARY SEWER" STAMP SELF CLEANING PICK HOLES	6.34	826.14	819.80	SP-2

SANITARY SEWER PIPE SCHEDULE

PIPE NO.	DRAIN FROM	INLET ELEVATION	DRAIN TO	OUTLET ELEVATION	PIPE SIZE	MATERIAL	PIPE CLASS	PIPE GRADE	PIPE LENGTH (FT)
SP-1	S-1	818.72	EX S-1	818.13	8"	PVC	SDR 26	0.40%	147
SP-2	S-2	819.80	S-1	818.82	8"	PVC	SDR 26	0.40%	245
SP-3	CO-1	820.30	S-2	819.90	8"	PVC	SDR 26	0.40%	101
SP-4	45° BEND	820.57	CO-1	820.30	8"	PVC	SDR 26	0.40%	66
SP-5	CO-2	820.81	45° BEND	820.57	8"	PVC	SDR 26	0.40%	59
SP-6	45° BEND	821.02	CO-2	820.81	8"	PVC	SDR 26	0.40%	54
SP-7	CO-3	821.24	45° BEND	821.02	8"	PVC	SDR 26	0.40%	53
SP-8	BUILDING CONNECTION	821.44	CO-3	821.24	8"	PVC	SDR 26	0.40%	51

NOTE: PROVIDE INSULATION FOR PIPES LESS THAN 6' OF COVER

STORM DRAIN ARCH PIPE SCHEDULE

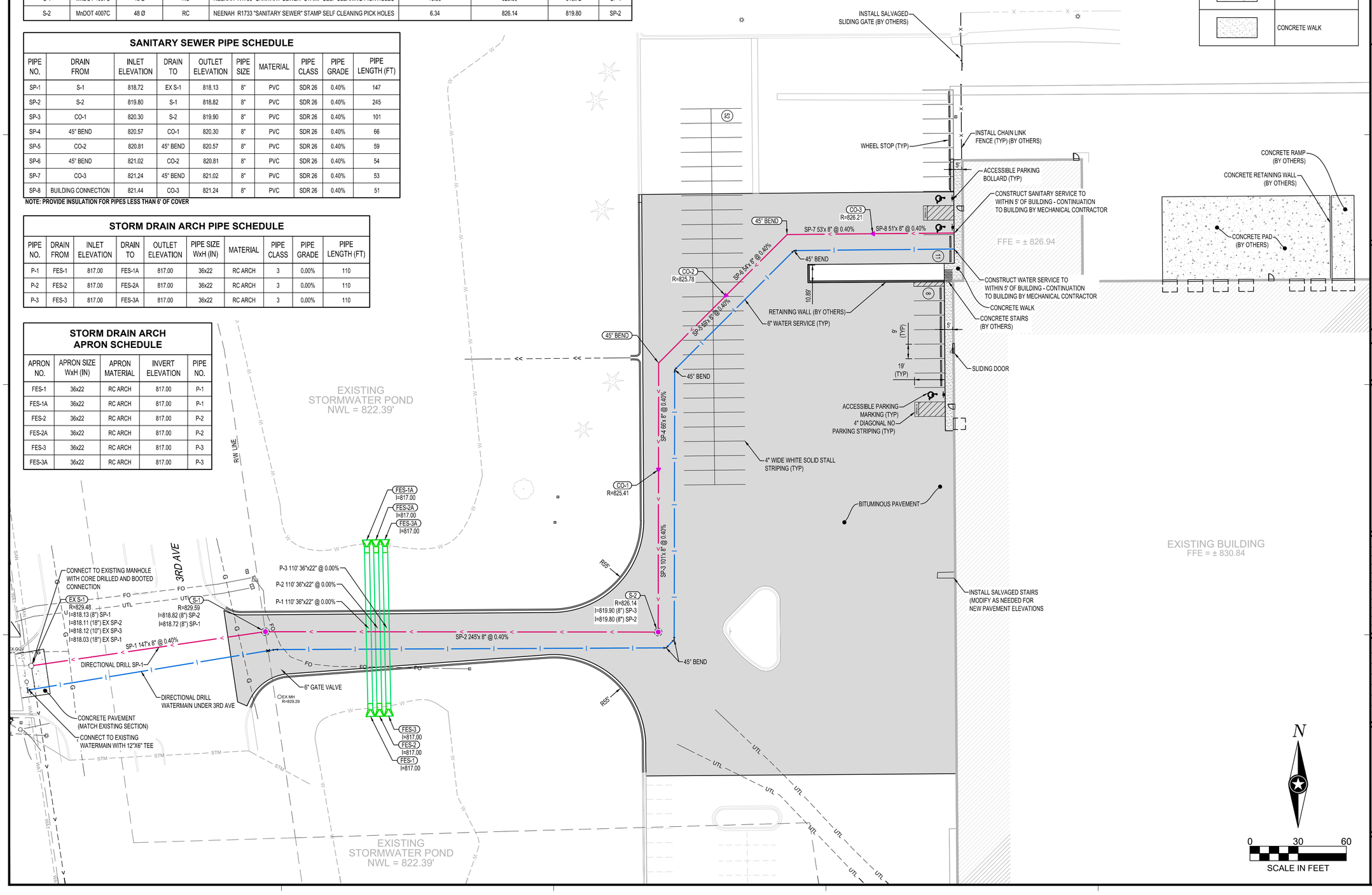
PIPE NO.	DRAIN FROM	INLET ELEVATION	DRAIN TO	OUTLET ELEVATION	PIPE SIZE WxH (IN)	MATERIAL	PIPE CLASS	PIPE GRADE	PIPE LENGTH (FT)
P-1	FES-1	817.00	FES-1A	817.00	36x22	RC ARCH	3	0.00%	110
P-2	FES-2	817.00	FES-2A	817.00	36x22	RC ARCH	3	0.00%	110
P-3	FES-3	817.00	FES-3A	817.00	36x22	RC ARCH	3	0.00%	110

STORM DRAIN ARCH APRON SCHEDULE

APRON NO.	APRON SIZE WxH (IN)	APRON MATERIAL	INVERT ELEVATION	PIPE NO.
FES-1	36x22	RC ARCH	817.00	P-1
FES-1A	36x22	RC ARCH	817.00	P-1
FES-2	36x22	RC ARCH	817.00	P-2
FES-2A	36x22	RC ARCH	817.00	P-2
FES-3	36x22	RC ARCH	817.00	P-3
FES-3A	36x22	RC ARCH	817.00	P-3

PAVEMENT LEGEND

SYMBOL	DESCRIPTION
	BITUMINOUS PAVEMENT
	CONCRETE PAVEMENT
	CONCRETE WALK



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BRYAN M. PETZEL

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PROJECT

VOLK PROPERTIES LLC VIKING ELECTRIC SITE IMPROVEMENTS

MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33428
FILE NAME	33428-C3-SITE
DRAWN BY	BJK & AJZ
DESIGNED BY	BJK
REVIEWED BY	BMP
ORIGINAL ISSUE DATE	----
CLIENT PROJECT NO.	-

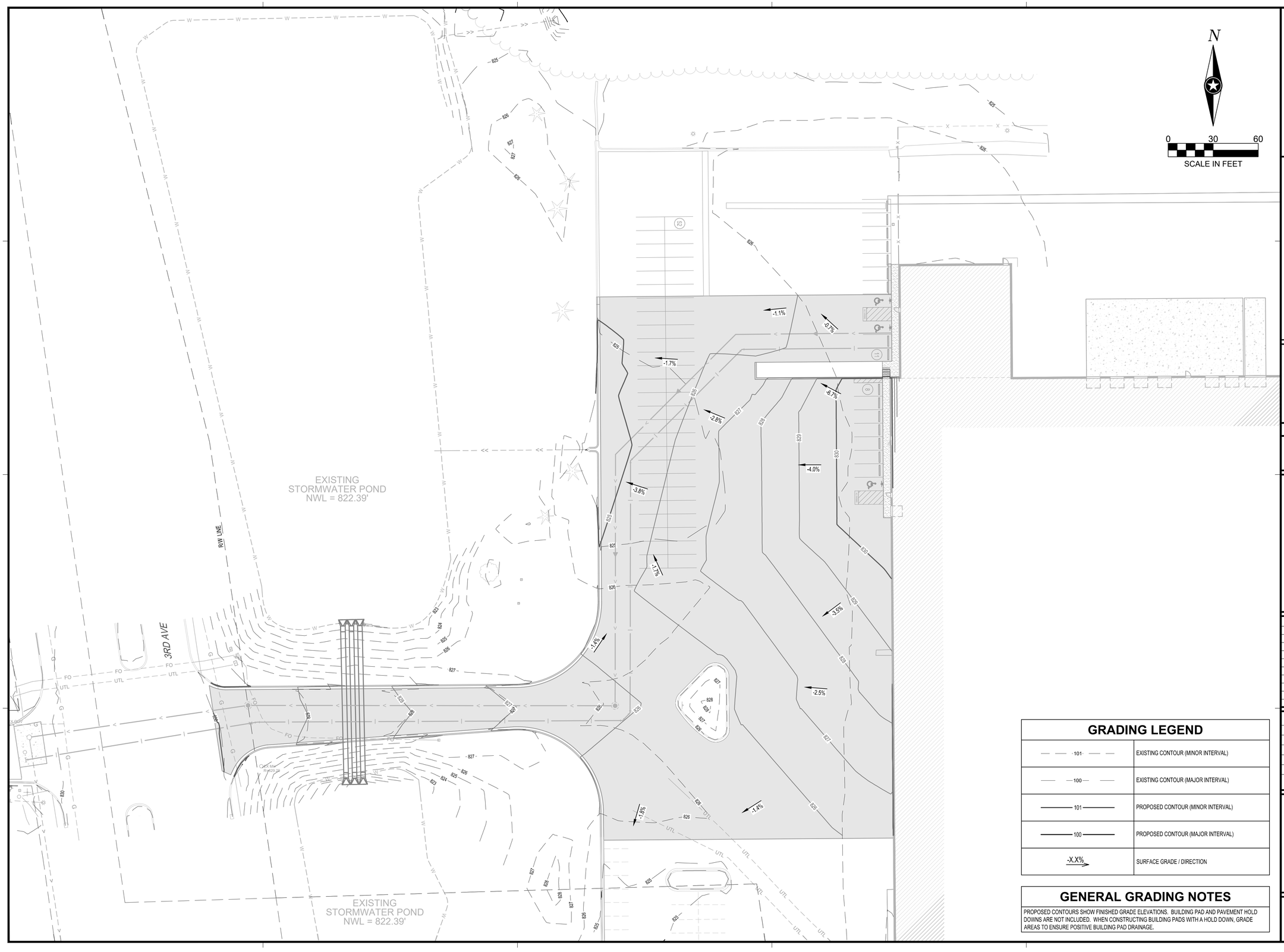
TITLE

SITE AND UTILITY PLAN

SHEET

C3-10

PRELIMINARY NOT FOR CONSTRUCTION



GRADING LEGEND

101	EXISTING CONTOUR (MINOR INTERVAL)
100	EXISTING CONTOUR (MAJOR INTERVAL)
101	PROPOSED CONTOUR (MINOR INTERVAL)
100	PROPOSED CONTOUR (MAJOR INTERVAL)
-X.X%	SURFACE GRADE / DIRECTION

GENERAL GRADING NOTES

PROPOSED CONTOURS SHOW FINISHED GRADE ELEVATIONS. BUILDING PAD AND PAVEMENT HOLD DOWNS ARE NOT INCLUDED. WHEN CONSTRUCTING BUILDING PADS WITH A HOLD DOWN, GRADE AREAS TO ENSURE POSITIVE BUILDING PAD DRAINAGE.

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MANKATO MINNESOTA

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	25-33428
FILE NAME	33428-C4-GRADE
DRAWN BY	BJK & AJZ
DESIGNED BY	BJK
REVIEWED BY	BMP
ORIGINAL ISSUE DATE	----
CLIENT PROJECT NO.	-

TITLE

GRADING PLAN

SHEET

C4-10

PRELIMINARY NOT FOR CONSTRUCTION

Memorandum

Volk Properties LLC – Viking Electrical Site Improvements – Stormwater Pond System Analysis

To: Cory Bienfang, City Engineer, City of Mankato

From: Bryan Petzel

Date: February 24, 2026

Subject: Volk Properties LLC – Viking Electric Site Improvements – Stormwater Pond System Analysis

STORMWATER ANALYSIS

This basin analysis memo was prepared in conjunction with plans for site improvements at 2415 3rd Avenue to support the buildout of a space within the existing building to be occupied by Viking Electric. The existing basins on site were studied to ensure they will provide sufficient water quality volume and meet discharge rate requirements.

Existing Conditions

The two basins are connected via an 88" arch equalizer pipe under the driveway at an elevation of 817.25'. The pond system outlets via a 30" culvert located at the NE corner of the northern pond at an elevation of 822.39' and an emergency overflow weir located at the east end of the southern pond at an elevation of 821'. The 30" culvert outlets to a ditch system that flows to a shallow stream near the southeast corner of Mankato power plant that ultimately discharges into the Minnesota River. The emergency overflow weir leads to an additional large wet pond that will retain large amounts of water as needed.

The pond system's watershed was delineated and studied for the sake of this analysis. The watershed consists of 61.06 acres of land with 30.04 acres of impervious area draining to the basins. Most of the watershed's drainage is collected via a 30" pipe and conveyed to the southern basin. This pipe has a very limited capacity which appears to result in large amounts of water bypassing and ultimately traveling north down 3rd Avenue. Other smaller culverts exist in the southern portion of the watershed, also draining to the southern basin. Stormwater from the Volk Transfer LLC property project limits is evenly distributed into the north and south basins. Stormwater from the remainder of the Volk Transfer LLC property is distributed into an artificial wetland at the southeast end of the property. This wetland outlets via an overland weir on the east end of the property.

Proposed Conditions

Proposed site improvements include new and reconstructed drive aisles, parking areas, and the construction of new sanitary sewer and watermain services for the Viking Electric space that will be routed under the existing west driveway. The existing 88" arch pond equalizer pipe conflicts with the proposed gravity sanitary sewer service, requiring its removal and replacement. This arch pipe allows the basins to equalize efficiently, which is essential since the south basin receives the majority of the two basin's flows (about 60% of total flows). The existing arch pipe has a cross-sectional area of 25.69 sqft. Upon analyzing the basins, this pipe was determined to be oversized. The single arch pipe will be replaced with three 35" arch pipes, providing a total of 13.89 sqft of cross-sectional area and ensuring separation between the proposed equalizer and service pipes. This will allow the basins to equalize without issue as they have been previously.

The City requires that the existing basins provide a water quality volume of 1.1" per acre for the new and fully reconstructed impervious areas. It is assumed the ponds were originally designed to provide a water quality volume of 0.5" per acre for the

pond system's watershed. The pond system must also meet MPCA dead storage and discharge rate requirements for a wet sedimentation basin. The tabulation below demonstrates that the existing basins on the Volk Transfer property satisfies these requirements.

- Drainage area to pond system = 61.06 acres
- Required dead storage (1800 cubic feet/acre) = 2.54 acres
- Provided dead storage = 16.03 acres

- Existing impervious area excluding proposed new and fully reconstructed areas = 28.02 acres
- Proposed new and fully reconstructed impervious areas = 2.02 acres
- Required water quality volume = (Existing)(0.5") + (Proposed)(1.1") = 1.35 ac-ft
- Water Quality Elevation = 822.68'

- Pond surface area at water quality elevation = 3.61 acres
- Allowable discharge rate at water quality elevation (5.66 cfs/acre) = 20.41 cfs
- Pond system discharge rate at water quality elevation = 18.13 cfs

Upon completion of the project, stormwater from the site will continue to drain to the two basins via overland flow or on-site storm sewer infrastructure.

Hydraulic Modeling

The existing and proposed conditions were modeled using the current Mankato NOAA Atlas 14 data for a 100-yr, 24-hour design storm which states a total depth of 7.20". Curve numbers were calculated by determining hydrologic soil group on Web Soil Survey then by measuring the impervious area of each individual minor watershed. The major watershed consists of 13 minor watersheds with 10 of the minor watersheds contributing directly to the south basin and the other 3 contributing directly to the north. A map of the watersheds can be seen in Appendix A. Given that the southeast wetland is hydraulically connected to the pond system, equalization between the system and wetland were modeled as well. Intake capacity bypass was considered in all models and calculations to provide a more accurate representation of the system. The normal water elevation was assumed to be 822.39'. This value comes from the surveyed pond outlet pipe invert elevation. Existing and proposed modeling results for the previously mentioned design storm can be seen below in *Table 1*.

Basin HWLs and Discharge Rates			
	North Basin HWL (ft)	South Basin HWL (ft)	Maximum Discharge (cfs)
Existing	824.12	824.12	16.19
Proposed	824.11	824.12	16.01

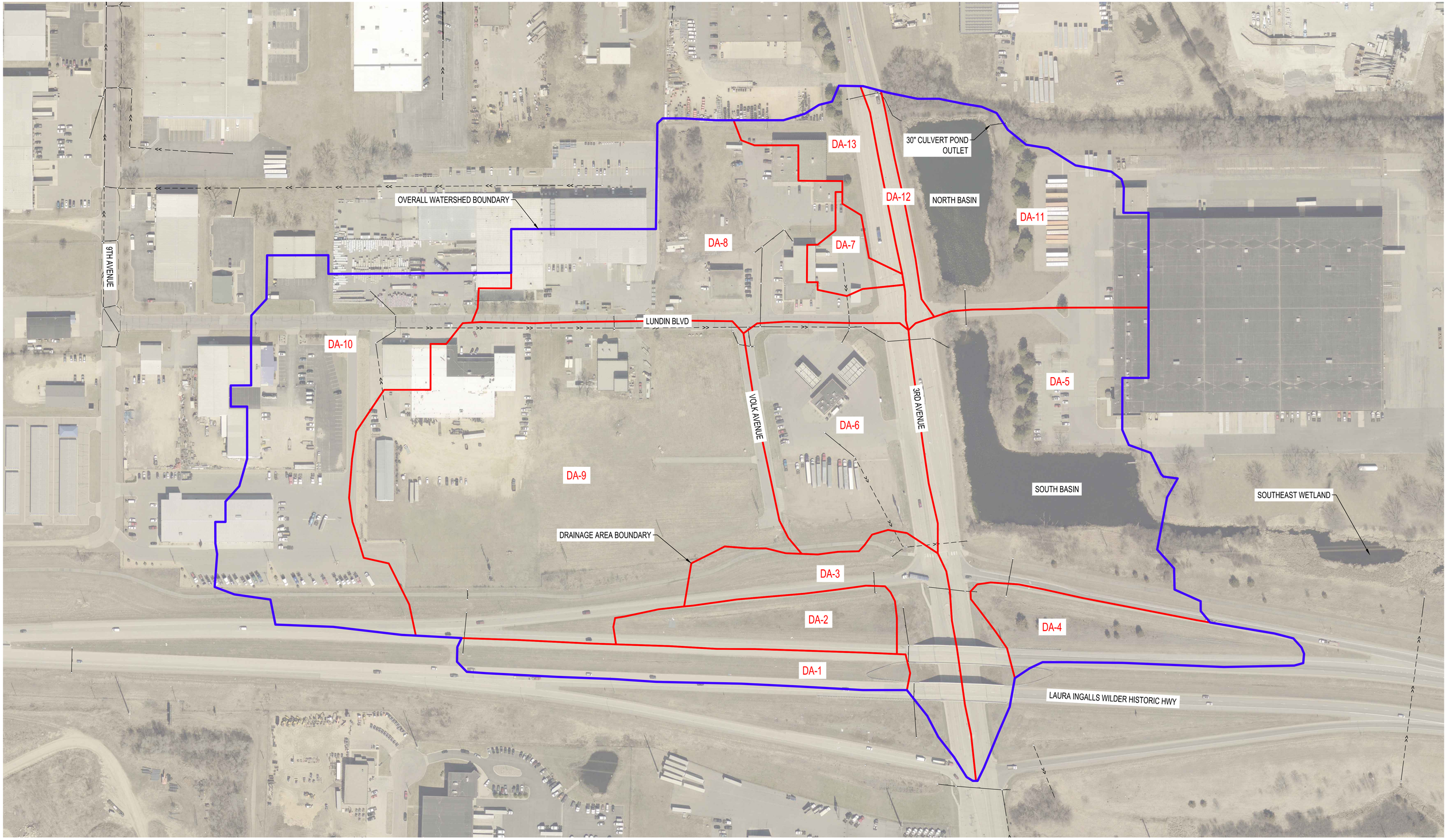
Table 1 – Basin HWLs and Discharge Rates

As compared to the existing conditions, the replacement of a single 88" arch pipe with three 35" arch pipes will allow the basins to function as they have previously without drastically altering their hydrological conditions.

Summary

The proposed equalizer pipe replacement will not impact the hydraulic function of the existing pond system. The pond system meets the City of Mankato and MPCA requirements for wet sedimentation basins.

Appendix A: Watershed and Drainage Area Map

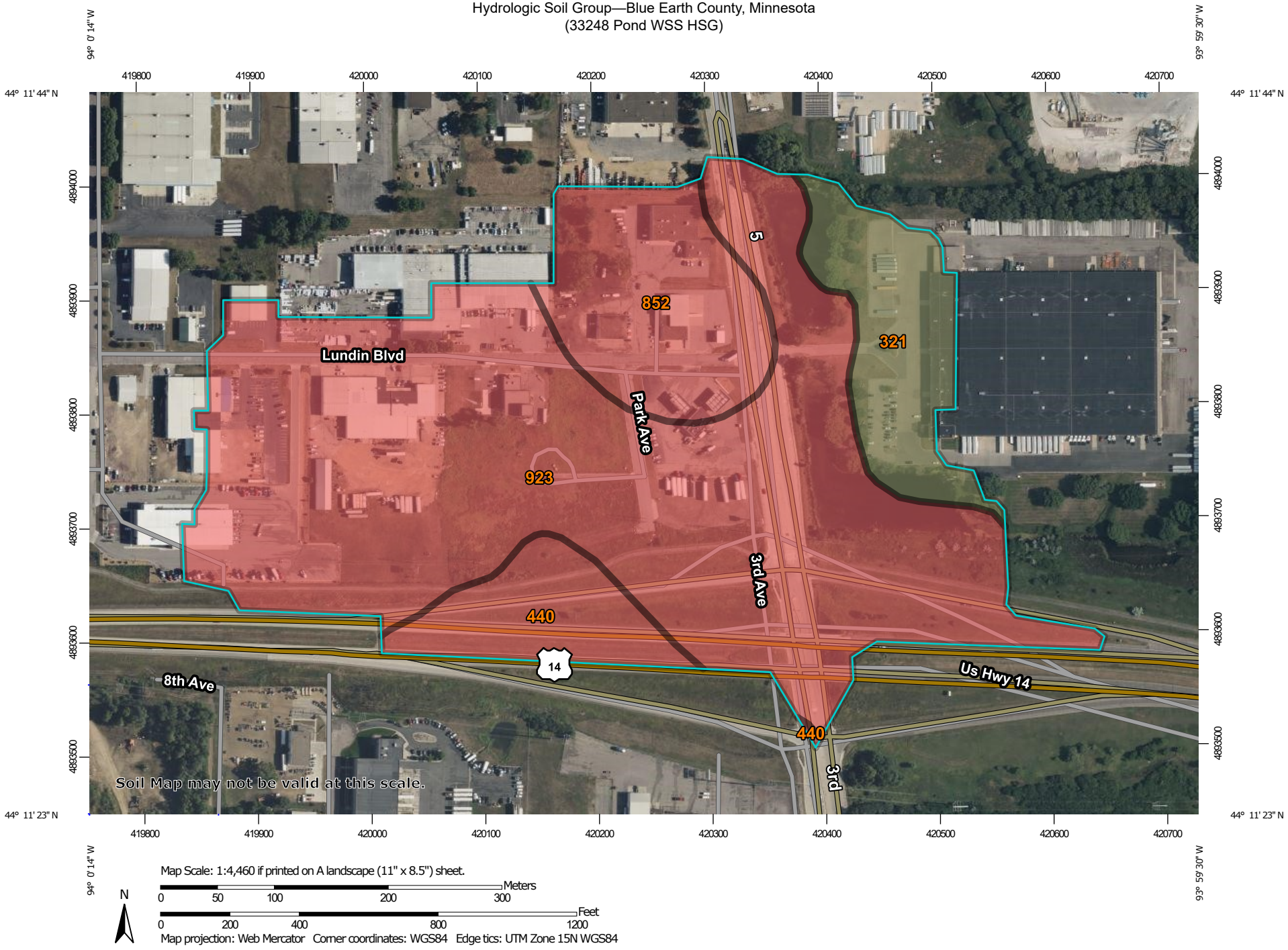


DRAINAGE AREA MAP

SCALE IN FEET: 0 100 200

Appendix B: Web Soil Survey Report

Hydrologic Soil Group—Blue Earth County, Minnesota
(33248 Pond WSS HSG)



Map Scale: 1:4,460 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Blue Earth County, Minnesota
Survey Area Data: Version 23, Sep 9, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 2, 2023—Aug 8, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
321	Tilfer silty clay loam	C/D	6.2	10.1%
440	Copaston loam, very shallow, 1 to 4 percent slopes	D	4.4	7.2%
852	Copaston-Urban land complex, 1 to 4 percent slopes	D	8.1	13.3%
923	Copaston-Rock outcrop complex, 1 to 4 percent slopes	D	42.3	69.3%
Totals for Area of Interest			**61.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

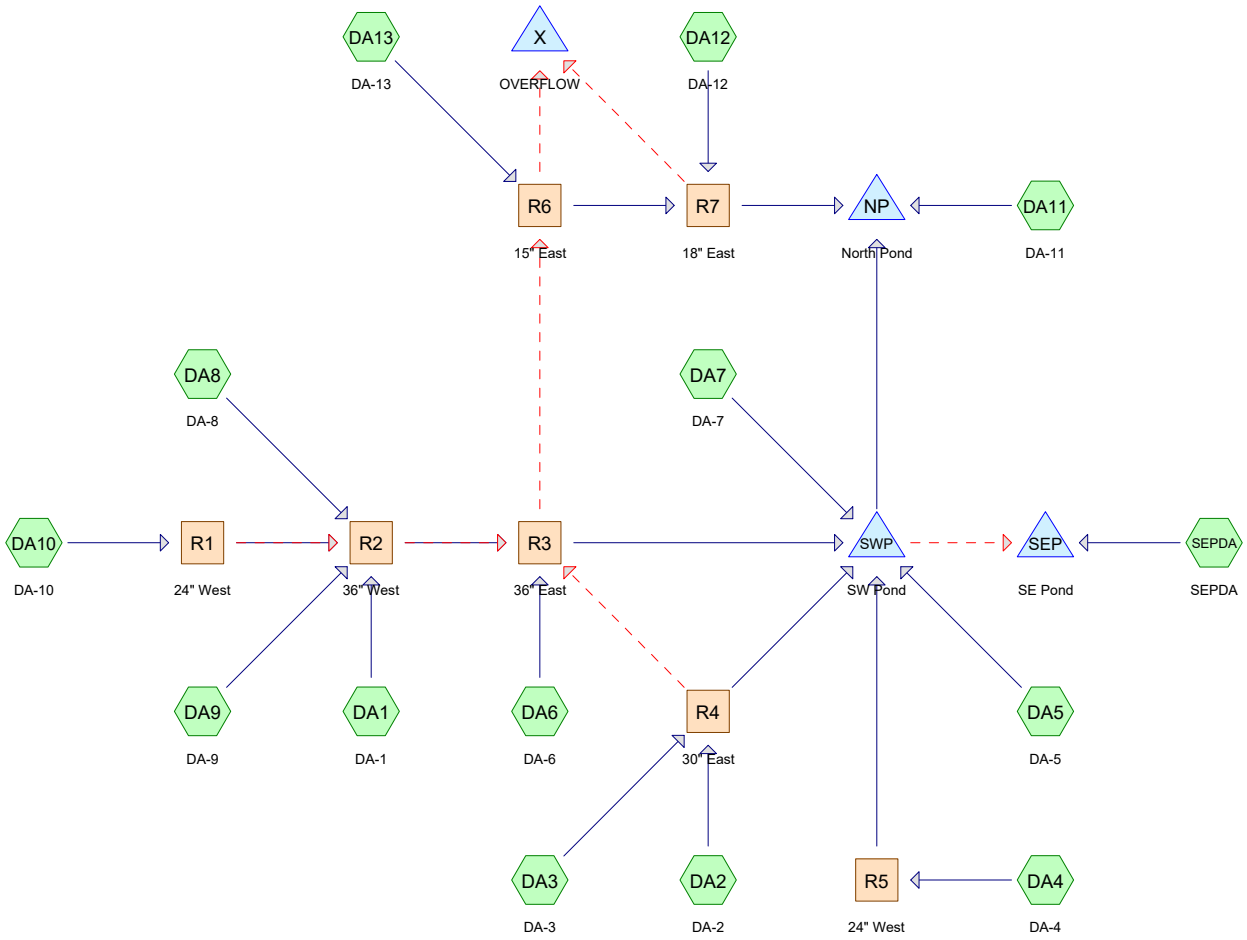
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix C: Existing HydroCAD

EXISTING
CONDITOINS



Subcat Reach Pond Link

Routing Diagram for 33428 POND ANALYSIS - EXISTING
Prepared by I&S Group, Inc, Printed 2/24/2026
HydroCAD® 10.20-5c s/n 02403 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-YR	Type III 24-hr		Default	24.00	1	7.20	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
11.116	84	50-75% Grass cover, Fair, HSG D (DA10, DA6, DA9)
18.665	80	>75% Grass cover, Good, HSG D (DA1, DA2, DA3, DA4, SEPDA)
19.418	98	Paved parking, HSG D (DA10, DA11, DA5, DA7, SEPDA)
6.102	98	Paved roads w/curbs & sewers, HSG D (DA1, DA12, DA13, DA2, DA3, DA4, DA6, DA9)
15.186	93	Urban industrial, 72% imp, HSG D (DA13, DA6, DA8, DA9)
9.926	98	Water Surface, HSG D (DA11, DA5, SEPDA)
1.735	82	Woods/grass comb., Fair, HSG D (DA11)
3.715	79	Woods/grass comb., Good, HSG D (DA5)

Summary for Subcatchment DA11: DA-11

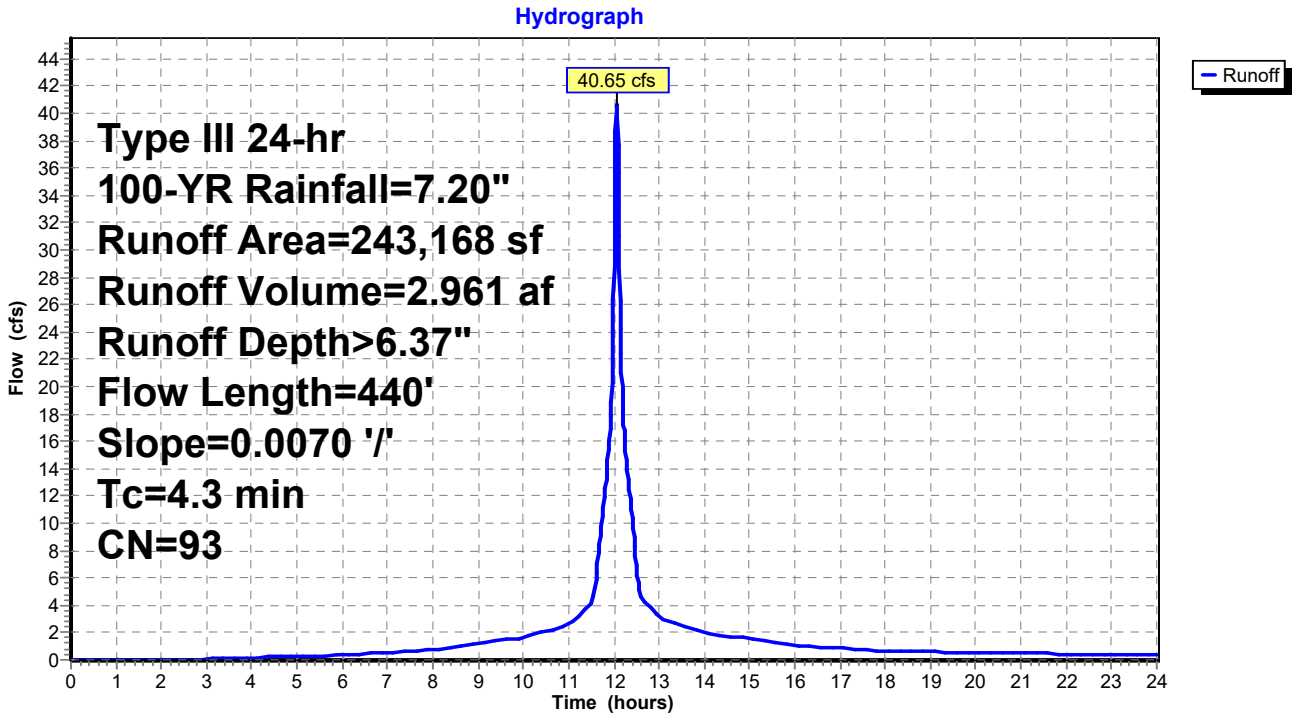
Runoff = 40.65 cfs @ 12.06 hrs, Volume= 2.961 af, Depth> 6.37"
Routed to Pond NP : North Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=7.20"

Area (sf)	CN	Description
74,450	98	Water Surface, HSG D
93,143	98	Paved parking, HSG D
75,575	82	Woods/grass comb., Fair, HSG D
243,168	93	Weighted Average
75,575		31.08% Pervious Area
167,593		68.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	440	0.0070	1.70		**Shallow Concentrated Flow, DA11** Paved Kv= 20.3 fps

Subcatchment DA11: DA-11



Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 9
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond NP: North Pond Peak Elev=824.12' Storage=432,988 cf Inflow=61.89 cfs 9.706 af
30.0" Round Culvert n=0.011 L=76.0' S=0.0259 '/' Outflow=16.19 cfs 8.326 af

Pond SEP: SE Pond Peak Elev=824.12' Storage=861,700 cf Inflow=231.62 cfs 26.574 af
Outflow=47.97 cfs 20.904 af

Pond SWP: SW Pond Peak Elev=824.12' Storage=561,913 cf Inflow=151.23 cfs 21.554 af
Primary=15.24 cfs 5.573 af Secondary=70.64 cfs 14.380 af Outflow=84.51 cfs 19.733 af

Pond X: OVERFLOW Inflow=177.52 cfs 5.412 af
Primary=177.52 cfs 5.412 af

Summary for Pond NP: North Pond

Inflow Area = 61.053 ac, 56.33% Impervious, Inflow Depth > 1.91" for 100-YR event
Inflow = 61.89 cfs @ 12.05 hrs, Volume= 9.706 af
Outflow = 16.19 cfs @ 12.70 hrs, Volume= 8.326 af, Atten= 74%, Lag= 39.1 min
Discarded = 16.19 cfs @ 12.70 hrs, Volume= 8.326 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9
Starting Elev= 822.20' Surf.Area= 65,509 sf Storage= 298,980 cf
Peak Elev= 824.12' @ 12.70 hrs Surf.Area= 74,292 sf Storage= 432,988 cf (134,007 cf above start)

Plug-Flow detention time= 727.5 min calculated for 1.463 af (15% of inflow)
Center-of-Mass det. time= 107.8 min (965.9 - 858.1)

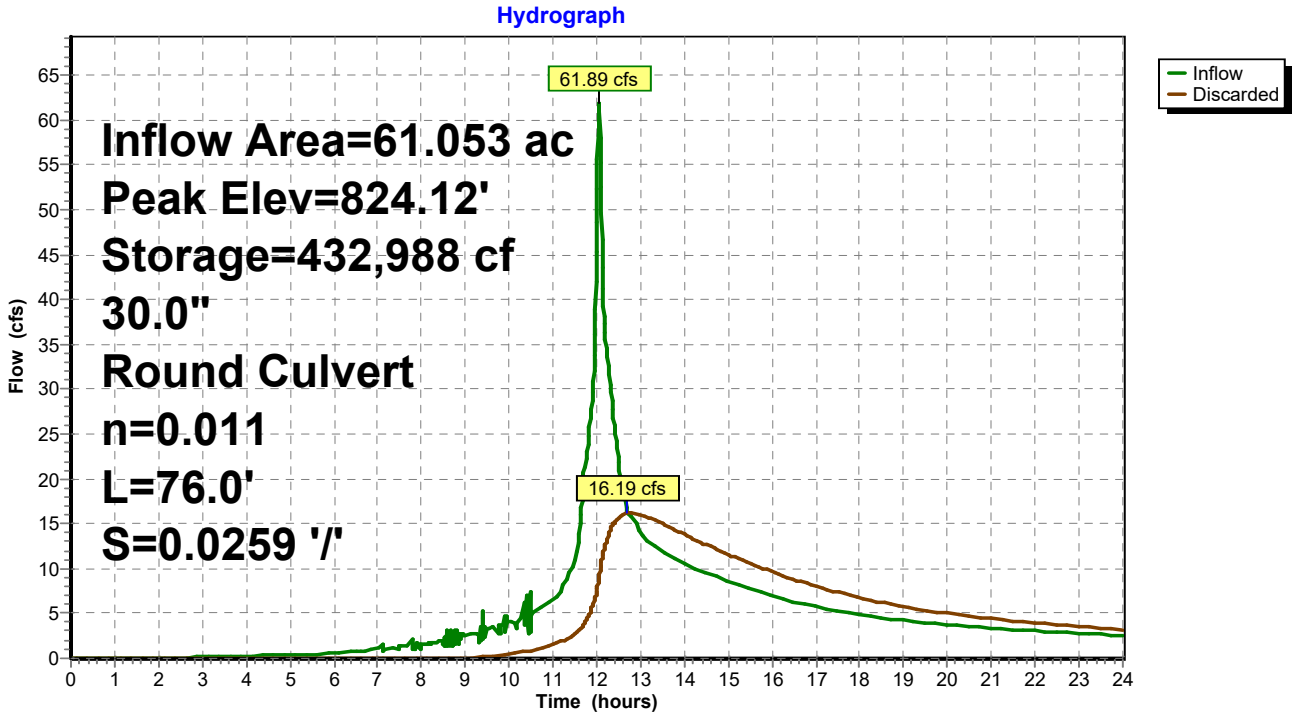
Volume	Invert	Avail.Storage	Storage Description
#1	816.50'	446,651 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
816.50	39,396	0	0
824.30	75,130	446,651	446,651

Device	Routing	Invert	Outlet Devices
#1	Discarded	822.39'	**30.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 822.39' / 820.42' S= 0.0259 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.91 sf

Discarded OutFlow Max=16.19 cfs @ 12.70 hrs HW=824.12' (Free Discharge)
↑**1=Culvert** (Inlet Controls 16.19 cfs @ 4.47 fps)

Pond NP: North Pond



Stage-Discharge for Pond NP: North Pond

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
816.50	0.00	819.10	0.00	821.70	0.00	824.30	18.94
816.55	0.00	819.15	0.00	821.75	0.00	824.35	19.68
816.60	0.00	819.20	0.00	821.80	0.00	824.40	20.42
816.65	0.00	819.25	0.00	821.85	0.00	824.45	21.14
816.70	0.00	819.30	0.00	821.90	0.00	824.50	21.86
816.75	0.00	819.35	0.00	821.95	0.00	824.55	22.56
816.80	0.00	819.40	0.00	822.00	0.00	824.60	23.24
816.85	0.00	819.45	0.00	822.05	0.00	824.65	23.89
816.90	0.00	819.50	0.00	822.10	0.00	824.70	24.52
816.95	0.00	819.55	0.00	822.15	0.00	824.75	25.11
817.00	0.00	819.60	0.00	822.20	0.00	824.80	25.65
817.05	0.00	819.65	0.00	822.25	0.00	824.85	**26.12**
817.10	0.00	819.70	0.00	822.30	0.00		
817.15	0.00	819.75	0.00	822.35	0.00		
817.20	0.00	819.80	0.00	822.40	0.00		
817.25	0.00	819.85	0.00	822.45	0.03		
817.30	0.00	819.90	0.00	822.50	0.09		
817.35	0.00	819.95	0.00	822.55	0.18		
817.40	0.00	820.00	0.00	822.60	0.31		
817.45	0.00	820.05	0.00	822.65	0.47		
817.50	0.00	820.10	0.00	822.70	0.66		
817.55	0.00	820.15	0.00	822.75	0.89		
817.60	0.00	820.20	0.00	822.80	1.15		
817.65	0.00	820.25	0.00	822.85	1.43		
817.70	0.00	820.30	0.00	822.90	1.75		
817.75	0.00	820.35	0.00	822.95	2.09		
817.80	0.00	820.40	0.00	823.00	2.47		
817.85	0.00	820.45	0.00	823.05	2.87		
817.90	0.00	820.50	0.00	823.10	3.29		
817.95	0.00	820.55	0.00	823.15	3.74		
818.00	0.00	820.60	0.00	823.20	4.22		
818.05	0.00	820.65	0.00	823.25	4.72		
818.10	0.00	820.70	0.00	823.30	5.25		
818.15	0.00	820.75	0.00	823.35	5.79		
818.20	0.00	820.80	0.00	823.40	6.36		
818.25	0.00	820.85	0.00	823.45	6.94		
818.30	0.00	820.90	0.00	823.50	7.55		
818.35	0.00	820.95	0.00	823.55	8.18		
818.40	0.00	821.00	0.00	823.60	8.82		
818.45	0.00	821.05	0.00	823.65	9.48		
818.50	0.00	821.10	0.00	823.70	10.15		
818.55	0.00	821.15	0.00	823.75	10.84		
818.60	0.00	821.20	0.00	823.80	11.54		
818.65	0.00	821.25	0.00	823.85	12.25		
818.70	0.00	821.30	0.00	823.90	12.97		
818.75	0.00	821.35	0.00	823.95	13.70		
818.80	0.00	821.40	0.00	824.00	14.44		
818.85	0.00	821.45	0.00	824.05	15.18		
818.90	0.00	821.50	0.00	824.10	15.93		
818.95	0.00	821.55	0.00	824.15	16.68		
819.00	0.00	821.60	0.00	824.20	17.43		
819.05	0.00	821.65	0.00	824.25	18.19		

Stage-Area-Storage for Pond NP: North Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
816.50	39,396	0
816.60	39,854	3,963
816.70	40,312	7,971
816.80	40,770	12,025
816.90	41,229	16,125
817.00	41,687	20,271
817.10	42,145	24,462
817.20	42,603	28,700
817.30	43,061	32,983
817.40	43,519	37,312
817.50	43,977	41,687
817.60	44,435	46,107
817.70	44,894	50,574
817.80	45,352	55,086
817.90	45,810	59,644
818.00	46,268	64,248
818.10	46,726	68,898
818.20	47,184	73,593
818.30	47,642	78,334
818.40	48,100	83,122
818.50	48,559	87,955
818.60	49,017	92,833
818.70	49,475	97,758
818.80	49,933	102,728
818.90	50,391	107,744
819.00	50,849	112,807
819.10	51,307	117,914
819.20	51,765	123,068
819.30	52,224	128,267
819.40	52,682	133,513
819.50	53,140	138,804
819.60	53,598	144,141
819.70	54,056	149,523
819.80	54,514	154,952
819.90	54,972	160,426
820.00	55,430	165,946
820.10	55,889	171,512
820.20	56,347	177,124
820.30	56,805	182,782
820.40	57,263	188,485
820.50	57,721	194,234
820.60	58,179	200,029
820.70	58,637	205,870
820.80	59,096	211,757
820.90	59,554	217,689
821.00	60,012	223,667
821.10	60,470	229,692
821.20	60,928	235,761
821.30	61,386	241,877
821.40	61,844	248,039
821.50	62,302	254,246
821.60	62,761	260,499
821.70	63,219	266,798
821.80	63,677	273,143
821.90	64,135	279,533
822.00	64,593	285,970
822.10	65,051	292,452
822.20	65,509	298,980
822.30	65,967	305,554
822.40	66,426	312,174
822.50	66,884	318,839
822.60	67,342	325,550
822.70	67,800	332,307
822.80	68,258	339,110
822.90	68,716	345,959
823.00	69,174	352,854
823.10	69,632	359,794
823.20	70,091	366,780
823.30	70,549	373,812
823.40	71,007	380,890
823.50	71,465	388,013
823.60	71,923	395,183
823.70	72,381	402,398
823.80	72,839	409,659
823.90	73,297	416,966
824.00	73,756	424,319
824.10	74,214	431,717
824.20	74,672	439,161
824.30	**75,130**	**446,651**
824.40	75,130	446,651
824.50	75,130	446,651
824.60	75,130	446,651
824.70	75,130	446,651
824.80	75,130	446,651

Summary for Pond SEP: SE Pond

Inflow Area = 24.809 ac, 48.32% Impervious, Inflow Depth > 12.85" for 100-YR event
Inflow = 231.62 cfs @ 12.08 hrs, Volume= 26.574 af
Outflow = 47.97 cfs @ 12.80 hrs, Volume= 20.904 af, Atten= 79%, Lag= 42.8 min
Discarded = 47.97 cfs @ 12.80 hrs, Volume= 20.904 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9
Starting Elev= 822.20' Surf.Area= 272,644 sf Storage= 319,148 cf
Peak Elev= 824.12' @ 12.80 hrs Surf.Area= 293,987 sf Storage= 861,700 cf (542,553 cf above start)

Plug-Flow detention time= 388.0 min calculated for 13.577 af (51% of inflow)
Center-of-Mass det. time= 156.2 min (949.8 - 793.6)

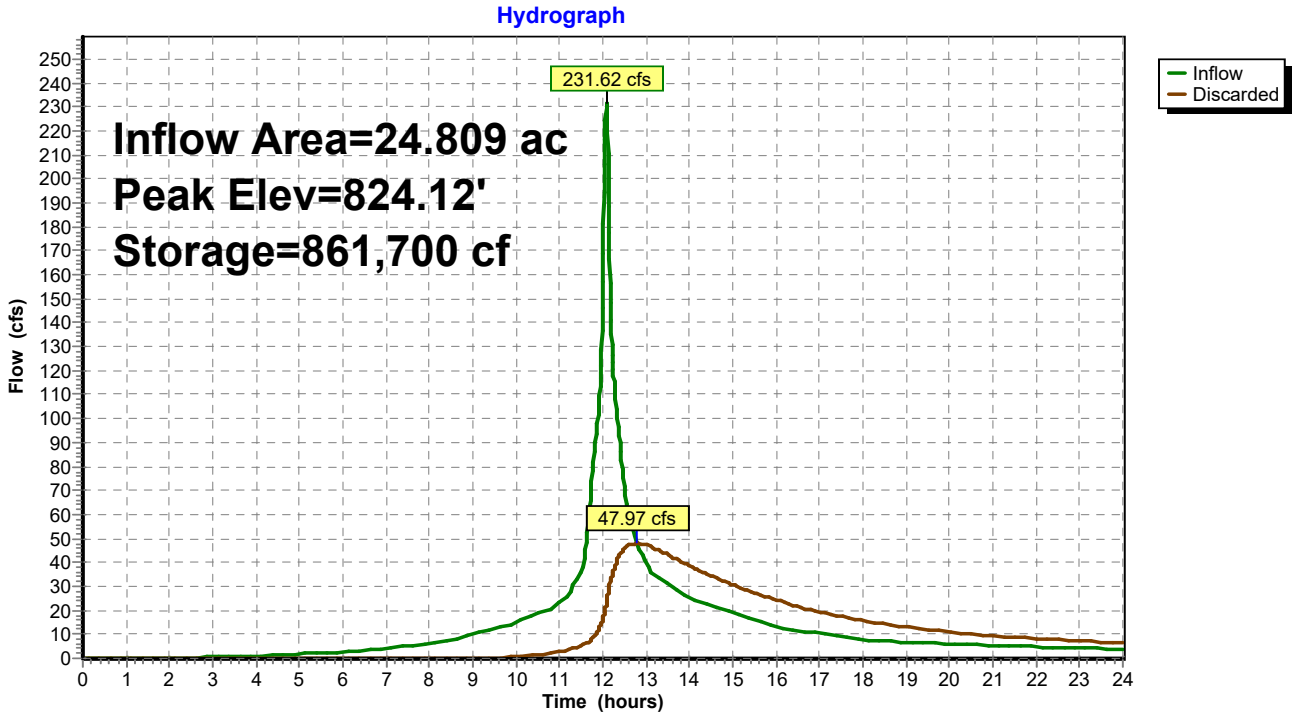
Volume	Invert	Avail.Storage	Storage Description
#1	821.00'	1,128,392 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
821.00	259,269	0	0
824.30	296,049	916,275	916,275
825.00	310,000	212,117	1,128,392

Device	Routing	Invert	Outlet Devices
#1	Discarded	822.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 1.50 2.50 Width (feet) 3.00 6.00 13.00 26.00

Discarded OutFlow Max=47.97 cfs @ 12.80 hrs HW=824.12' (Free Discharge)
↑**1=Custom Weir/Orifice** (Weir Controls 47.97 cfs @ 3.60 fps)

Pond SEP: SE Pond



Stage-Discharge for Pond SEP: SE Pond

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
821.00	0.00	822.04	0.00	823.08	6.36	824.12	48.29
821.02	0.00	822.06	0.00	823.10	6.76	824.14	49.58
821.04	0.00	822.08	0.00	823.12	7.18	824.16	50.90
821.06	0.00	822.10	0.00	823.14	7.62	824.18	52.24
821.08	0.00	822.12	0.00	823.16	8.06	824.20	53.60
821.10	0.00	822.14	0.00	823.18	8.52	824.22	54.99
821.12	0.00	822.16	0.00	823.20	9.00	824.24	56.41
821.14	0.00	822.18	0.00	823.22	9.49	824.26	57.85
821.16	0.00	822.20	0.00	823.24	9.99	824.28	59.31
821.18	0.00	822.22	0.00	823.26	10.51	824.30	60.81
821.20	0.00	822.24	0.00	823.28	11.05	824.32	62.32
821.22	0.00	822.26	0.00	823.30	11.59	824.34	63.87
821.24	0.00	822.28	0.00	823.32	12.16	824.36	65.45
821.26	0.00	822.30	0.00	823.34	12.74	824.38	67.05
821.28	0.00	822.32	0.00	823.36	13.33	824.40	68.68
821.30	0.00	822.34	0.00	823.38	13.94	824.42	70.33
821.32	0.00	822.36	0.00	823.40	14.56	824.44	72.02
821.34	0.00	822.38	0.00	823.42	15.20	824.46	73.73
821.36	0.00	822.40	0.00	823.44	15.86	824.48	75.48
821.38	0.00	822.42	0.00	823.46	16.53	824.50	77.25
821.40	0.00	822.44	0.00	823.48	17.21	824.52	79.05
821.42	0.00	822.46	0.00	823.50	17.92	824.54	80.89
821.44	0.00	822.48	0.00	823.52	18.64	824.56	82.75
821.46	0.00	822.50	0.00	823.54	19.37	824.58	84.64
821.48	0.00	822.52	0.03	823.56	20.12	824.60	86.56
821.50	0.00	822.54	0.08	823.58	20.89	824.62	88.52
821.52	0.00	822.56	0.15	823.60	21.68	824.64	90.50
821.54	0.00	822.58	0.24	823.62	22.48	824.66	92.52
821.56	0.00	822.60	0.34	823.64	23.29	824.68	94.57
821.58	0.00	822.62	0.45	823.66	24.13	824.70	96.64
821.60	0.00	822.64	0.57	823.68	24.98	824.72	98.76
821.62	0.00	822.66	0.71	823.70	25.85	824.74	100.90
821.64	0.00	822.68	0.86	823.72	26.74	824.76	103.07
821.66	0.00	822.70	1.02	823.74	27.64	824.78	105.28
821.68	0.00	822.72	1.19	823.76	28.56	824.80	107.52
821.70	0.00	822.74	1.38	823.78	29.50	824.82	109.80
821.72	0.00	822.76	1.57	823.80	30.46	824.84	112.10
821.74	0.00	822.78	1.78	823.82	31.43	824.86	114.44
821.76	0.00	822.80	2.00	823.84	32.42	824.88	116.82
821.78	0.00	822.82	2.23	823.86	33.44	824.90	119.23
821.80	0.00	822.84	2.48	823.88	34.46	824.92	121.67
821.82	0.00	822.86	2.73	823.90	35.51	824.94	124.14
821.84	0.00	822.88	3.00	823.92	36.57	824.96	126.65
821.86	0.00	822.90	3.28	823.94	37.66	824.98	129.20
821.88	0.00	822.92	3.57	823.96	38.76	825.00	**131.78**
821.90	0.00	822.94	3.88	823.98	39.88		
821.92	0.00	822.96	4.19	824.00	41.02		
821.94	0.00	822.98	4.52	824.02	42.18		
821.96	0.00	823.00	4.86	824.04	43.36		
821.98	0.00	823.02	5.22	824.06	44.56		
822.00	0.00	823.04	5.58	824.08	45.78		
822.02	0.00	823.06	5.96	824.10	47.02		

Stage-Area-Storage for Pond SEP: SE Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
821.00	259,269	0
821.05	259,826	12,977
821.10	260,384	25,983
821.15	260,941	39,016
821.20	261,498	52,077
821.25	262,055	65,166
821.30	262,613	78,282
821.35	263,170	91,427
821.40	263,727	104,599
821.45	264,284	117,800
821.50	264,842	131,028
821.55	265,399	144,284
821.60	265,956	157,568
821.65	266,514	170,879
821.70	267,071	184,219
821.75	267,628	197,586
821.80	268,185	210,982
821.85	268,743	224,405
821.90	269,300	237,856
821.95	269,857	251,335
822.00	270,414	264,842
822.05	270,972	278,376
822.10	271,529	291,939
822.15	272,086	305,529
822.20	272,644	319,148
822.25	273,201	332,794
822.30	273,758	346,468
822.35	274,315	360,169
822.40	274,873	373,899
822.45	275,430	387,657
822.50	275,987	401,442
822.55	276,544	415,255
822.60	277,102	429,097
822.65	277,659	442,966
822.70	278,216	456,862
822.75	278,774	470,787
822.80	279,331	484,740
822.85	279,888	498,720
822.90	280,445	512,729
822.95	281,003	526,765
823.00	281,560	540,829
823.05	282,117	554,921
823.10	282,674	569,041
823.15	283,232	583,188
823.20	283,789	597,364
823.25	284,346	611,567
823.30	284,904	625,798
823.35	285,461	640,058
823.40	286,018	654,345
823.45	286,575	668,659
823.50	287,133	683,002
823.55	287,690	697,373
823.60	288,247	711,771
823.65	288,804	726,197
823.70	289,362	740,651
823.75	289,919	755,134
823.80	290,476	769,643
823.85	291,034	784,181
823.90	291,591	798,747
823.95	292,148	813,340
824.00	292,705	827,962
824.05	293,263	842,611
824.10	293,820	857,288
824.15	294,377	871,993
824.20	294,934	886,726
824.25	295,492	901,486
824.30	296,049	916,275
824.35	297,046	931,102
824.40	298,042	945,979
824.45	299,039	960,906
824.50	300,035	975,883
824.55	301,031	990,910
824.60	302,028	1,005,986
824.65	303,025	1,021,113
824.70	304,021	1,036,289
824.75	305,018	1,051,515
824.80	306,014	1,066,790
824.85	307,011	1,082,116
824.90	308,007	1,097,491
824.95	309,004	1,112,917
825.00	**310,000**	**1,128,392**

Summary for Pond SWP: SW Pond

Inflow Area = 53.478 ac, 53.82% Impervious, Inflow Depth > 4.84" for 100-YR event
Inflow = 151.23 cfs @ 12.04 hrs, Volume= 21.554 af
Outflow = 84.51 cfs @ 12.05 hrs, Volume= 19.733 af, Atten= 44%, Lag= 0.6 min
Primary = 15.24 cfs @ 12.03 hrs, Volume= 5.573 af
Routed to Pond NP : North Pond
Secondary = 70.64 cfs @ 12.06 hrs, Volume= 14.380 af
Routed to Pond SEP : SE Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9
Starting Elev= 822.20' Surf.Area= 86,196 sf Storage= 383,849 cf
Peak Elev= 824.12' @ 12.76 hrs Surf.Area= 99,090 sf Storage= 561,913 cf (178,064 cf above start)

Plug-Flow detention time= 342.5 min calculated for 10.921 af (51% of inflow)
Center-of-Mass det. time= 53.8 min (841.8 - 788.0)

Volume	Invert	Avail.Storage	Storage Description
#1	816.50'	579,588 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

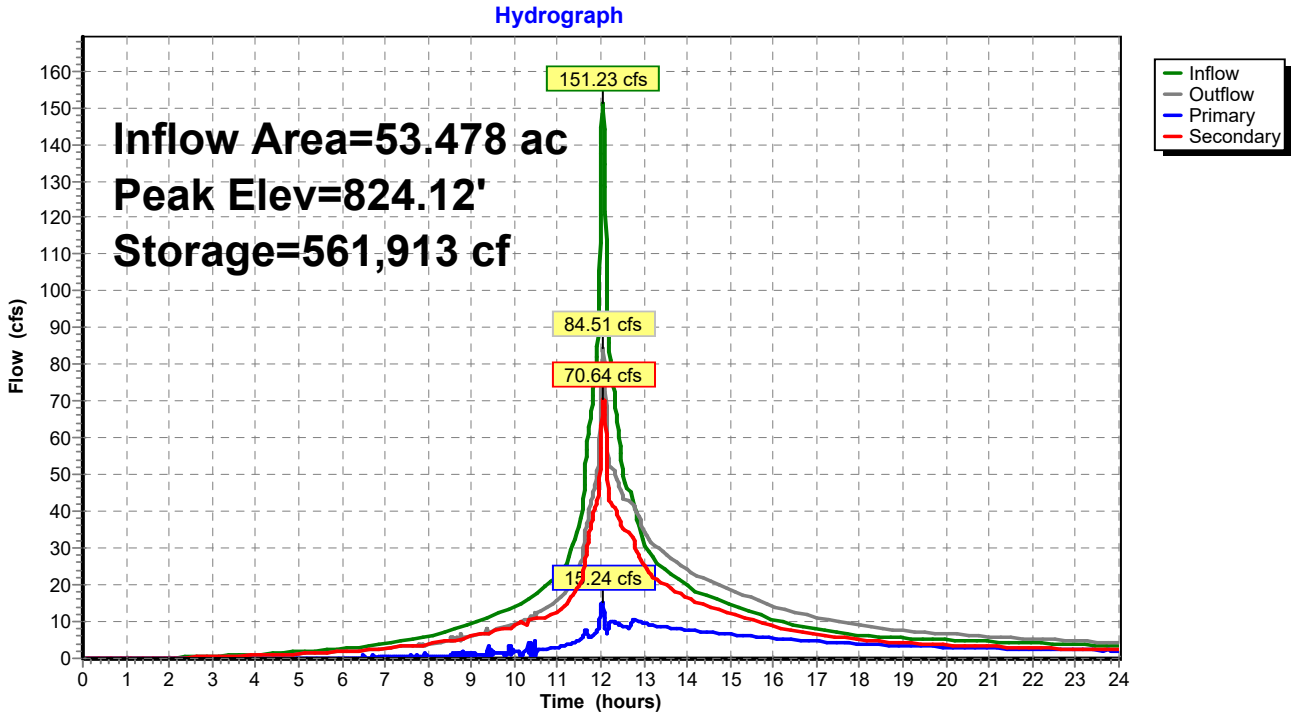
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
816.50	48,488	0	0
824.10	98,765	559,561	559,561
824.30	101,500	20,026	579,588

Device	Routing	Invert	Outlet Devices
#1	Primary	817.25'	**88.0" W x 54.0" H, R=45.0"/126.0" Pipe Arch Culvert** L= 104.0' Ke= 0.500 Inlet / Outlet Invert= 817.25' / 817.25' S= 0.0000 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 25.69 sf
#2	Secondary	821.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 3.30 4.00 Width (feet) 10.00 35.00 45.00

Primary OutFlow Max=15.19 cfs @ 12.03 hrs HW=823.59' TW=823.58' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 15.19 cfs @ 0.59 fps)

Secondary OutFlow Max=70.54 cfs @ 12.06 hrs HW=823.67' TW=823.59' (Dynamic Tailwater)
↑—**2=Custom Weir/Orifice** (Weir Controls 70.54 cfs @ 1.32 fps)

Pond SWP: SW Pond



Stage-Discharge for Pond SWP: SW Pond

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
816.50	0.00	0.00	0.00
816.60	0.00	0.00	0.00
816.70	0.00	0.00	0.00
816.80	0.00	0.00	0.00
816.90	0.00	0.00	0.00
817.00	0.00	0.00	0.00
817.10	0.00	0.00	0.00
817.20	0.00	0.00	0.00
817.30	0.00	0.00	0.00
817.40	0.00	0.00	0.00
817.50	0.00	0.00	0.00
817.60	0.00	0.00	0.00
817.70	0.00	0.00	0.00
817.80	0.00	0.00	0.00
817.90	0.00	0.00	0.00
818.00	0.00	0.00	0.00
818.10	0.00	0.00	0.00
818.20	0.00	0.00	0.00
818.30	0.00	0.00	0.00
818.40	0.00	0.00	0.00
818.50	0.00	0.00	0.00
818.60	0.00	0.00	0.00
818.70	0.00	0.00	0.00
818.80	0.00	0.00	0.00
818.90	0.00	0.00	0.00
819.00	0.00	0.00	0.00
819.10	0.00	0.00	0.00
819.20	0.00	0.00	0.00
819.30	0.00	0.00	0.00
819.40	0.00	0.00	0.00
819.50	0.00	0.00	0.00
819.60	0.00	0.00	0.00
819.70	0.00	0.00	0.00
819.80	0.00	0.00	0.00
819.90	0.00	0.00	0.00
820.00	0.00	0.00	0.00
820.10	0.00	0.00	0.00
820.20	0.00	0.00	0.00
820.30	0.00	0.00	0.00
820.40	0.00	0.00	0.00
820.50	0.00	0.00	0.00
820.60	0.00	0.00	0.00
820.70	0.00	0.00	0.00
820.80	0.00	0.00	0.00
820.90	0.00	0.00	0.00
821.00	0.00	0.00	0.00
821.10	0.00	0.00	0.00
821.20	0.00	0.00	0.00
821.30	0.00	0.00	0.00
821.40	0.00	0.00	0.00
821.50	0.00	0.00	0.00
821.60	0.00	0.00	0.00
821.70	0.00	0.00	0.00
821.80	0.00	0.00	0.00
821.90	0.00	0.00	0.00
822.00	0.00	0.00	0.00
822.10	0.00	0.00	0.00
822.20	0.00	0.00	0.00
822.30	68.24	39.11	29.12
822.40	99.43	55.31	44.12
822.50	125.47	67.74	57.73
822.60	149.27	78.22	71.05
822.70	171.95	87.46	84.49
822.80	194.05	95.80	98.24
822.90	215.90	103.48	112.43
823.00	237.74	110.62	127.11
823.10	259.69	117.33	142.35
823.20	281.87	123.68	158.19
823.30	304.37	129.72	174.66
823.40	327.26	135.49	191.77
823.50	350.58	141.02	209.56
823.60	374.38	146.34	228.04
823.70	398.70	151.48	247.23
823.80	423.58	156.45	267.13
823.90	449.04	161.26	287.78
824.00	475.10	165.94	309.17
824.10	501.80	170.48	331.32
824.20	529.16	174.91	354.24
824.30	557.18	179.23	377.95
824.40	585.92	183.45	402.47
824.50	615.47	187.57	427.90
824.60	645.90	191.61	454.29
824.70	677.24	195.56	481.68
824.80	709.54	199.43	510.11
824.90	742.84	203.23	539.61
825.00	**777.17**	**206.96**	**570.22**

Stage-Area-Storage for Pond SWP: SW Pond

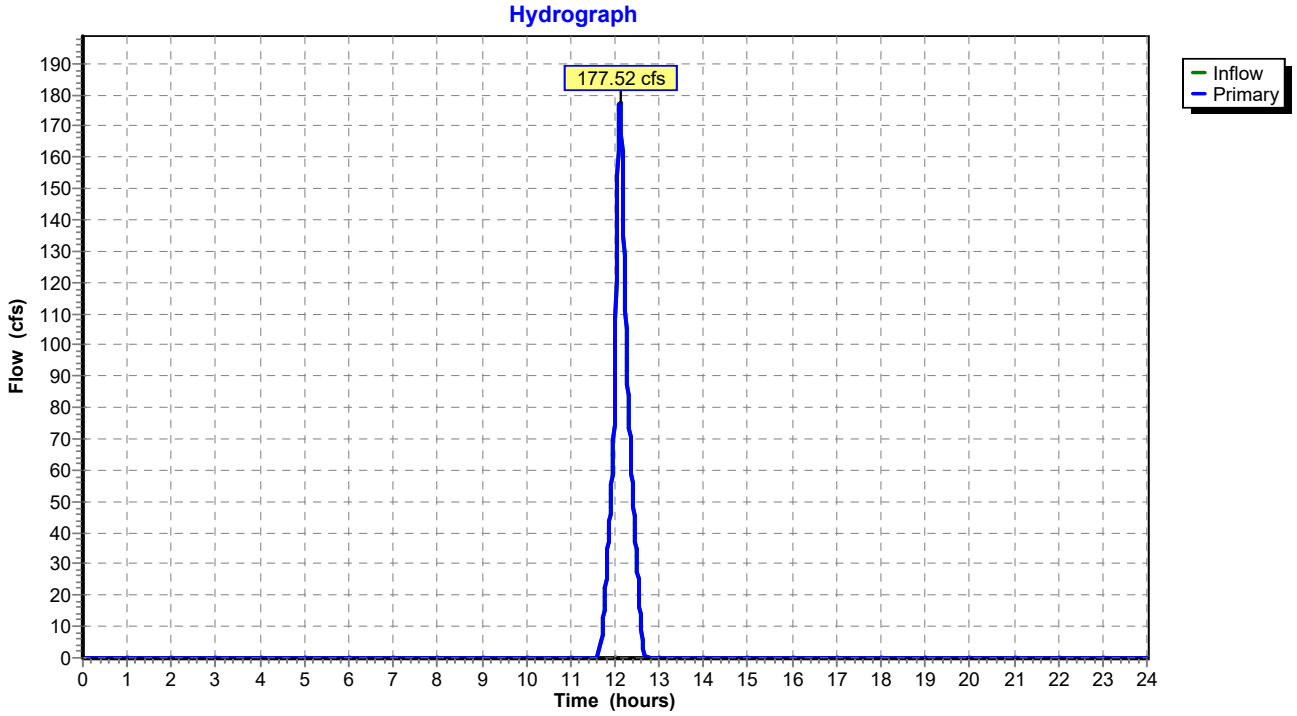
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
816.50	48,488	0
816.60	49,150	4,882
816.70	49,811	9,830
816.80	50,473	14,844
816.90	51,134	19,924
817.00	51,796	25,071
817.10	52,457	30,284
817.20	53,119	35,562
817.30	53,780	40,907
817.40	54,442	46,318
817.50	55,103	51,796
817.60	55,765	57,339
817.70	56,426	62,949
817.80	57,088	68,624
817.90	57,750	74,366
818.00	58,411	80,174
818.10	59,073	86,049
818.20	59,734	91,989
818.30	60,396	97,995
818.40	61,057	104,068
818.50	61,719	110,207
818.60	62,380	116,412
818.70	63,042	122,683
818.80	63,703	129,020
818.90	64,365	135,424
819.00	65,026	141,893
819.10	65,688	148,429
819.20	66,350	155,031
819.30	67,011	161,699
819.40	67,673	168,433
819.50	68,334	175,233
819.60	68,996	182,100
819.70	69,657	189,032
819.80	70,319	196,031
819.90	70,980	203,096
820.00	71,642	210,227
820.10	72,303	217,425
820.20	72,965	224,688
820.30	73,626	232,018
820.40	74,288	239,413
820.50	74,950	246,875
820.60	75,611	254,403
820.70	76,273	261,997
820.80	76,934	269,658
820.90	77,596	277,384
821.00	78,257	285,177
821.10	78,919	293,036
821.20	79,580	300,961
821.30	80,242	308,952
821.40	80,903	317,009
821.50	81,565	325,132
821.60	82,227	333,322
821.70	82,888	341,578
821.80	83,550	349,900
821.90	84,211	358,288
822.00	84,873	366,742
822.10	85,534	375,262
822.20	86,196	383,849
822.30	86,857	392,501
822.40	87,519	401,220
822.50	88,180	410,005
822.60	88,842	418,856
822.70	89,503	427,773
822.80	90,165	436,757
822.90	90,827	445,806
823.00	91,488	454,922
823.10	92,150	464,104
823.20	92,811	473,352
823.30	93,473	482,666
823.40	94,134	492,047
823.50	94,796	501,493
823.60	95,457	511,006
823.70	96,119	520,585
823.80	96,780	530,230
823.90	97,442	539,941
824.00	98,103	549,718
824.10	98,765	559,561
824.20	100,133	569,506
824.30	**101,500**	**579,588**
824.40	101,500	579,588
824.50	101,500	579,588
824.60	101,500	579,588
824.70	101,500	579,588
824.80	101,500	579,588
824.90	101,500	579,588
825.00	101,500	579,588

Summary for Pond X: OVERFLOW

Inflow = 177.52 cfs @ 12.12 hrs, Volume= 5.412 af
Primary = 177.52 cfs @ 12.12 hrs, Volume= 5.412 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9

Pond X: OVERFLOW



Events for Pond NP: North Pond

Event	Inflow (cfs)	Discarded (cfs)	Elevation (feet)	Storage (cubic-feet)
100-YR	**61.89**	**16.19**	**824.12**	**432,988**

Events for Pond SEP: SE Pond

Event	Inflow (cfs)	Discarded (cfs)	Elevation (feet)	Storage (cubic-feet)
100-YR	**231.62**	**47.97**	**824.12**	**861,700**

Events for Pond SWP: SW Pond

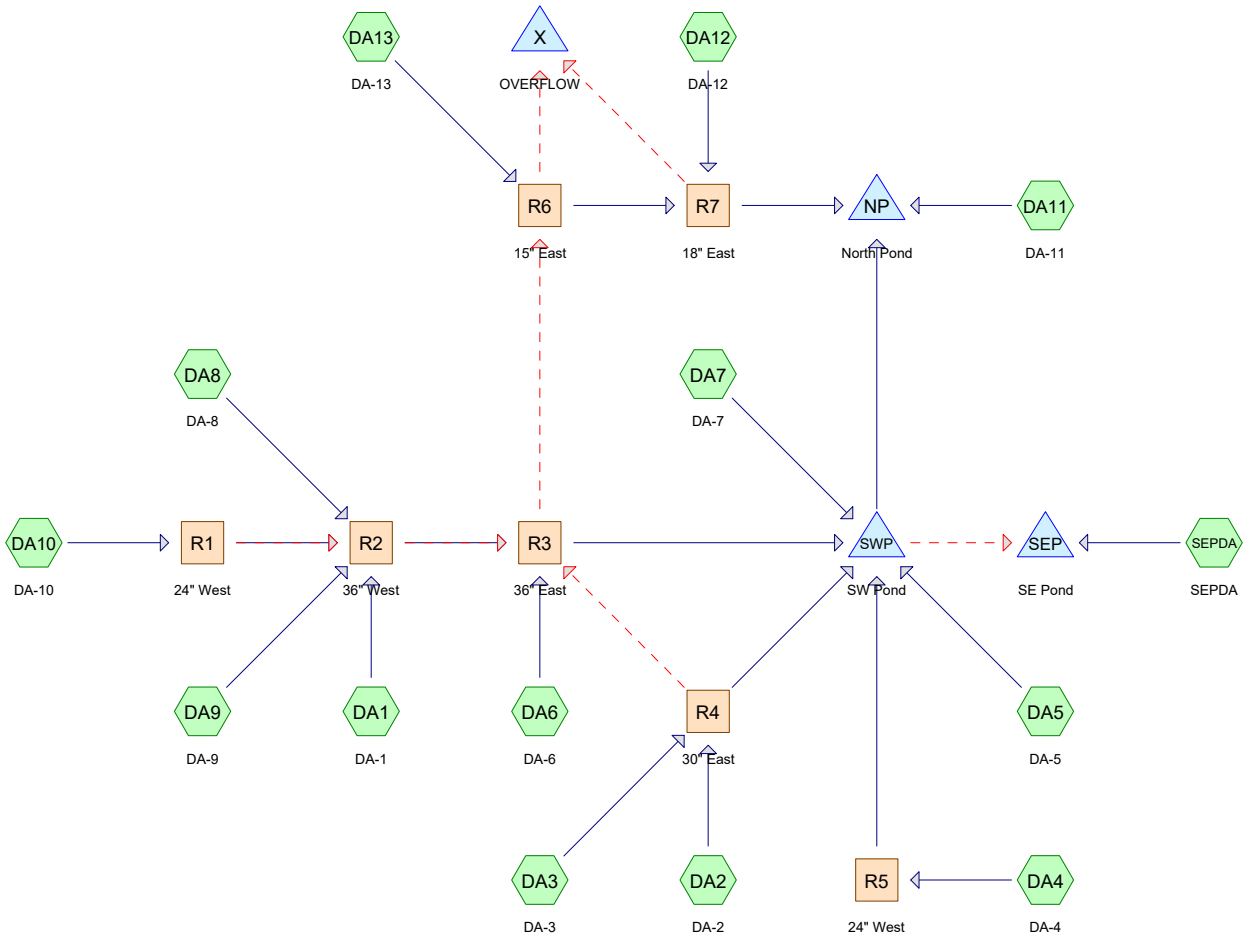
Event	Inflow (cfs)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Storage (cubic-feet)
100-YR	**151.23**	**84.51**	**15.24**	**70.64**	**824.12**	**561,913**

Events for Pond X: OVERFLOW

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
100-YR	**177.52**	**177.52**	**0.00**	**0.000**

Appendix D: Proposed HydroCAD

PROPOSED CONDITOINS



Subcat Reach Pond Link

Routing Diagram for 33428 POND ANALYSIS - PROPOSED
Prepared by I&S Group, Inc, Printed 2/24/2026
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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-YR	Type III 24-hr		Default	24.00	1	7.20	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
11.116	84	50-75% Grass cover, Fair, HSG D (DA10, DA6, DA9)
18.665	80	>75% Grass cover, Good, HSG D (DA1, DA2, DA3, DA4, SEPDA)
19.633	98	Paved parking, HSG D (DA10, DA11, DA5, DA7, SEPDA)
6.102	98	Paved roads w/curbs & sewers, HSG D (DA1, DA12, DA13, DA2, DA3, DA4, DA6, DA9)
15.186	93	Urban industrial, 72% imp, HSG D (DA13, DA6, DA8, DA9)
9.926	98	Water Surface, HSG D (DA11, DA5, SEPDA)
1.519	82	Woods/grass comb., Fair, HSG D (DA11)
3.715	79	Woods/grass comb., Good, HSG D (DA5)

Summary for Subcatchment DA11: DA-11

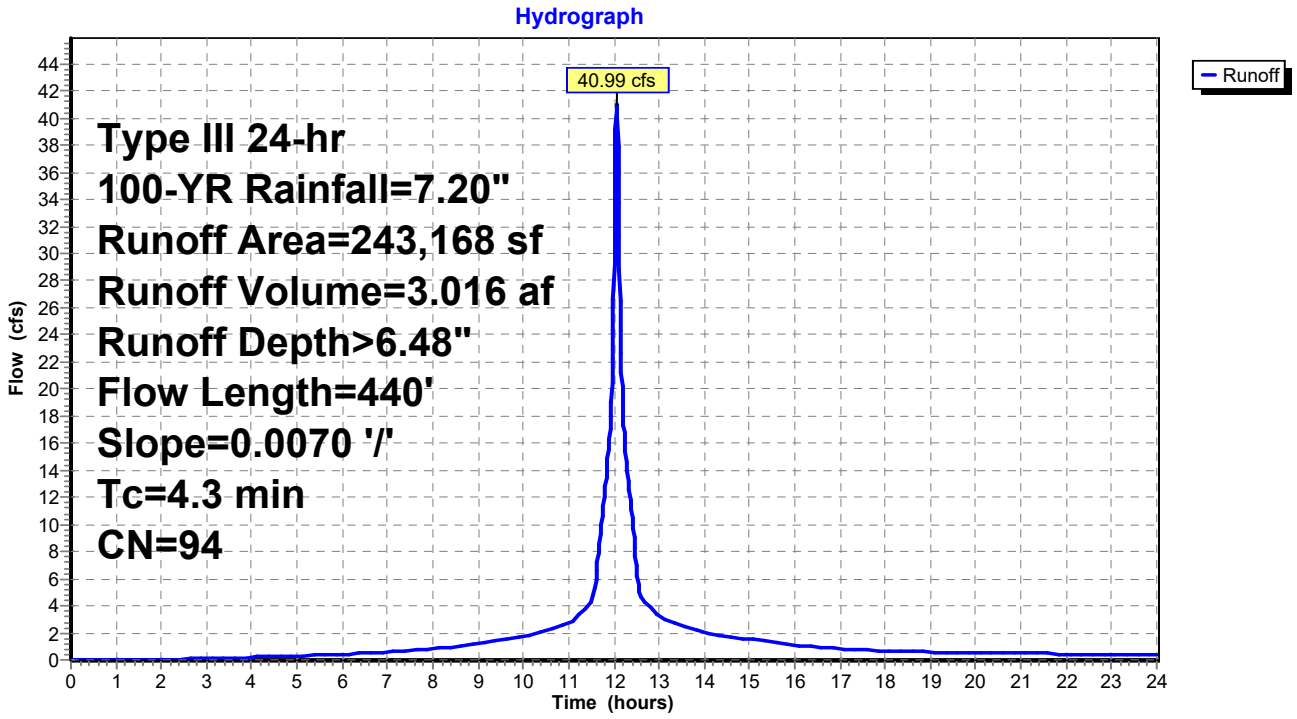
Runoff = 40.99 cfs @ 12.06 hrs, Volume= 3.016 af, Depth> 6.48"
Routed to Pond NP : North Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=7.20"

Area (sf)	CN	Description
74,450	98	Water Surface, HSG D
102,547	98	Paved parking, HSG D
66,171	82	Woods/grass comb., Fair, HSG D
243,168	94	Weighted Average
66,171		27.21% Pervious Area
176,997		72.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	440	0.0070	1.70		**Shallow Concentrated Flow, DA11** Paved Kv= 20.3 fps

Subcatchment DA11: DA-11



Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 9
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond NP: North Pond Peak Elev=824.11' Storage=432,125 cf Inflow=60.57 cfs 9.640 af
30.0" Round Culvert n=0.011 L=76.0' S=0.0259 '/' Outflow=16.01 cfs 8.261 af

Pond SEP: SE Pond Peak Elev=824.11' Storage=861,642 cf Inflow=232.82 cfs 26.573 af
Outflow=47.96 cfs 20.901 af

Pond SWP: SW Pond Peak Elev=824.12' Storage=561,903 cf Inflow=151.23 cfs 21.554 af
Primary=12.59 cfs 5.453 af Secondary=72.25 cfs 14.379 af Outflow=84.57 cfs 19.732 af

Pond X: OVERFLOW Inflow=177.52 cfs 5.412 af
Primary=177.52 cfs 5.412 af

Summary for Pond NP: North Pond

Inflow Area = 61.053 ac, 56.69% Impervious, Inflow Depth > 1.89" for 100-YR event
Inflow = 60.57 cfs @ 12.06 hrs, Volume= 9.640 af
Outflow = 16.01 cfs @ 12.70 hrs, Volume= 8.261 af, Atten= 74%, Lag= 38.4 min
Discarded = 16.01 cfs @ 12.70 hrs, Volume= 8.261 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9
Starting Elev= 822.20' Surf.Area= 65,509 sf Storage= 298,980 cf
Peak Elev= 824.11' @ 12.70 hrs Surf.Area= 74,239 sf Storage= 432,125 cf (133,145 cf above start)

Plug-Flow detention time= 738.9 min calculated for 1.397 af (14% of inflow)
Center-of-Mass det. time= 108.3 min (967.0 - 858.7)

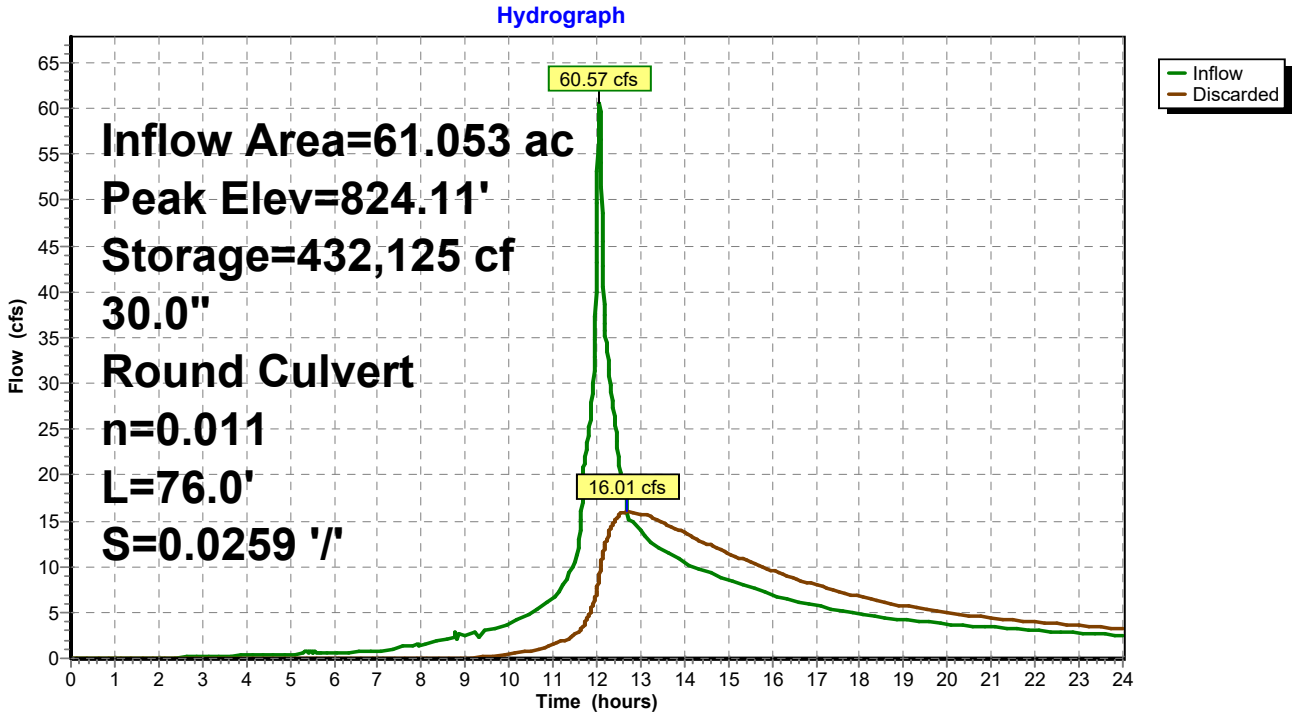
Volume	Invert	Avail.Storage	Storage Description
#1	816.50'	446,651 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
816.50	39,396	0	0
824.30	75,130	446,651	446,651

Device	Routing	Invert	Outlet Devices
#1	Discarded	822.39'	**30.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 822.39' / 820.42' S= 0.0259 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.91 sf

Discarded OutFlow Max=16.01 cfs @ 12.70 hrs HW=824.11' (Free Discharge)
↑**1=Culvert** (Inlet Controls 16.01 cfs @ 4.46 fps)

Pond NP: North Pond



Stage-Discharge for Pond NP: North Pond

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
816.50	0.00	819.10	0.00	821.70	0.00	824.30	18.94
816.55	0.00	819.15	0.00	821.75	0.00	824.35	19.68
816.60	0.00	819.20	0.00	821.80	0.00	824.40	20.42
816.65	0.00	819.25	0.00	821.85	0.00	824.45	21.14
816.70	0.00	819.30	0.00	821.90	0.00	824.50	21.86
816.75	0.00	819.35	0.00	821.95	0.00	824.55	22.56
816.80	0.00	819.40	0.00	822.00	0.00	824.60	23.24
816.85	0.00	819.45	0.00	822.05	0.00	824.65	23.89
816.90	0.00	819.50	0.00	822.10	0.00	824.70	24.52
816.95	0.00	819.55	0.00	822.15	0.00	824.75	25.11
817.00	0.00	819.60	0.00	822.20	0.00	824.80	25.65
817.05	0.00	819.65	0.00	822.25	0.00	824.85	**26.12**
817.10	0.00	819.70	0.00	822.30	0.00		
817.15	0.00	819.75	0.00	822.35	0.00		
817.20	0.00	819.80	0.00	822.40	0.00		
817.25	0.00	819.85	0.00	822.45	0.03		
817.30	0.00	819.90	0.00	822.50	0.09		
817.35	0.00	819.95	0.00	822.55	0.18		
817.40	0.00	820.00	0.00	822.60	0.31		
817.45	0.00	820.05	0.00	822.65	0.47		
817.50	0.00	820.10	0.00	822.70	0.66		
817.55	0.00	820.15	0.00	822.75	0.89		
817.60	0.00	820.20	0.00	822.80	1.15		
817.65	0.00	820.25	0.00	822.85	1.43		
817.70	0.00	820.30	0.00	822.90	1.75		
817.75	0.00	820.35	0.00	822.95	2.09		
817.80	0.00	820.40	0.00	823.00	2.47		
817.85	0.00	820.45	0.00	823.05	2.87		
817.90	0.00	820.50	0.00	823.10	3.29		
817.95	0.00	820.55	0.00	823.15	3.74		
818.00	0.00	820.60	0.00	823.20	4.22		
818.05	0.00	820.65	0.00	823.25	4.72		
818.10	0.00	820.70	0.00	823.30	5.25		
818.15	0.00	820.75	0.00	823.35	5.79		
818.20	0.00	820.80	0.00	823.40	6.36		
818.25	0.00	820.85	0.00	823.45	6.94		
818.30	0.00	820.90	0.00	823.50	7.55		
818.35	0.00	820.95	0.00	823.55	8.18		
818.40	0.00	821.00	0.00	823.60	8.82		
818.45	0.00	821.05	0.00	823.65	9.48		
818.50	0.00	821.10	0.00	823.70	10.15		
818.55	0.00	821.15	0.00	823.75	10.84		
818.60	0.00	821.20	0.00	823.80	11.54		
818.65	0.00	821.25	0.00	823.85	12.25		
818.70	0.00	821.30	0.00	823.90	12.97		
818.75	0.00	821.35	0.00	823.95	13.70		
818.80	0.00	821.40	0.00	824.00	14.44		
818.85	0.00	821.45	0.00	824.05	15.18		
818.90	0.00	821.50	0.00	824.10	15.93		
818.95	0.00	821.55	0.00	824.15	16.68		
819.00	0.00	821.60	0.00	824.20	17.43		
819.05	0.00	821.65	0.00	824.25	18.19		

Stage-Area-Storage for Pond NP: North Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
816.50	39,396	0
816.60	39,854	3,963
816.70	40,312	7,971
816.80	40,770	12,025
816.90	41,229	16,125
817.00	41,687	20,271
817.10	42,145	24,462
817.20	42,603	28,700
817.30	43,061	32,983
817.40	43,519	37,312
817.50	43,977	41,687
817.60	44,435	46,107
817.70	44,894	50,574
817.80	45,352	55,086
817.90	45,810	59,644
818.00	46,268	64,248
818.10	46,726	68,898
818.20	47,184	73,593
818.30	47,642	78,334
818.40	48,100	83,122
818.50	48,559	87,955
818.60	49,017	92,833
818.70	49,475	97,758
818.80	49,933	102,728
818.90	50,391	107,744
819.00	50,849	112,807
819.10	51,307	117,914
819.20	51,765	123,068
819.30	52,224	128,267
819.40	52,682	133,513
819.50	53,140	138,804
819.60	53,598	144,141
819.70	54,056	149,523
819.80	54,514	154,952
819.90	54,972	160,426
820.00	55,430	165,946
820.10	55,889	171,512
820.20	56,347	177,124
820.30	56,805	182,782
820.40	57,263	188,485
820.50	57,721	194,234
820.60	58,179	200,029
820.70	58,637	205,870
820.80	59,096	211,757
820.90	59,554	217,689
821.00	60,012	223,667
821.10	60,470	229,692
821.20	60,928	235,761
821.30	61,386	241,877
821.40	61,844	248,039
821.50	62,302	254,246
821.60	62,761	260,499
821.70	63,219	266,798
821.80	63,677	273,143
821.90	64,135	279,533
822.00	64,593	285,970
822.10	65,051	292,452
822.20	65,509	298,980
822.30	65,967	305,554
822.40	66,426	312,174
822.50	66,884	318,839
822.60	67,342	325,550
822.70	67,800	332,307
822.80	68,258	339,110
822.90	68,716	345,959
823.00	69,174	352,854
823.10	69,632	359,794
823.20	70,091	366,780
823.30	70,549	373,812
823.40	71,007	380,890
823.50	71,465	388,013
823.60	71,923	395,183
823.70	72,381	402,398
823.80	72,839	409,659
823.90	73,297	416,966
824.00	73,756	424,319
824.10	74,214	431,717
824.20	74,672	439,161
824.30	**75,130**	**446,651**
824.40	75,130	446,651
824.50	75,130	446,651
824.60	75,130	446,651
824.70	75,130	446,651
824.80	75,130	446,651

Summary for Pond SEP: SE Pond

Inflow Area = 24.809 ac, 48.32% Impervious, Inflow Depth > 12.85" for 100-YR event
Inflow = 232.82 cfs @ 12.08 hrs, Volume= 26.573 af
Outflow = 47.96 cfs @ 12.80 hrs, Volume= 20.901 af, Atten= 79%, Lag= 43.5 min
Discarded = 47.96 cfs @ 12.80 hrs, Volume= 20.901 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9
Starting Elev= 822.20' Surf.Area= 272,644 sf Storage= 319,148 cf
Peak Elev= 824.11' @ 12.80 hrs Surf.Area= 293,985 sf Storage= 861,642 cf (542,494 cf above start)

Plug-Flow detention time= 387.9 min calculated for 13.574 af (51% of inflow)
Center-of-Mass det. time= 156.2 min (950.1 - 793.9)

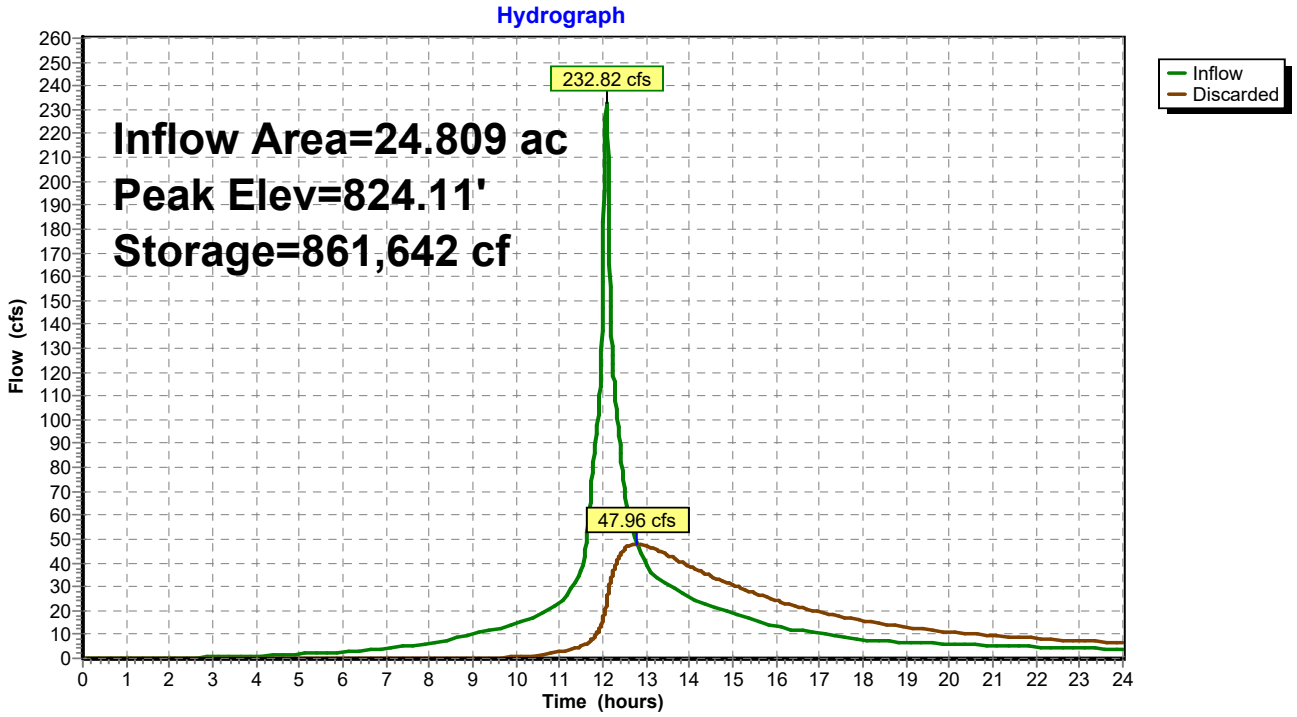
Volume	Invert	Avail.Storage	Storage Description
#1	821.00'	1,128,392 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
821.00	259,269	0	0
824.30	296,049	916,275	916,275
825.00	310,000	212,117	1,128,392

Device	Routing	Invert	Outlet Devices
#1	Discarded	822.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 1.50 2.50 Width (feet) 3.00 6.00 13.00 26.00

Discarded OutFlow Max=47.96 cfs @ 12.80 hrs HW=824.11' (Free Discharge)
↑**1=Custom Weir/Orifice** (Weir Controls 47.96 cfs @ 3.60 fps)

Pond SEP: SE Pond



Stage-Discharge for Pond SEP: SE Pond

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
821.00	0.00	822.04	0.00	823.08	6.36	824.12	48.29
821.02	0.00	822.06	0.00	823.10	6.76	824.14	49.58
821.04	0.00	822.08	0.00	823.12	7.18	824.16	50.90
821.06	0.00	822.10	0.00	823.14	7.62	824.18	52.24
821.08	0.00	822.12	0.00	823.16	8.06	824.20	53.60
821.10	0.00	822.14	0.00	823.18	8.52	824.22	54.99
821.12	0.00	822.16	0.00	823.20	9.00	824.24	56.41
821.14	0.00	822.18	0.00	823.22	9.49	824.26	57.85
821.16	0.00	822.20	0.00	823.24	9.99	824.28	59.31
821.18	0.00	822.22	0.00	823.26	10.51	824.30	60.81
821.20	0.00	822.24	0.00	823.28	11.05	824.32	62.32
821.22	0.00	822.26	0.00	823.30	11.59	824.34	63.87
821.24	0.00	822.28	0.00	823.32	12.16	824.36	65.45
821.26	0.00	822.30	0.00	823.34	12.74	824.38	67.05
821.28	0.00	822.32	0.00	823.36	13.33	824.40	68.68
821.30	0.00	822.34	0.00	823.38	13.94	824.42	70.33
821.32	0.00	822.36	0.00	823.40	14.56	824.44	72.02
821.34	0.00	822.38	0.00	823.42	15.20	824.46	73.73
821.36	0.00	822.40	0.00	823.44	15.86	824.48	75.48
821.38	0.00	822.42	0.00	823.46	16.53	824.50	77.25
821.40	0.00	822.44	0.00	823.48	17.21	824.52	79.05
821.42	0.00	822.46	0.00	823.50	17.92	824.54	80.89
821.44	0.00	822.48	0.00	823.52	18.64	824.56	82.75
821.46	0.00	822.50	0.00	823.54	19.37	824.58	84.64
821.48	0.00	822.52	0.03	823.56	20.12	824.60	86.56
821.50	0.00	822.54	0.08	823.58	20.89	824.62	88.52
821.52	0.00	822.56	0.15	823.60	21.68	824.64	90.50
821.54	0.00	822.58	0.24	823.62	22.48	824.66	92.52
821.56	0.00	822.60	0.34	823.64	23.29	824.68	94.57
821.58	0.00	822.62	0.45	823.66	24.13	824.70	96.64
821.60	0.00	822.64	0.57	823.68	24.98	824.72	98.76
821.62	0.00	822.66	0.71	823.70	25.85	824.74	100.90
821.64	0.00	822.68	0.86	823.72	26.74	824.76	103.07
821.66	0.00	822.70	1.02	823.74	27.64	824.78	105.28
821.68	0.00	822.72	1.19	823.76	28.56	824.80	107.52
821.70	0.00	822.74	1.38	823.78	29.50	824.82	109.80
821.72	0.00	822.76	1.57	823.80	30.46	824.84	112.10
821.74	0.00	822.78	1.78	823.82	31.43	824.86	114.44
821.76	0.00	822.80	2.00	823.84	32.42	824.88	116.82
821.78	0.00	822.82	2.23	823.86	33.44	824.90	119.23
821.80	0.00	822.84	2.48	823.88	34.46	824.92	121.67
821.82	0.00	822.86	2.73	823.90	35.51	824.94	124.14
821.84	0.00	822.88	3.00	823.92	36.57	824.96	126.65
821.86	0.00	822.90	3.28	823.94	37.66	824.98	129.20
821.88	0.00	822.92	3.57	823.96	38.76	825.00	**131.78**
821.90	0.00	822.94	3.88	823.98	39.88		
821.92	0.00	822.96	4.19	824.00	41.02		
821.94	0.00	822.98	4.52	824.02	42.18		
821.96	0.00	823.00	4.86	824.04	43.36		
821.98	0.00	823.02	5.22	824.06	44.56		
822.00	0.00	823.04	5.58	824.08	45.78		
822.02	0.00	823.06	5.96	824.10	47.02		

Stage-Area-Storage for Pond SEP: SE Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
821.00	259,269	0
821.05	259,826	12,977
821.10	260,384	25,983
821.15	260,941	39,016
821.20	261,498	52,077
821.25	262,055	65,166
821.30	262,613	78,282
821.35	263,170	91,427
821.40	263,727	104,599
821.45	264,284	117,800
821.50	264,842	131,028
821.55	265,399	144,284
821.60	265,956	157,568
821.65	266,514	170,879
821.70	267,071	184,219
821.75	267,628	197,586
821.80	268,185	210,982
821.85	268,743	224,405
821.90	269,300	237,856
821.95	269,857	251,335
822.00	270,414	264,842
822.05	270,972	278,376
822.10	271,529	291,939
822.15	272,086	305,529
822.20	272,644	319,148
822.25	273,201	332,794
822.30	273,758	346,468
822.35	274,315	360,169
822.40	274,873	373,899
822.45	275,430	387,657
822.50	275,987	401,442
822.55	276,544	415,255
822.60	277,102	429,097
822.65	277,659	442,966
822.70	278,216	456,862
822.75	278,774	470,787
822.80	279,331	484,740
822.85	279,888	498,720
822.90	280,445	512,729
822.95	281,003	526,765
823.00	281,560	540,829
823.05	282,117	554,921
823.10	282,674	569,041
823.15	283,232	583,188
823.20	283,789	597,364
823.25	284,346	611,567
823.30	284,904	625,798
823.35	285,461	640,058
823.40	286,018	654,345
823.45	286,575	668,659
823.50	287,133	683,002
823.55	287,690	697,373
823.60	288,247	711,771
823.65	288,804	726,197
823.70	289,362	740,651
823.75	289,919	755,133
823.80	290,476	769,643
823.85	291,034	784,181
823.90	291,591	798,747
823.95	292,148	813,340
824.00	292,705	827,962
824.05	293,263	842,611
824.10	293,820	857,288
824.15	294,377	871,993
824.20	294,934	886,726
824.25	295,492	901,486
824.30	296,049	916,275
824.35	297,045	931,102
824.40	298,042	945,979
824.45	299,038	960,906
824.50	300,035	975,883
824.55	301,031	990,910
824.60	302,028	1,005,986
824.65	303,024	1,021,113
824.70	304,021	1,036,289
824.75	305,017	1,051,515
824.80	306,014	1,066,790
824.85	307,011	1,082,116
824.90	308,007	1,097,491
824.95	309,004	1,112,917
825.00	**310,000**	**1,128,392**

Summary for Pond SWP: SW Pond

Inflow Area = 53.478 ac, 53.82% Impervious, Inflow Depth > 4.84" for 100-YR event
Inflow = 151.23 cfs @ 12.04 hrs, Volume= 21.554 af
Outflow = 84.57 cfs @ 12.06 hrs, Volume= 19.732 af, Atten= 44%, Lag= 1.0 min
Primary = 12.59 cfs @ 12.04 hrs, Volume= 5.453 af
Routed to Pond NP : North Pond
Secondary = 72.25 cfs @ 12.06 hrs, Volume= 14.379 af
Routed to Pond SEP : SE Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9
Starting Elev= 822.20' Surf.Area= 86,196 sf Storage= 383,849 cf
Peak Elev= 824.12' @ 12.77 hrs Surf.Area= 99,089 sf Storage= 561,903 cf (178,055 cf above start)

Plug-Flow detention time= 342.6 min calculated for 10.920 af (51% of inflow)
Center-of-Mass det. time= 53.7 min (841.7 - 788.0)

Volume	Invert	Avail.Storage	Storage Description
#1	816.50'	579,588 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

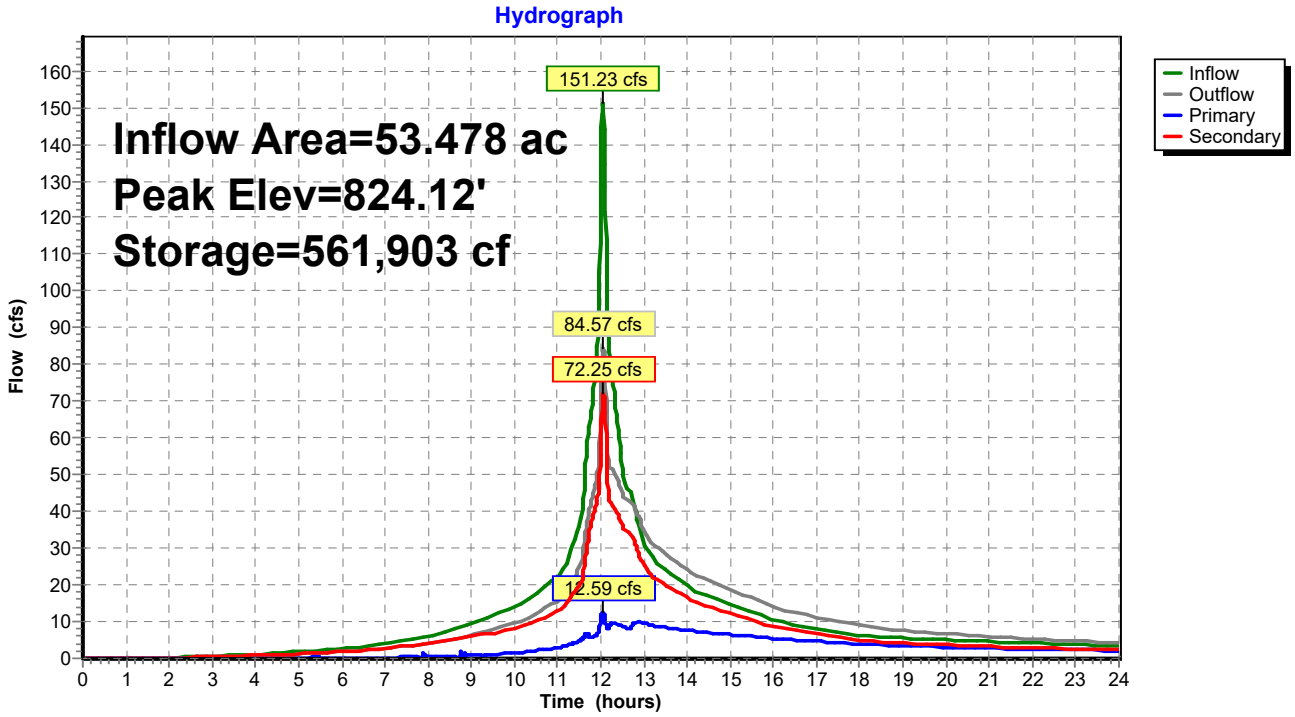
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
816.50	48,488	0	0
824.10	98,765	559,561	559,561
824.30	101,500	20,026	579,588

Device	Routing	Invert	Outlet Devices
#1	Primary	817.00'	**35.0" W x 24.0" H, R=17.9"/55.1" Pipe Arch Culvert** L= 104.0' Ke= 0.500 Inlet / Outlet Invert= 817.00' / 817.00' S= 0.0000 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.63 sf
#2	Primary	817.00'	**35.0" W x 24.0" H, R=17.9"/55.1" Pipe Arch Culvert** L= 104.0' Ke= 0.500 Inlet / Outlet Invert= 817.00' / 817.00' S= 0.0000 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.63 sf
#3	Primary	817.00'	**35.0" W x 24.0" H, R=17.9"/55.1" Pipe Arch Culvert** L= 104.0' Ke= 0.500 Inlet / Outlet Invert= 817.00' / 817.00' S= 0.0000 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.63 sf
#4	Secondary	821.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 3.30 4.00 Width (feet) 10.00 35.00 45.00

Primary OutFlow Max=12.56 cfs @ 12.04 hrs HW=823.62' TW=823.58' (Dynamic Tailwater)
- **1=Culvert** (Inlet Controls 4.19 cfs @ 0.90 fps)
- **2=Culvert** (Inlet Controls 4.19 cfs @ 0.90 fps)
- **3=Culvert** (Inlet Controls 4.19 cfs @ 0.90 fps)

Secondary OutFlow Max=72.18 cfs @ 12.06 hrs HW=823.66' TW=823.58' (Dynamic Tailwater)
- **4=Custom Weir/Orifice** (Weir Controls 72.18 cfs @ 1.35 fps)

Pond SWP: SW Pond



Stage-Discharge for Pond SWP: SW Pond

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
816.50	0.00	0.00	0.00
816.60	0.00	0.00	0.00
816.70	0.00	0.00	0.00
816.80	0.00	0.00	0.00
816.90	0.00	0.00	0.00
817.00	0.00	0.00	0.00
817.10	0.00	0.00	0.00
817.20	0.00	0.00	0.00
817.30	0.00	0.00	0.00
817.40	0.00	0.00	0.00
817.50	0.00	0.00	0.00
817.60	0.00	0.00	0.00
817.70	0.00	0.00	0.00
817.80	0.00	0.00	0.00
817.90	0.00	0.00	0.00
818.00	0.00	0.00	0.00
818.10	0.00	0.00	0.00
818.20	0.00	0.00	0.00
818.30	0.00	0.00	0.00
818.40	0.00	0.00	0.00
818.50	0.00	0.00	0.00
818.60	0.00	0.00	0.00
818.70	0.00	0.00	0.00
818.80	0.00	0.00	0.00
818.90	0.00	0.00	0.00
819.00	0.00	0.00	0.00
819.10	0.00	0.00	0.00
819.20	0.00	0.00	0.00
819.30	0.00	0.00	0.00
819.40	0.00	0.00	0.00
819.50	0.00	0.00	0.00
819.60	0.00	0.00	0.00
819.70	0.00	0.00	0.00
819.80	0.00	0.00	0.00
819.90	0.00	0.00	0.00
820.00	0.00	0.00	0.00
820.10	0.00	0.00	0.00
820.20	0.00	0.00	0.00
820.30	0.00	0.00	0.00
820.40	0.00	0.00	0.00
820.50	0.00	0.00	0.00
820.60	0.00	0.00	0.00
820.70	0.00	0.00	0.00
820.80	0.00	0.00	0.00
820.90	0.00	0.00	0.00
821.00	0.00	0.00	0.00
821.10	0.00	0.00	0.00
821.20	0.00	0.00	0.00
821.30	0.00	0.00	0.00
821.40	0.00	0.00	0.00
821.50	0.00	0.00	0.00
821.60	0.00	0.00	0.00
821.70	0.00	0.00	0.00
821.80	0.00	0.00	0.00
821.90	0.00	0.00	0.00
822.00	0.00	0.00	0.00
822.10	0.00	0.00	0.00
822.20	0.00	0.00	0.00
822.30	50.28	21.16	29.12
822.40	74.04	29.92	44.12
822.50	94.38	36.65	57.73
822.60	113.37	42.32	71.05
822.70	131.81	47.31	84.49
822.80	150.07	51.83	98.24
822.90	168.41	55.98	112.43
823.00	186.96	59.85	127.11
823.10	205.83	63.48	142.35
823.20	225.11	66.91	158.19
823.30	244.84	70.18	174.66
823.40	265.07	73.30	191.77
823.50	285.85	76.29	209.56
823.60	307.21	79.17	228.04
823.70	329.18	81.95	247.23
823.80	351.77	84.64	267.13
823.90	375.02	87.24	287.78
824.00	398.94	89.77	309.17
824.10	423.55	92.23	331.32
824.20	448.87	94.63	354.24
824.30	474.91	96.97	377.95
824.40	501.72	99.25	402.47
824.50	529.38	101.48	427.90
824.60	557.95	103.66	454.29
824.70	587.48	105.80	481.68
824.80	618.00	107.89	510.11
824.90	649.56	109.95	539.61
825.00	**682.18**	**111.97**	**570.22**

Stage-Area-Storage for Pond SWP: SW Pond

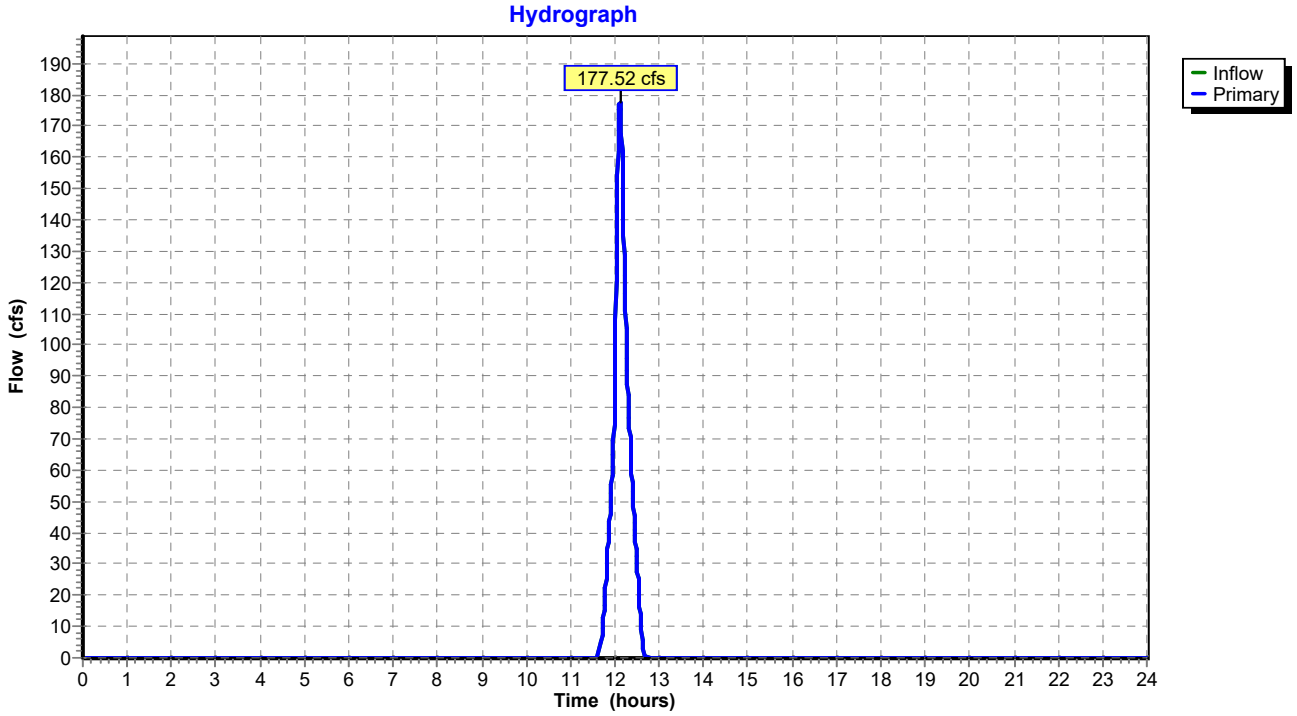
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
816.50	48,488	0
816.60	49,150	4,882
816.70	49,811	9,830
816.80	50,473	14,844
816.90	51,134	19,924
817.00	51,796	25,071
817.10	52,457	30,284
817.20	53,119	35,562
817.30	53,780	40,907
817.40	54,442	46,318
817.50	55,103	51,796
817.60	55,765	57,339
817.70	56,426	62,949
817.80	57,088	68,624
817.90	57,750	74,366
818.00	58,411	80,174
818.10	59,073	86,049
818.20	59,734	91,989
818.30	60,396	97,995
818.40	61,057	104,068
818.50	61,719	110,207
818.60	62,380	116,412
818.70	63,042	122,683
818.80	63,703	129,020
818.90	64,365	135,424
819.00	65,026	141,893
819.10	65,688	148,429
819.20	66,350	155,031
819.30	67,011	161,699
819.40	67,673	168,433
819.50	68,334	175,233
819.60	68,996	182,100
819.70	69,657	189,032
819.80	70,319	196,031
819.90	70,980	203,096
820.00	71,642	210,227
820.10	72,303	217,425
820.20	72,965	224,688
820.30	73,626	232,018
820.40	74,288	239,413
820.50	74,950	246,875
820.60	75,611	254,403
820.70	76,273	261,997
820.80	76,934	269,658
820.90	77,596	277,384
821.00	78,257	285,177
821.10	78,919	293,036
821.20	79,580	300,961
821.30	80,242	308,952
821.40	80,903	317,009
821.50	81,565	325,132
821.60	82,227	333,322
821.70	82,888	341,578
821.80	83,550	349,900
821.90	84,211	358,288
822.00	84,873	366,742
822.10	85,534	375,262
822.20	86,196	383,849
822.30	86,857	392,501
822.40	87,519	401,220
822.50	88,180	410,005
822.60	88,842	418,856
822.70	89,503	427,773
822.80	90,165	436,757
822.90	90,827	445,806
823.00	91,488	454,922
823.10	92,150	464,104
823.20	92,811	473,352
823.30	93,473	482,666
823.40	94,134	492,047
823.50	94,796	501,493
823.60	95,457	511,006
823.70	96,119	520,585
823.80	96,780	530,230
823.90	97,442	539,941
824.00	98,103	549,718
824.10	98,765	559,561
824.20	100,133	569,506
824.30	**101,500**	**579,588**
824.40	101,500	579,588
824.50	101,500	579,588
824.60	101,500	579,588
824.70	101,500	579,588
824.80	101,500	579,588
824.90	101,500	579,588
825.00	101,500	579,588

Summary for Pond X: OVERFLOW

Inflow = 177.52 cfs @ 12.12 hrs, Volume= 5.412 af
Primary = 177.52 cfs @ 12.12 hrs, Volume= 5.412 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9

Pond X: OVERFLOW



Events for Pond NP: North Pond

Event	Inflow (cfs)	Discarded (cfs)	Elevation (feet)	Storage (cubic-feet)
100-YR	**60.57**	**16.01**	**824.11**	**432,125**

Events for Pond SEP: SE Pond

Event	Inflow (cfs)	Discarded (cfs)	Elevation (feet)	Storage (cubic-feet)
100-YR	**232.82**	**47.96**	**824.11**	**861,642**

Events for Pond SWP: SW Pond

Event	Inflow (cfs)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Storage (cubic-feet)
100-YR	**151.23**	**84.57**	**12.59**	**72.25**	**824.12**	**561,903**

Events for Pond X: OVERFLOW

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
100-YR	**177.52**	**177.52**	**0.00**	**0.000**

Site Plan and Traffic Advisory Review Committee **1. 5.**

Meeting Date: 03/10/2026

Title

*****SITE PLAN AND TRAFFIC ADVISORY COMMITTEE REVIEW ONLY. Request of R Henry Construction on behalf of the owner, Door Engineering, Inc., for a Site Plan and Traffic Advisory Committee review for the construction of a new 30' X 70' pole building at 101 Power Drive.**

Applicant

The applicant is R Henry Construction, who is applying on behalf of the owner, Door Engineering, Inc.

Request

The applicant is seeking a Site Plan and Traffic Advisory Committee review for the construction of a new 30' X 70' accessory structure.

Location

The property is located at 101 Power Drive.

Existing Land Use

There is currently a primary structure on the subject site, and the site was reviewed for an accessory structure in November, 2025.

Other Board or Commission

A Site Plan and Traffic Advisory Committee review was conducted on November 4, 2025, for the construction of an accessory structure at the site. This proposal adds another structure.

Review

R Henry Construction, on behalf of the property owner, is seeking a Site Plan and Traffic Advisory Committee review for the installation of an additional 30' X 70' accessory structure. The property is located at 101 Power Drive.

In November 2025, the applicant sought approval to install Phase 1, a 30' X 70' accessory structure located on the easterly side of their lot. This proposal, Phase 2, seeks an additional 30' X 70' accessory structure located 50 feet to the south of the first structure.

The plans show the structure placed approximately 14'6" from the easterly property line on the current paved area. Drawings provided show overhead doors on each end of the new structure.

Attachments

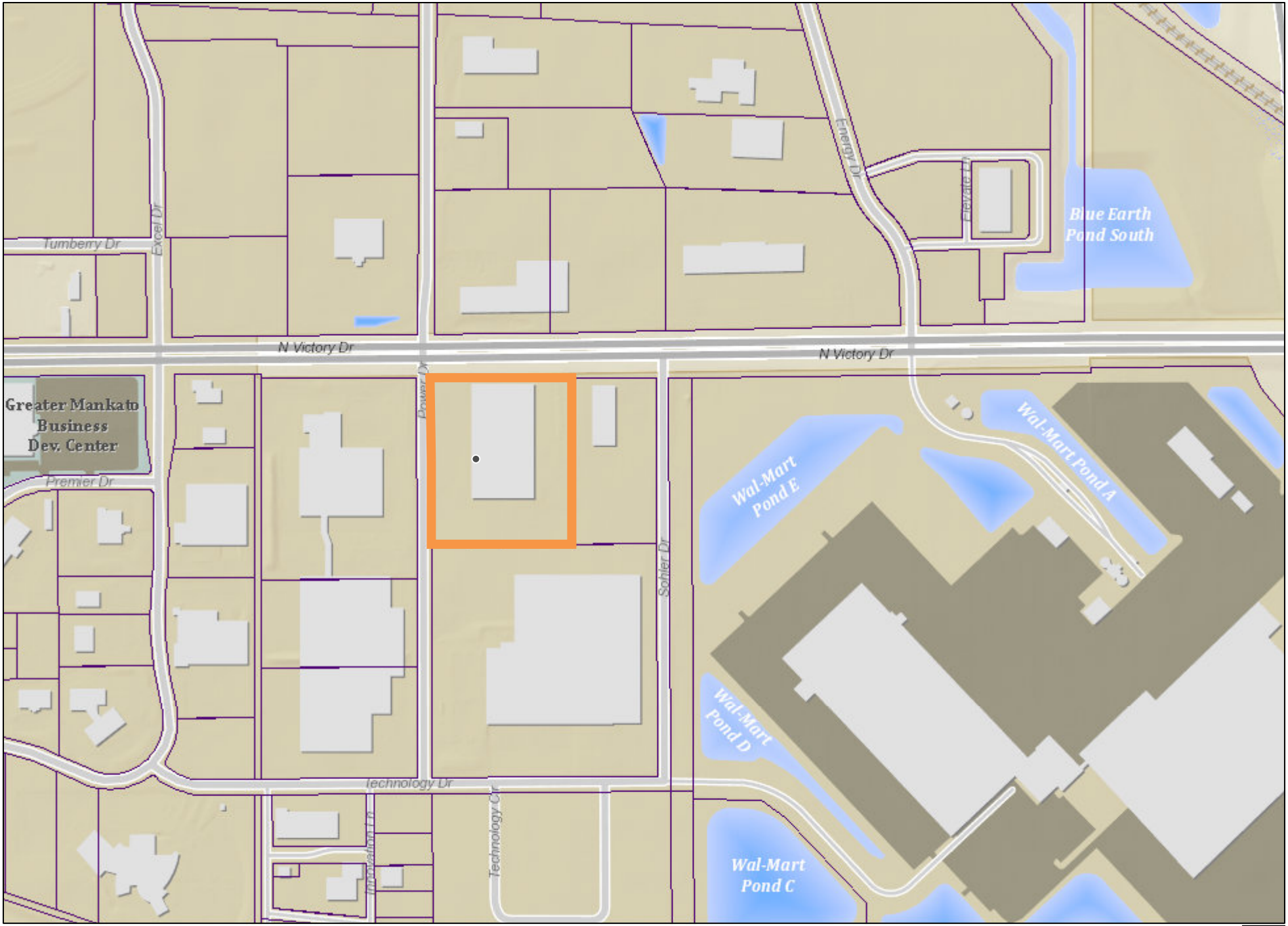
General Location Map

Aerial Plan

Site Plan

Building Plans

General Location Map



Date: March 2026

Author:

This information is to be used for reference purposes only. The City of Mankato does not guarantee accuracy of the material contained herein and is not responsible for misuse or misinterpretation.

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Aerial Map

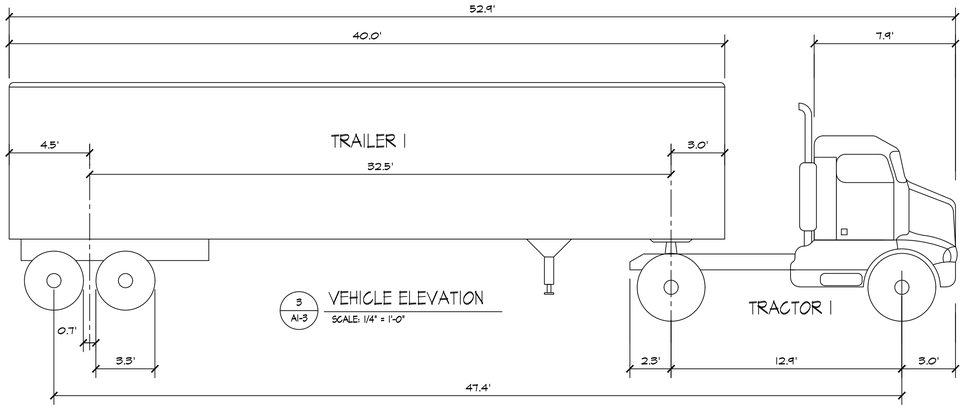


Date: March 2026

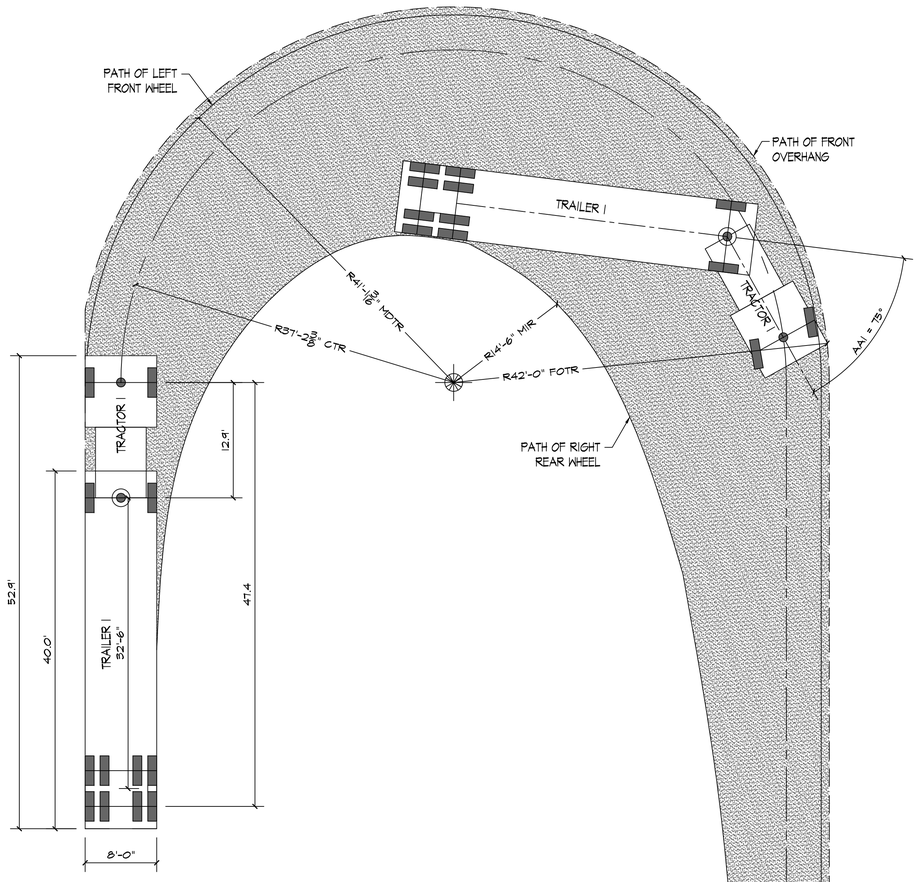
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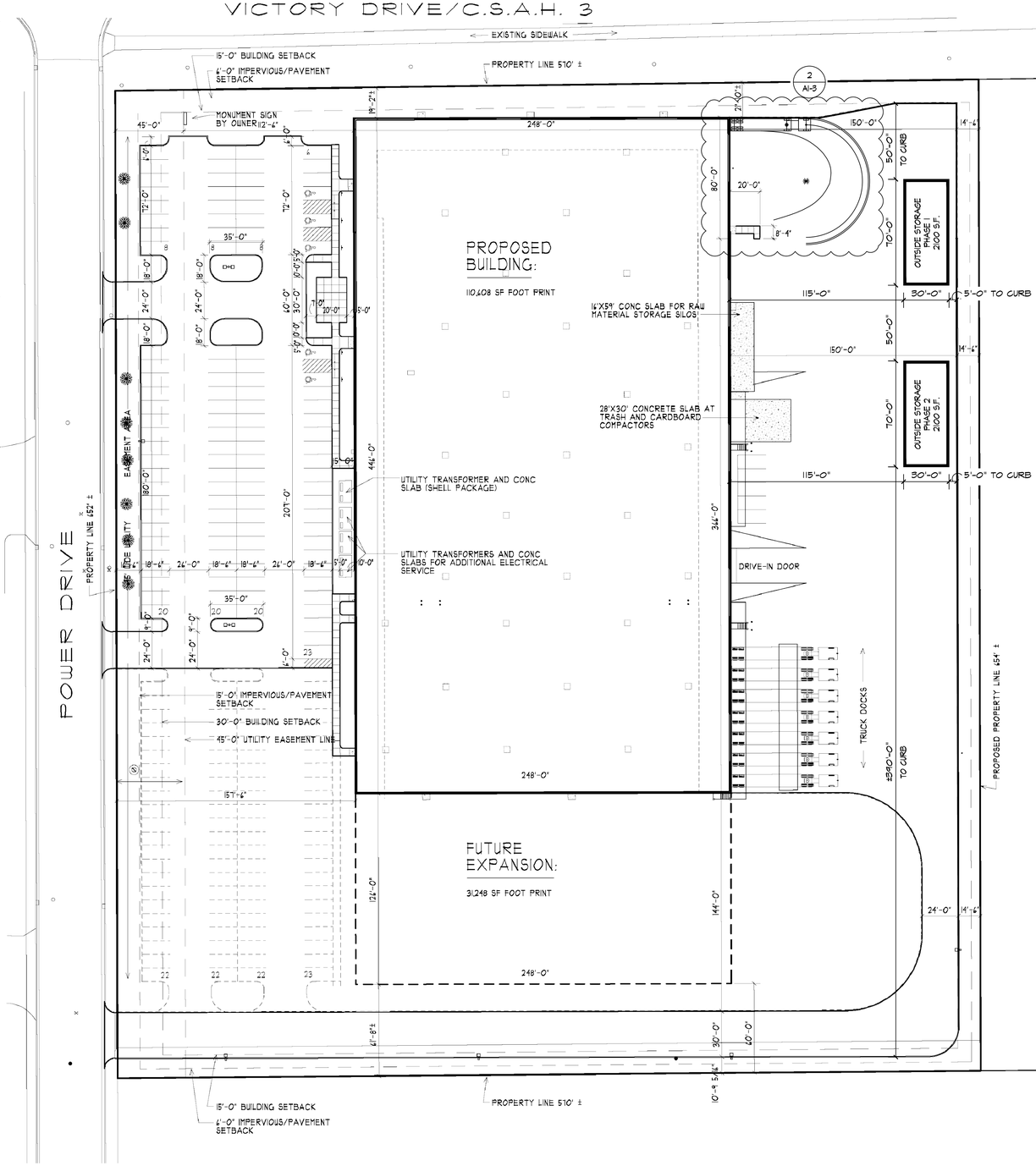
3 / A1-3 VEHICLE ELEVATION
SCALE: 1/4" = 1'-0"



- MAXIMUM STEERING ANGLE = 20.3°
- CTR = CENTERLINE TURNING RADIUS AT FRONT AXLE
- FOTR = FRONT OUTSIDE TURNING RADIUS ALONG THE PATH OF FRONT OVERHANG
- MDTR = MINIMUM DESIGN TURNING RADIUS ALONG THE PATH OF LEFT FRONT WHEEL
- MIR = MINIMUM INSIDE TURNING RADIUS ALONG THE PATH OF RIGHT REAR WHEEL
- AA1 = MAXIMUM ANGLE BETWEEN TRACTOR 1 AND TRAILER 1

FIGURE 60: TURNING TEMPLATE FOR RECOMMENDED INTERMEDIATE SEMITRAILER (WB-47) DESIGN

2 / A1-3 SCALE: 1/8" = 1'-0"



SITE PLAN 1 / A1-3
SCALE: 1" = 40'-0"

NORTH

20 0 80
40 0 40

BY	DATE	REVISIONS
JAC	02/14/13	ISSUED FOR SITEWORK BIDS
CLR	03/12/13	ISSUE FOR FINAL BIDDING AND PERMIT
CLR/JAC	04/11/13	ISSUE PER CITY COMMENTS AND ACCEPTED ALTERNATES/OWNER REVISIONS
CLR/JAC	07/1/13	REVISE WALL STAIR EYE WASH STATION TO BE BY OWNER PER CO #1 (T1-2)
CLR/JAC	08/07/13	REVISED TO INCLUDE ACCEPTED ALTERNATES/OWNER REVISIONS
CLR/JAC	09/06/13	VOID PROCESS PIPING TRENCH EQUIPMENT MODS
CLR/JAC	09/24/13	COORDINATION MODS DUE TO SPRINKLER LAYOUT MOVED FLUSHING
CLR/JAC	10/8/13	REVISIONS TO INTERIOR FINISHES PER OWNER REQUEST
CLR/JAC	04/07/14	ISSUE FOR AS-BUILT DOCUMENTS

DRAWN BY: JAC
CHECKED: CLR
APPROVED BY: CLR
ISSUE DATE: 03/12/13

PROJECT: PROPOSED NEW FACILITY FOR: CLIENT #12-01-0062
101 POWER DRIVE MANKATO, MN 56001

SITE PLAN
TENANT IMPROVEMENTS

APPRO DEVELOPMENT
21474 GRENADA AVE
LAKEVILLE, MN. 55044
PH: 952-469-2171
FAX: 952-469-2173
EMAIL: office@approdevelopment.com

PROJECT #: 12-01-0062

SHEET: A1-3
TENANT IMPROVEMENTS

Friday, April 04, 2014 9:32 PM

GENERAL SPECIFICATIONS

SITE WORK
THE SITE SHALL BE GRADED TO PROVIDE DRAINAGE AWAY FROM THE BUILDING. MAINTAIN THE GRADE LEVELS AROUND THE BUILDING FLOOR PLAN.

CONCRETE WORK
THE CONCRETE WORK SHALL CONSIST OF ALL NECESSARY PRECAST OR POUR-IN-PLACE CONCRETE AS PER BUILDING PLANS AND SECTIONS. THE CONCRETE SHALL MEET A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. ALL CONCRETE MIXES SHALL BE IN ACCORDANCE WITH ACI STANDARDS.

PRIMARY FRAMING COMPONENTS
TRUSSES: WOOD TRUSSES ARE SHOP/PLANT FABRICATED WITH CONNECTOR PLATES PER SPECIFICATIONS AND CONFORM WITH DESIGN CRITERIA ESTABLISHED BY THE TRUSS PLATE INSTITUTE (TPI) AND THE AMERICAN FOREST AND PAPER ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD (NDS). DC_ DETAILS.
RAFTERS: RAFTER SIZES AND TYPE ARE SHOWN PER BUILDING DRAWINGS.
COLUMNS: WOOD COLUMNS FOR ROOF, WALL AND FLOOR SUPPORT SHALL BE MULTI-PLY NAIL-LAMINATED. EACH PLY OF UPPER AND LOWER PORTIONS (IF REQUIRED) SHALL BE FACTORY JOINED BY GLUED FINGER JOINTS BEFORE COLUMN PLIES ARE NAILED TOGETHER. IF PLACED IN GROUND, LOWER PORTION OF COLUMN FOR 12 INCHES MINIMUM ABOVE GROUND SHALL BE PRESERVATIVE TREATED TO .6PCF RETENTION OF CHROMATED COPPER ARSENATE (CCA) TYPE C (OXIDE BASIS). SEE FLOOR PLAN AND CROSS SECTIONS FOR CORRECT SIZES.
WOOD STUDS: ALL STUD FRAMING SHALL BE #2 GRADE MINIMUM, PRIMARY FRAMING IS FACTORY CUT TO LENGTHS REQUIRED. STUDS MAY BE A SINGLE PLY/DOUBLE PLY 2X4, 2X6, OR 2X8 MATERIAL. LOCATE STUDS AT 16", 24" OR 48" O.C. AS SHOWN ON BUILDING DRAWINGS.

SECONDARY FRAMING
WOOD FRAMING: ALL WOOD FRAMING SHALL BE #2 GRADE MINIMUM. THE SPECIES WILL VARY PER AVAILABILITY AND PLANT LOCATION. THE SPECIES MAY BE #2 MC-19 DOUG FIR LARCH UNLESS SPECIFICALLY NOTED OTHERWISE ON BUILDING DRAWINGS.
HEADERS: HEADER SIZES AND TYPE ARE SHOWN PER BUILDING DRAWINGS.

OTHER
METAL CONNECTORS: ALL LIGHT GAUGE METAL CONNECTORS ARE GALVANIZED STEEL TO MEET OR EXCEED REQUIRED DESIGN STANDARDS.
WOOD: ALL NON PRESERVATIVE TREATED WOOD SHALL BE PLACED A MINIMUM OF 6 INCHES ABOVE FINISHED GRADE UNLESS SPECIFICALLY SHOWN LOWER ON CROSS SECTION(S).
FASTENERS: ALL FASTENERS SHALL BE PER BUILDING DRAWINGS AND DETAILS.

IMPORTANT DIAPHRAGM INFORMATION
THE BUILDING IS DESIGNED USING THE ROOF AS A DIAPHRAGM (DEEP THIN BEAM) TO TRANSFER SIDEWALL ENDWALL, AND ROOF LOADS TO THE SHEAR WALLS WHICH THEN CARRY THE LOADS TO THE FOUNDATION. STEEL PANELS ARE AN INTEGRAL PART OF THE BUILDING STRUCTURE AND ANY FUTURE FIELD MODIFICATIONS OF LESTER STEEL PANELS MAY BE DETRIMENTAL TO THE BUILDING'S STRUCTURAL PERFORMANCE. BUILDING DESIGN IS BASED ON THE NUMBER, SIZE AND LOCATION OF OPENINGS ON THE DRAWINGS.
LESTERS (LESTER, LESTERS, OR LESTER'S, IS LESTER BUILDING SYSTEMS L.L.C.) ASSUMES NO RESPONSIBILITY FOR THE STRUCTURAL INTEGRITY OF THE BUILDING IF ADDITIONAL OPENINGS, NOT SHOWN ON THE DRAWINGS OR CHANGES IN LOCATION OR SIZE OF OPENINGS ARE UNDERTAKEN WITHOUT WRITTEN PERMISSION FROM A LESTER ENGINEERING REPRESENTATIVE.

NOTES
SEE BUILDING DRAWINGS FOR OTHER SPECIFIC MATERIALS REQUIRED FOR SPECIFIC JOB THAT MAY NOT BE INDICATED WITHIN THIS SECTION.

NOTICE TO BUILDERS

MEMBERS WITH IDENTICAL LENGTHS MAY HAVE DIFFERENT END USES AND MAY BE OF DIFFERENT SPECIES.

TO HELP INSURE THE CORRECT LENGTH AND SPECIES OF LUMBER IS USED IN ITS INTENDED APPLICATION, A COLOR CODE SYSTEM HAS BEEN ESTABLISHED.

THIS APPLIES TO FACTORY CUT PURLINS, GIRTS, BOTTOM CHORD BRACES AND EAVE NAILERS ONLY!

RED — WALL GIRTS WILL HAVE ENDS PAINTED RED
BLACK — PURLINS WILL HAVE ENDS PAINTED BLACK
PINK — BOTTOM CHORD BRACES WILL HAVE ENDS PAINTED PINK
BLUE — EAVE NAILERS WILL HAVE ENDS PAINTED BLUE
ORANGE — HIGHER GRADE LUMBER IS SUBSTITUTED, ENDS PAINTED ORANGE

REVISIONS

SYM.	PAGE	DATE	DESCRIPTION	BY

LESTER BUILDINGS

LESTER BUILDINGS, LLC
TERRITORY MANAGER: JENNIFER WIGHT
PHONE: 320-395-5308 MOBILE:
E-MAIL: jwight@lesterbuildings.com
PROJ. MANAGER: Bryan Mickolichek PM PHONE: 800-826-4439 EXT 5242
DRAWN BY: Amanda Weibel EST PHONE: 800-826-4439 EXT 5235

⚠ IMPORTANT SAFETY INFORMATION

ACCOMPANYING THIS BUILDING AND THESE ERECTION DRAWINGS IS THE LESTER ERECTION SAFETY INFORMATION PACKET. DIRECTIONS ON THE PACKET ENVELOPE OUTLINE SPECIFIC STEPS THAT MUST BE TAKEN BEFORE BUILDING ERECTION BEGINS.

THE ERECTION SAFETY INSTRUCTIONS (INCLUDED IN THE PACKET) PROVIDE DETAILED INFORMATION AND INSTRUCTIONS TO ASSIST IN SAFE BUILDING ERECTION.

COPIES OF THE FOLLOWING WARNING LABELS ARE ALSO INCLUDED IN THE ERECTION SAFETY INFORMATION PACKET AND ON ROOF PANELS AND WOOD BUNDLES.



Wood Member Warning



Roof Panel Warning

NOTE:
THESE WARNINGS AND SAFETY INSTRUCTIONS ARE NOT INTENDED TO BE COMPLETE AND COMPREHENSIVE SAFETY INSTRUCTIONS AND MAY VARY FROM APPLICABLE LAWS AND REGULATIONS. ALL LOCAL, STATE, AND OSHA SAFETY REGULATIONS MUST BE FOLLOWED AT ALL TIMES. THE ERECTION CONTRACTOR HAS ULTIMATE RESPONSIBILITY FOR WORKER SAFETY AND MUST COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS.

COMBINED LUMBER GRADES

LESTER GROUPS NDS LUMBER TYPES WITH SIMILAR DESIGN VALUES INTO COMBINED LUMBER GRADES. BLD DESIGN IS BASED ON THE LOWEST DESIGN VALUE FOR ANY LUMBER IN THE GROUP. THE FOLLOWING CHART SHOWS THE SPECIFIC NDS SIZE/SPECIES/GRADE LUMBER TYPES THAT CAN BE USED FOR EACH COMBINED LUMBER GRADE.

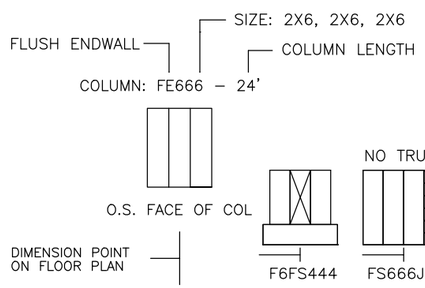
Combo 2x4 #2 Lester 2x4 #2 DFL or SYP 2x4 1250 1.4E MSR DFL or SYP 2x4 M9 & M29 DFL or SYP	Combo 2x6 #2 Lester 2x6 #2 DFL or SYP 2x6 1250 1.4E MSR DFL or SYP 2x6 M9 & M29 DFL or SYP	Combo 2x8 #2 Lester 2x8 #2 DFL or SYP 2x8 975 1.4E MSR DFL or SYP 2x6 M9 & M34 DFL or SYP
Combo 2x4 #1 Lester 2x4 #1 DFL or SYP 2x4 1500 1.6E MSR DFL or SYP 2x4 M14 & M39 DFL or SYP	Combo 2x6 #1 Lester 2x6 #1 DFL or SYP 2x6 1500 1.6E MSR DFL or SYP 2x6 M14 & M39 DFL or SYP	Combo 2x8 #1 Lester 2x8 #1 DFL or SYP 2x8 1200 1.6E MSR DFL or SYP 2x8 M14 & M29 DFL or SYP 2x8 M39 DFL or SYP
Combo 2x4 Premium Lester 2x4 SS DFL or SYP 2x4 1800 1.6E MSR DFL or SYP 2x4 M17 - M20 DFL or SYP 2x4 M40 DFL or SYP	Combo 2x6 Premium Lester 2x6 SS DFL or SYP 2x6 1800 1.6E MSR DFL or SYP 2x6 M17 - M20 DFL or SYP 2x6 M40 DFL or SYP	Combo 2x8 Premium Lester 2x8 SS DFL or SYP 2x8 1800 1.6E MSR DFL or SYP 2x8 M17 - M20 DFL or SYP 2x8 M40 DFL or SYP
Combo 2x4 M23/2400MSR 2x4 DSS SYP 2x4 2400 1.8E MSR DFL or SYP 2x4 M23 DFL or SYP	Combo 2x10 #1 Lester 2x10 #1 DFL or SYP 2x10 1050 1.6E MSR DF or SYP 2x10 M12 & M29 DFL or SYP 2x10 M35 DFL or SYP	Combo 2x10 Premium Lester 2x10 SS DFL or SYP 2x10 1650 1.6E MSR DF or SP 2x10 M17 - M20 DFL or SYP 2x10 M14, M39, M40 DF or SP

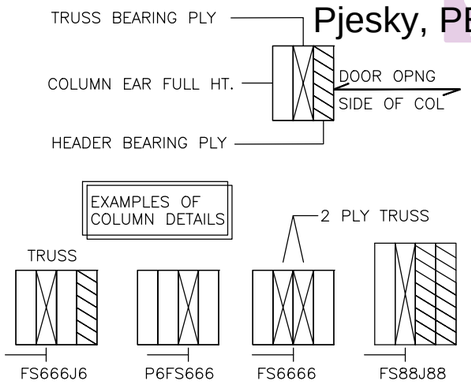
ABBREVIATIONS AND SYMBOLS

DIA OR ∅ -- DIAMETER
SF OR ⍁ -- SQUARE FEET
BLDG -- BUILDING
BRG -- BEARING
BTM -- BOTTOM
CC -- CEMENT COATED
COL -- COLUMN
CONC -- CONCRETE
DF -- DOUGLAS FIR
DGB -- DIAG. GABLE BRACE
E -- EXIT LIGHT
F -- FIRE EXTINGUISHER
FBO -- FURNISHED BY OTHERS (NOT BY LESTER BLDG SYS)
FDN -- FOUNDATION
FIN -- FINISH
FL -- FLOOR(ING)
FT -- FOOT OR FEET
FTG -- FOOTING
FO -- FINISH OPENING
GA -- GAUGE
GALV -- GALVANIZED
HDR -- HEADER
INT -- INTERMEDIATE
INS -- INSULATION
LB(S) -- POUNDS
℄ -- CENTERLINE
LF -- LINEAR FOOT
MO -- MASON OPENING
MSR -- MACHINE STRESS RATED LUMBER
MPH -- MILES PER HOUR
O.C. -- ON CENTER
OVHD -- OVERHEAD
OVHG -- OVERHANG
OPG -- OPENING
PB -- POLE BARN NAIL (RING SHANK)
RO -- ROUGH OPENING
PSI -- POUNDS PER SQUARE INCH
PSF -- POUNDS PER SQUARE FOOT
RS -- RING SHANK (NAIL)
SQ -- SQUARE
SYP -- SOUTHERN YELLOW PINE
T&G -- TONGUE AND GROOVE
TYP -- TYPICAL
TRTD -- TREATED
UNO -- UNLESS NOTED OTHERWISE
VB -- VAPOR BARRIER
WDO -- WINDOW
W/ -- WITH
W/O -- WITH OUT

COLUMN IDENTIFICATION KEY

FS = FLUSH SIDEWALL
FE = FLUSH ENDWALL
FG = FLUSH GLUED
HI = INTERIOR POCKET
F = FACE PLY
J = HEADER BEARING PLY
P = PLUS PLY





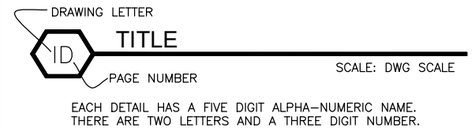
DESIGN LOADS

GROUND SNOW LOAD	50	PSF
ROOF SNOW LOAD	39.4	PSF
ROOF DEAD LOAD	4	PSF
IMP. FACTOR SNOW	1	
CEILING DEAD LOAD	5	PSF
FLOOR LIVE LOAD	N/A	PSF
ALLOWABLE WIND SPEED	90.9	MPH
ULTIMATE WIND SPEED	115; RISK CAT II	MPH
WARRANTY WIND SPEED	90.9	MPH
EXPOSURE	B	
SOIL BEARING	2000	PSF
CODE	IBC-2018	

GENERAL

OWNER: Door Engineering and Mfg, LLC
BLD ADDRESS: Mankato, MN
BUILDING USE: Storage
CONSTRUCTION: V-B
AREA: 2104 SF

DETAIL IDENTIFICATION



EACH DETAIL HAS A FIVE DIGIT ALPHA-NUMERIC NAME. THERE ARE TWO LETTERS AND A THREE DIGIT NUMBER.

F A 246
GROUP DIVISION DETAIL NUMBER

THE FIRST LETTER DESIGNATES A BROAD SUBJECT GROUP.
THE SECOND LETTER SHOWS A SUBDIVISION WITHIN THE GROUP.
THE THREE DIGIT NUMBER INDICATES A SPECIFIC DETAIL WITHIN THE DIVISION.

GROUP	SUBJECT
A	= ELEVATIONS & FLOOR PLANS
B	= WALL SECTIONS
C	= PANEL LAYOUTS IF REQUIRED
D	= ENGINEERING INFORMATION
E	= FOUNDATIONS
F	= WALL STRUCTURAL FRAMING
G	= STRUCTURAL HEADERS
H	= WALL OPENING FRAMING
I	= TRUSS (ROOF SUPPORT)
J	= BRACING
K	= EAVE TREATMENT (SIDES & ENDS)
L	= ROOF FINISH
M	= WALK DOORS AND WINDOWS
N	= SLIDING AND OVERHEAD DOORS
O	= EXTERIOR WALL FINISH
	= INTERIOR FINISH
	= ACCESSORIES

ALL DETAILS ARE ARRANGED IN ALPHABETICAL AND NUMERIC ORDER WITHIN THE STRUCTURAL & NON STRUCTURAL DETAIL SETS.

NO PAGE NUMBER IS GIVEN!!!

SYMBOL DESIGNATION

THE FOLLOWING SYMBOL DESIGNATIONS INDICATES THE DETAIL TO REFER TO FOR ADDITIONAL INFORMATION.

□ = STRUCTURAL ○ = NON-STRUCTURAL

CUSTOM DETAIL → GA-A
STANDARD DETAIL → GA310

PAGE	INDEX REFERENCE
1	BUILDING SPECIFICATIONS
2	ELEVATIONS
3	FLOOR PLAN
4	BUILDING SECTIONS
5	DETAILS TO END
6	.
7	.
8	.
9	.
10	.
11	.
12	.
13	.
14	.
15	.

MATERIAL SHORTAGES AND DAMAGE

CONTACT INFORMATION:

DIRECT DIAL:
(320) 395-5263

LESTER SWITCHBOARD/RECEPTIONIST:
(800) 826-4439 EXT. 5263

EMAIL:
orders@lesterbuildings.com

Digitally signed by Matthew Pjesky, PE
DN: O="Lester Building Systems, LLC", CN="Matthew Pjesky, PE", E=mjesky@lesterbuildings.com
Reason: I am approving this document
Location:
Date: 2025.09.29 10:29:48 -05'00'
Foxit PDF Reader Version: 12.1.3

Matthew Pjesky, PE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky
Name: Matthew Pjesky
Date: 09-29-25 License Number: 61670

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DA003 | ENG STAMP BOX - STRUCTURAL DESIGN FULL | 384 R2

DATE: 9/29/2025
SHEET 01 OF 15
JOB-NUMBER 633954
DRWN BY: Amanda x5235
CHKD BY:
REV NO: 0
JOB DESCRIPTION: 30'x70'x20'

CUSTOMER:
R. Henry Construction, Inc.
101 Power Dr
Mankato, MN 56001

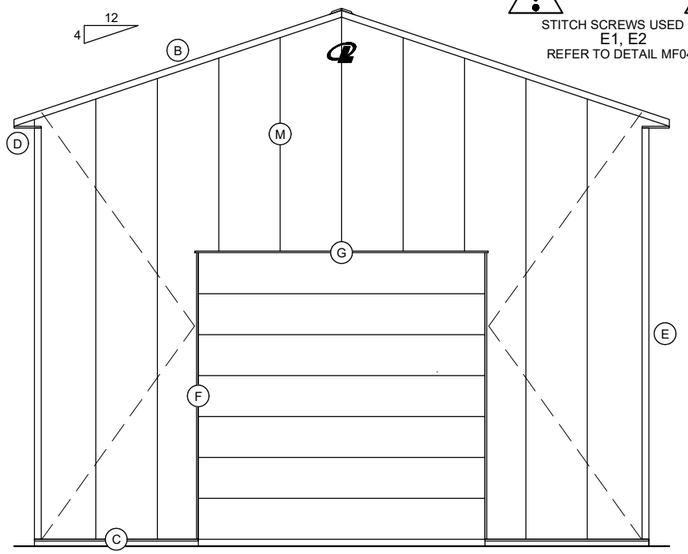
DEALER:
Jennifer Wight
25434 Cedar Lane
New Prague, MN 56071

LESTER BUILDING SYSTEMS, LLC.
TOLL-FREE: 800-826-4439
See Titleblock DRWN BY for Extension

ATTENTION

STITCH SCREWS USED ON E1, E2

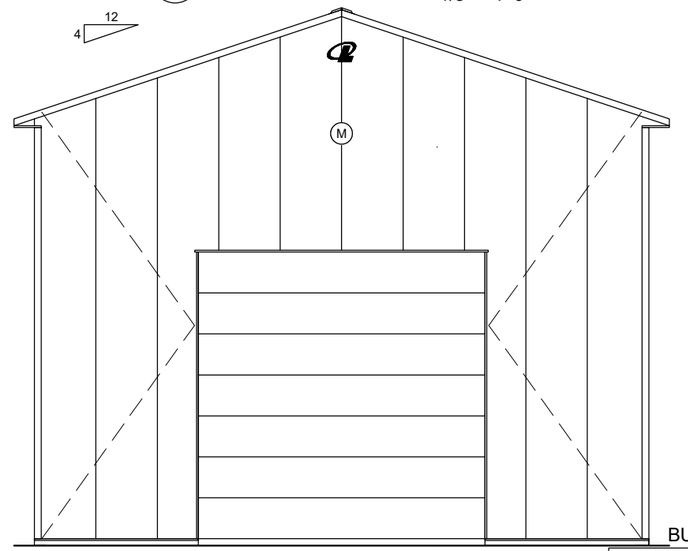
REFER TO DETAIL MF043

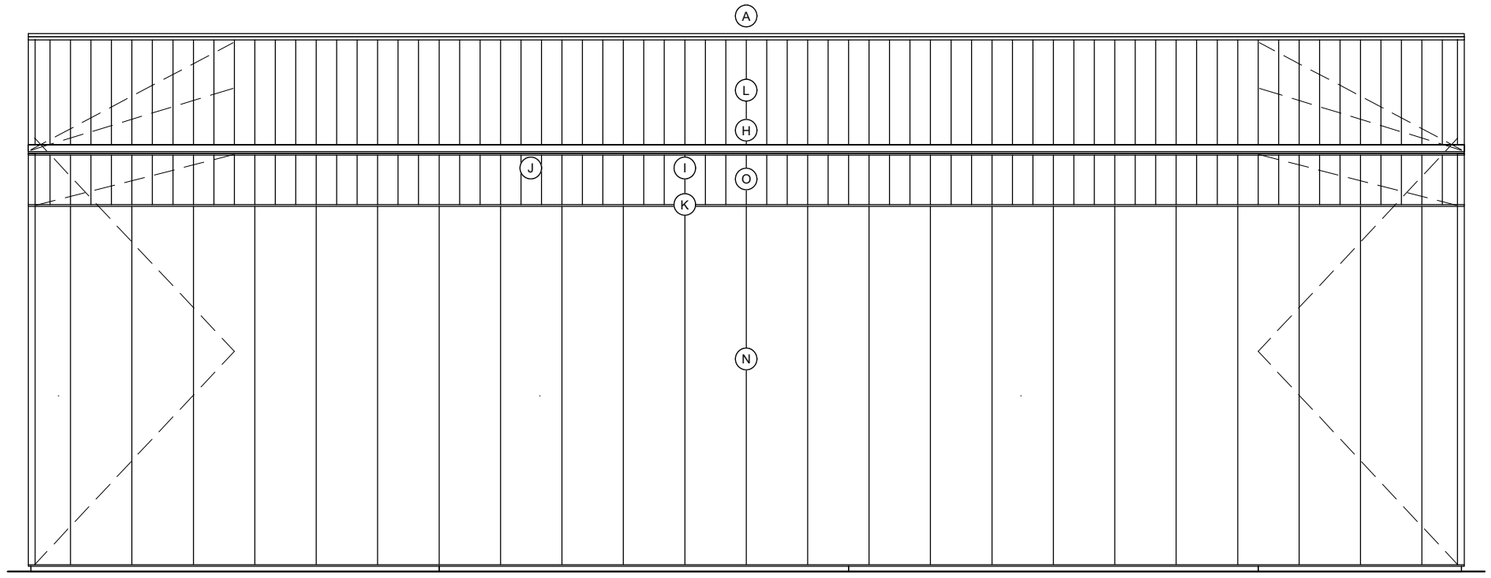


A1

A2 ENDWALL 1 ELEVATION

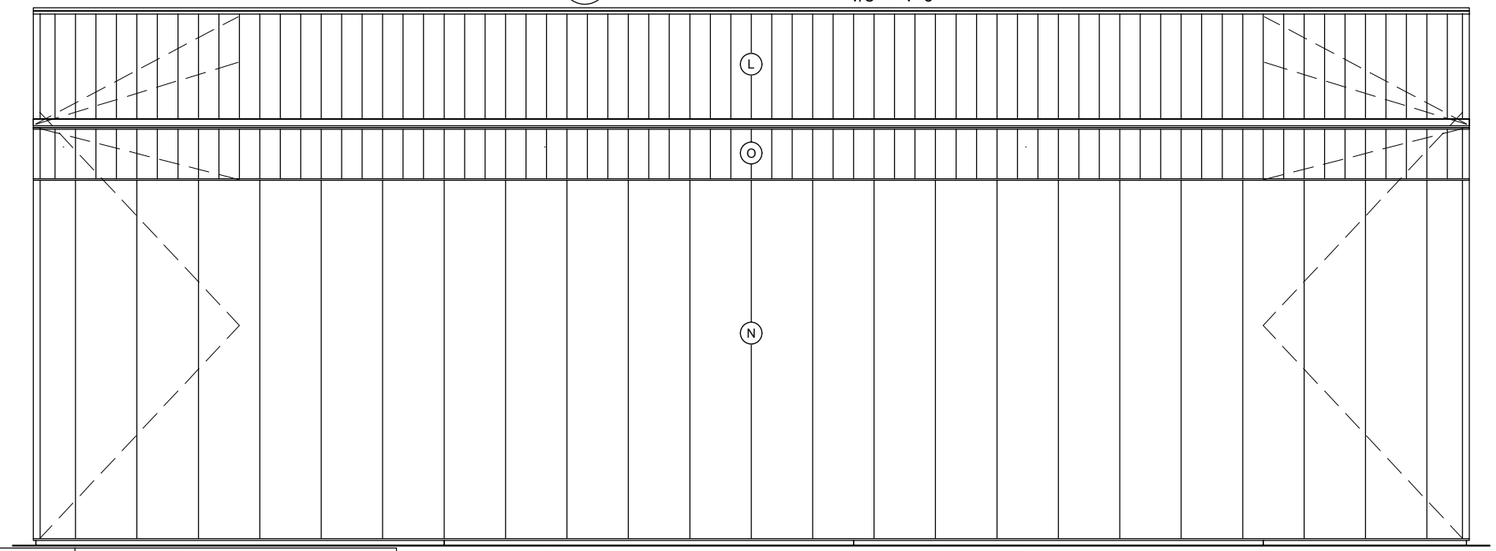
1/8" = 1'-0"





B2 SIDEWALL 1 ELEVATION

1/8" = 1'-0"



A1

C2 ENDWALL 2 ELEVATION

1/8" = 1'-0"

OPENING SCHEDULE

ID	MODEL	NOMINAL
A1	OVERHEADDOOR - FBO	168x168

BUILDING COLORS

ROOF METAL	CLAY
SIDEWALL	CLAY
ENDWALL	CLAY
GABLES	--
BASE	CLAY
CORNER	CLAY
EAVE/FASCIA	CLAY
GABLE/RAKE	CLAY
SOFFIT	CLAY
WAINSCOT	--
ACCENT PANEL	--
GABLE LOUVER	--
INSUL WL BATTEN	--
RIDGE CAP	CLAY
RIDGE VENT	--
CUPOLA ROOF	--
CUPOLA BODY	--
CUPOLA BASE	--
GUTTER	--
DOWNSPOUT	--
LEAN-TO ROOF	--
LEAN-TO CRWN/VBLK	--
LEAN-TO SOFT/CLG	--
CLEAR OPNG COL CVR	--
CLEAR OPNG TR	--
CURTAIN OPNG TR	--
BOX STALL GRILLS	--
SLDG DR PANEL	--
SLDG DR JAMB TR	--
SLDG DR TRACK	--
SLDG DR VERTS	--
SLDG DR BTM GIRT	--
OVHD DR PANEL	--
OVHD DR TRIM	CLAY
WALK DR	--
WALK DR TRIM	--
WINDOW	--
WINDOW TRIM	--
SHUTTERS	--
SIG DR FIELD	--
SIG DR TRIM	--
SIG DR JAMB TR	--
SIG DR WINDOW	--
SIG DR TRACK	--
LARGE DOOR	--
LARGE DOOR TRIM	--
DUTCH DR FRAME	--
DUTCH DR INSERT	--
DUTCH DR TRIM	--
SHINGLES	--
MANSARD ROOF	--
MANSARD EAVE	--
MANSARD SOFFIT	--
MODERRA	--

D2 SIDEWALL 2 ELEVATION

1/8" = 1'-0"

FINISH SCHEDULE

ID	LOCATION	DESCRIPTION	DETAILS
	FINISH	ELEVATIONS ARE NOT FOR PANEL LAYOUT	
	FINISH	SEE PANELGEN REPORTING FOR ACTUAL LAYOUT	
A	RIDGE TRIM	#152 VENTED RIDGECAP	OA050, JF707
B	RAKE TRIM	#820 RAKE AND CORNER	JF330, MF530
C	BASE TRIM	#190 BOTTOM CLOSURE	MF113, MF142
D	SOFFIT END TRIM	#190 BOTTOM CLOSURE	MF562
E	CORNER TRIM	#820 RAKE AND CORNER	MF511
F	OVHD DR TRIM	#890 SIDE JAMB C TRIM	LK424
G	OVHD DR TRIM	#260 J TRIM	LK424
H	EAVE TRIM	#170 STANDARD EAVE	JF154
I	EAVE TRIM	#672 FASCIA WITH STIFFENER	JF153, MF548
J	SOFFIT	#107 FJJ SOFFIT 1"/.375"THR	MF724, IF642
K	WALL SPLICE	#230 Z-TRIM	MF359
L	R1, R2	FINISH: UNI-RIB 28GA - AZ50 SMP	JF044
M	E1, E2	FINISH: UNI-RIB 28GA - AZ50 SMP (STITCHED)	MF043
N	S1, S2	FINISH: UNI-RIB 28GA - AZ50 SMP	MF044
O	S1, S2	EAVELITE: UNI-RIB EAVE LITE PANEL	MF045

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

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DA003 | ENG STAMP BOX – STRUCTURAL DESIGN FULL | 384 R2

AE633954 | TITLE1 TITLE2 | 4 PRE

DATE: 9/29/2025

JOB–NUMBER 633954

SHEET 02 OF 15

DRWN BY: Amanda x5235

CHKD BY:

REV NO: 0

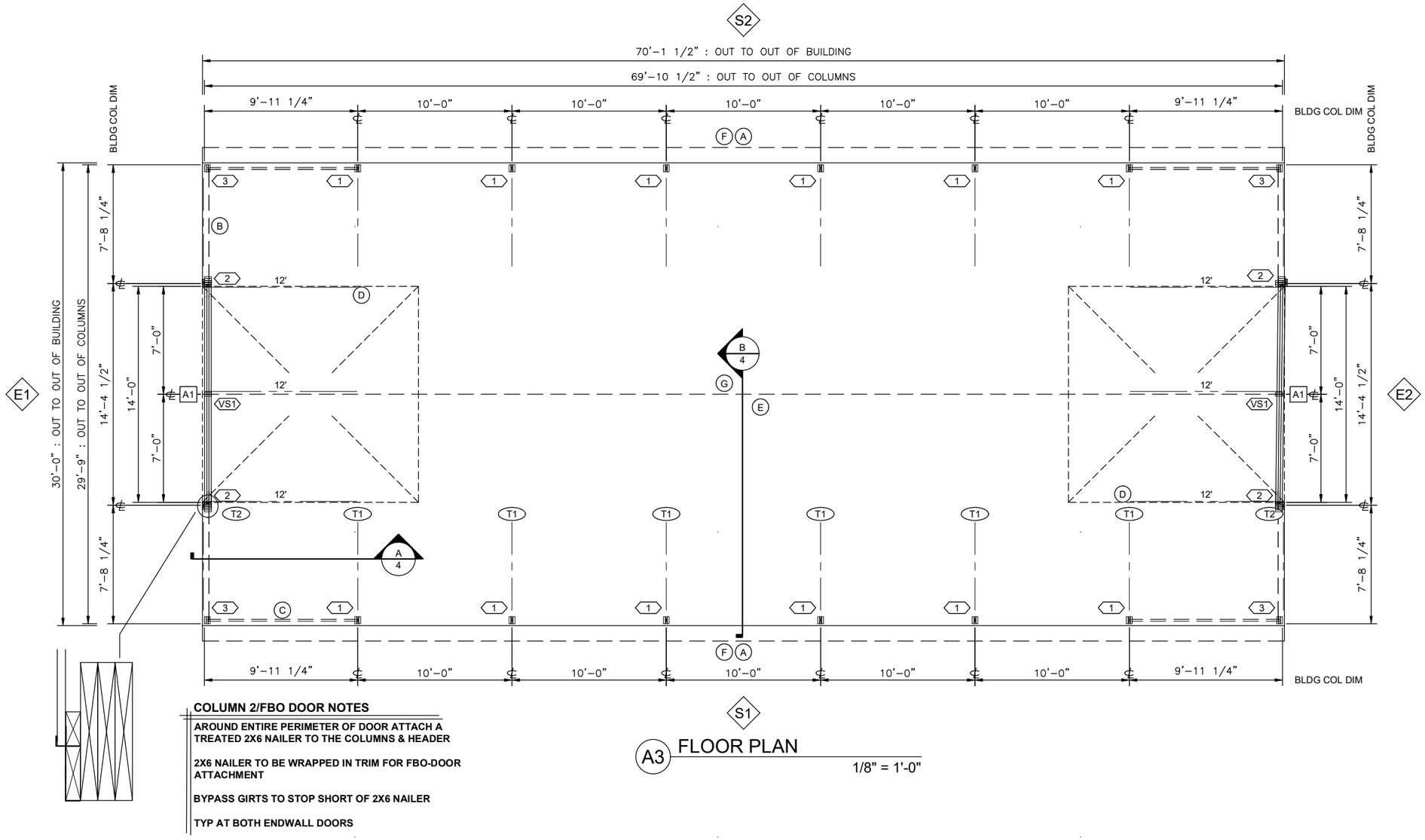
JOB DESCRIPTION: 30'x70'x20'

CUSTOMER: R. Henry Construction, Inc.
101 Power Dr
Mankato, MN 56001

DEALER: Jennifer Wight
25434 Cedar Lane
New Prague, MN 56071

LESTER BUILDING SYSTEMS, LLC.
TOLL-FREE: 800-826-4439

See Titleblock DRWN BY for Extension



COLUMN 2/FBO DOOR NOTES

AROUND ENTIRE PERIMETER OF DOOR ATTACH A TREATED 2X6 NAILER TO THE COLUMNS & HEADER

2X6 NAILER TO BE WRAPPED IN TRIM FOR FBO-DOOR ATTACHMENT

BYPASS GIRTS TO STOP SHORT OF 2X6 NAILER

TYP AT BOTH ENDWALL DOORS

NOTES

FASTEN T2 GABLE TRUSS TO EW COLUMN W/6" FLATLOK SCREWS
(4) AT TC
(4) AT BC
(1) VERTICAL WEB AT EVERY 12" O.C.

FASTEN T2 GABLE TRUSS HEELS TO CORNER COLUMNS W/(6) 4.5" FLATLOKS

REF DETAIL FF300 USE SCREWS INSTEAD OF NAILS

TYP BOTH EW

FLOOR PLAN SCHEDULE

ID	DESCRIPTION	DETAILS
	76'-3 1/4" DIAGONAL OUT-OUT OF FRAMING	
	TRUSS SPACING FROM ENDWALL 1: 1@120.75; 5@120; 1@120.75	
A	12" OVERHANG S1, S2	IF222
B	2x4 WALL DIAG BRACE	HA526
C	2x4 EAVE SHEAR BRACE	HA550
D	2x6 DIAGONAL GABLE BRACE	HB100
E	#152 VENTED RIDGECAP	OA050
F	EAVE DIAPHRAGM HARDWARE	IF202
G	RIDGE DIAPHRAGM HARDWARE	GA442

ROOF FRAMING SCHEDULE

ID	PART	DESCRIPTION	DETAILS
T1	C001	1-PLY 30'-0" TRUSS 2x10 TC / 2x8 BC	HD631
T2	C002	1-PLY 30'-0" GABLE TRUSS 2x8 TC / 2x6 BC	FF300
H1	C012	3-PLY 1-1/4x14 LVL 171-00 HEADER	FO380
		BEARING: 168-08 - BEAM POCKET: 5.38 x 11.75	

COLUMN SCHEDULE

COLUMN					FOOTING				ANCHOR		
ID	PART	SHAPE	LENGTH	BASE	SIZE	TYPE	YDS/BGS	DET	TYPE	BRS/BLTS	DET
1	C003	FS666	28-00-00	-64	8x30	POURED	0.1212	EF203	BLOCK	-	EF211
2	C011	J6FE6666	30-00-00	-58	8x24	POURED	0.0436	EF203	BLOCK	-	EF211
3	C004	FE666	28-00-00	-61	8x18	POURED	0.0436	EF203	BLOCK	-	EF211
VS1	695162	FE66	12-00-00	169.5	-	TRUSS	-	-	-	-	HB660

OPENING SCHEDULE

ID	MODEL	COLOR	NOMINAL	ROUGH	FRAME DET	FINISH DET
A1	OVERHEADDOOR - FBO		168"x168"		LK253	LK424

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

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DA003 | ENG STAMP BOX – STRUCTURAL DESIGN FULL | 384 R2

AP633954 | TITLE1 TITLE2 | 4 PRE

DATE: 9/29/2025 | SHEET 03 OF 15

JOB–NUMBER 633954

DRWN BY: Amanda x5235 | CHKD BY: . | REV NO: 0

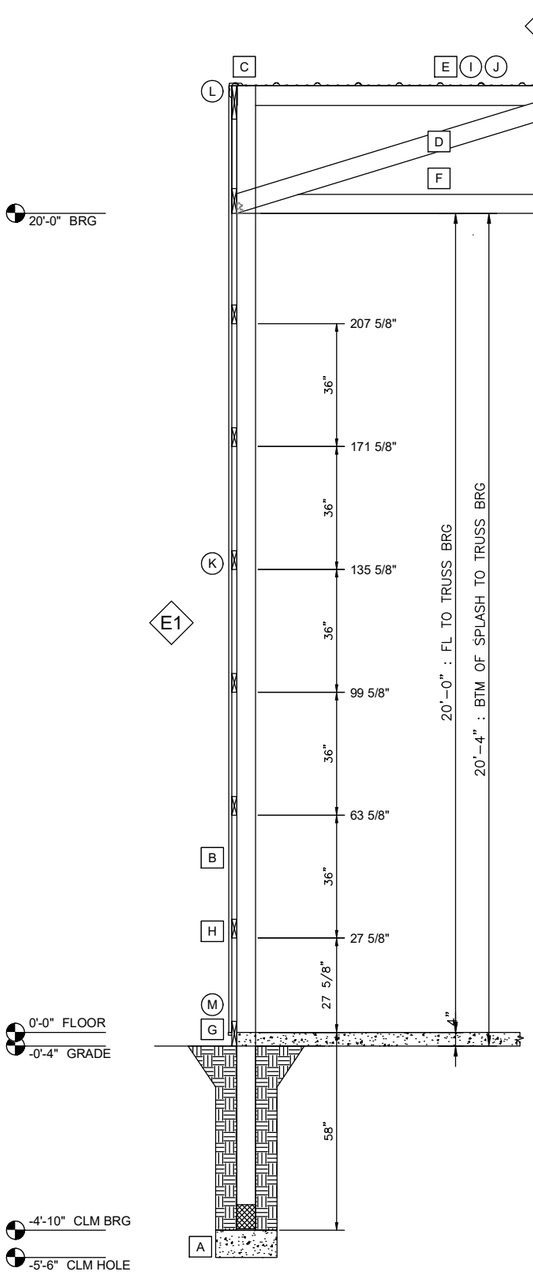
JOB DESCRIPTION: 30'x70'x20' . .

CUSTOMER: R. Henry Construction, Inc. 101 Power Dr Mankato, MN 56001

DEALER: Jennifer Wight 25434 Cedar Lane New Prague, MN 56071

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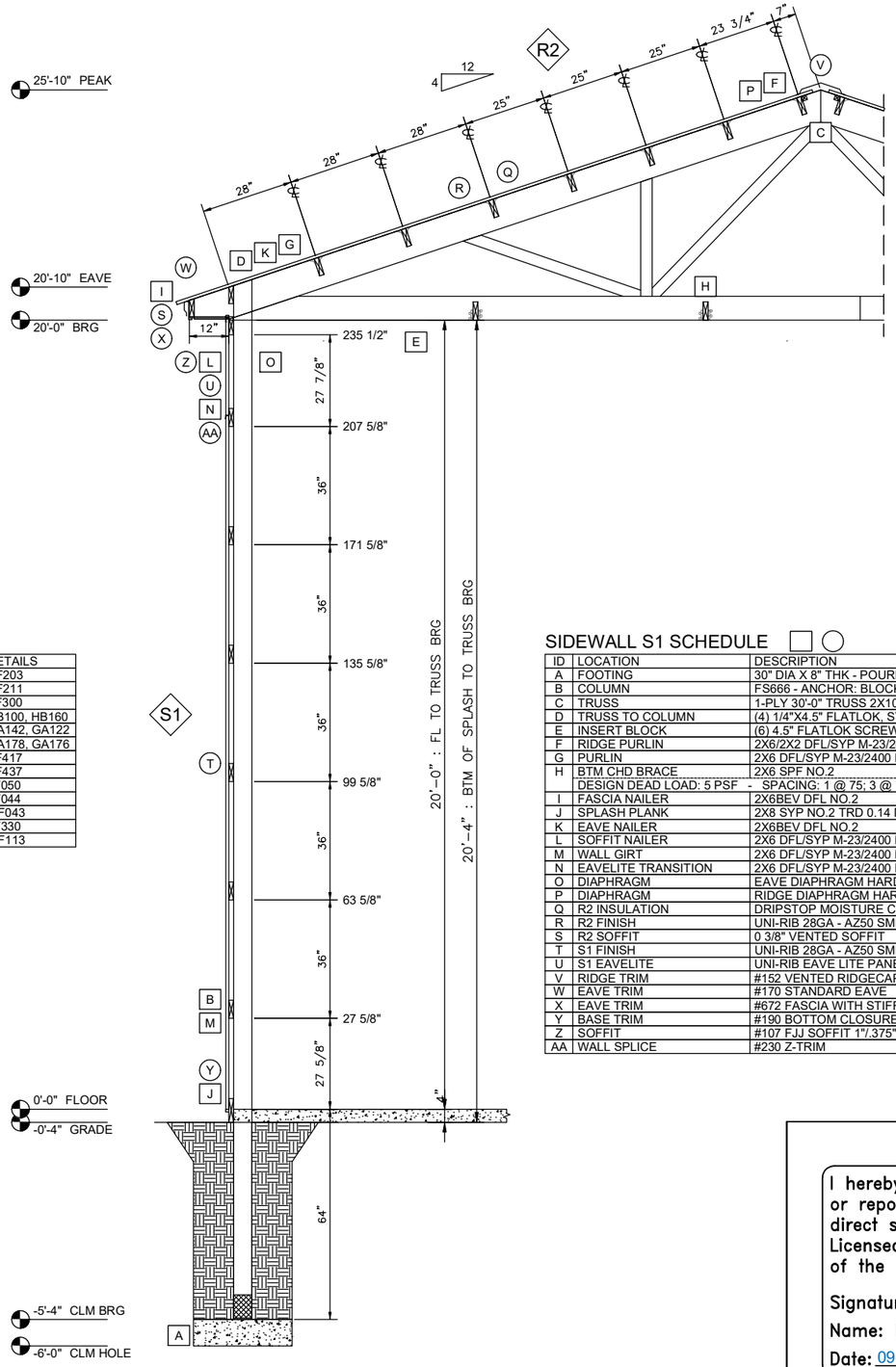
See Titleblock DRWN BY for Extension



ENDWALL E1 SCHEDULE

ID	LOCATION	DESCRIPTION	DETAILS
A	FOOTING	18" DIA X 8" THK - POURED	EF203
B	COLUMN	FE666 - ANCHOR: BLOCK	EF211
C	TRUSS	1-PLY 30'-0" GABLE TRUSS 2X8 TC / 2X6 BC	FF300
D	DIAG GBL BRACE	2X6 LESTER NO.2	HB100, HB160
E	PURLIN	2X6 DFL/SYP M-23/2400 MSR 1.8E	GA142, GA122
F	BTM CHD BRACE	2X6 SPF NO.2	GA178, GA176
G	SPLASH PLANK	2X8 SYP NO.2 TRD 0.14 MCA-C	FF417
H	WALL GIRT	2X6 LESTER NO.2	FF437
I	R2 INSULATION	DRIPSTOP MOISTURE CONTROL	JF050
J	R2 FINISH	UNI-RIB 28GA - AZ50 SMP	JF044
K	E1 FINISH	UNI-RIB 28GA - AZ50 SMP (STITCHED)	MF043
L	RAKE TRIM	#820 RAKE AND CORNER	JF330
M	BASE TRIM	#190 BOTTOM CLOSURE	MF113

A4 ENDWALL E1 SECTION
23'-2" FROM S2 1/4" = 1'-0"



SIDEWALL S1 SCHEDULE

ID	LOCATION	DESCRIPTION	DETAILS
A	FOOTING	30" DIA X 8" THK - POURED	EF203
B	COLUMN	FS666 - ANCHOR: BLOCK	EF211
C	TRUSS	1-PLY 30'-0" TRUSS 2X10 TC / 2X8 BC	-
D	TRUSS TO COLUMN	(4) 1/4"X4.5" FLATLOK, STD, UNI	HD631
E	INSERT BLOCK	(6) 4.5" FLATLOK SCREWS	FF390
F	RIDGE PURLIN	2X6/2X2 DFL/SYP M-23/2400 MSR 1.8E	GA122, GA152
G	PURLIN	2X6 DFL/SYP M-23/2400 MSR 1.8E	GA122
H	BTM CHD BRACE	2X6 SPF NO.2	GA176
	DESIGN DEAD LOAD: 5 PSF - SPACING: 1 @ 75; 3 @ 70; 1 @ 75		
I	FASCIA NAILER	2X6BEV DFL NO.2	IF222
J	SPLASH PLANK	2X8 SYP NO.2 TRD 0.14 MCA-C	FF417
K	EAVE NAILER	2X6BEV DFL NO.2	IF132, IF130
L	SOFFIT NAILER	2X6 DFL/SYP M-23/2400 MSR 1.8E	FF437
M	WALL GIRT	2X6 DFL/SYP M-23/2400 MSR 1.8E	FF437
N	EAVELITE TRANSITION	2X6 DFL/SYP M-23/2400 MSR 1.8E	FF437
O	DIAPHRAGM	EAVE DIAPHRAGM HARDWARE	IF202
P	DIAPHRAGM	RIDGE DIAPHRAGM HARDWARE	GA442
Q	R2 INSULATION	DRIPSTOP MOISTURE CONTROL	JF050
R	R2 FINISH	UNI-RIB 28GA - AZ50 SMP	JF044
S	R2 SOFFIT	0 3/8" VENTED SOFFIT	IF642
T	S1 FINISH	UNI-RIB 28GA - AZ50 SMP	MF044
U	S1 EAVELITE	UNI-RIB EAVE LITE PANEL	MF045
V	RIDGE TRIM	#152 VENTED RIDGECAP	OA050
W	EAVE TRIM	#170 STANDARD EAVE	JF154
X	EAVE TRIM	#672 FASCIA WITH STIFFENER	JF153
Y	BASE TRIM	#190 BOTTOM CLOSURE	MF113
Z	SOFFIT	#107 FJJ SOFFIT 1"/.375"THR	MF724
AA	WALL SPLICE	#230 Z-TRIM	MF359

B4 SIDEWALL S1 SECTION
35'-0" FROM E1 1/4" = 1'-0"

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

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BC633954 | TITLE1 TITLE2 | 8 PRE

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SHEET 04 OF 15
DRWN BY: Amanda x5235
CHKD BY: .
REV NO: 0

JOB DESCRIPTION: 30'x70'x20'
. .
See Titleblock DRWN BY for Extension

CUSTOMER: R. Henry Construction, Inc.
101 Power Dr
Mankato, MN 56001

DEALER: Jennifer Wight
25434 Cedar Lane
New Prague, MN 56071

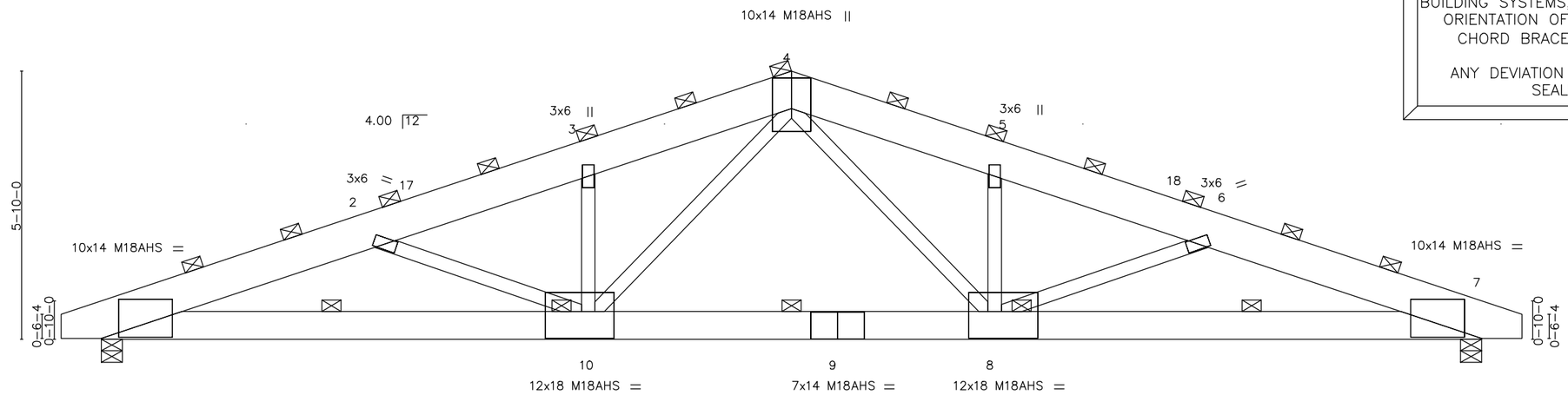
LESTER BUILDING SYSTEMS, LLC.
TOLL-FREE: 800-826-4439

Job	Truss	Truss Type	Qty	Ply	Lester Buildings\ R. Henry Construction
633954	T1-C001	FAN	6	1	10 1/2" OH EACH SIDE Job Reference (optional)

Lester Building Systems, Lester Prairie, MN 25.1.0 s Apr 28 2025 MiTek Industries, Inc. Thu Jun 26 13:19:09 2025 Page 1

-0-10-8	6-2-0	10-7-0	15-0-0	19-5-0	23-10-0	30-0-0	30-10-8
0-10-8	6-2-0	4-5-0	4-5-0	4-5-0	4-5-0	6-2-0	0-10-8

NOTE: THE TRUSSES FOR THIS JOB WERE DESIGNED AND MANUFACTURED BY LESTER BUILDING SYSTEMS, LLC WITH THE LOCATION AND ORIENTATION OF THE PURLINS AND BOTTOM CHORD BRACES AS SHOWN ON PAGE(S) 4,5
ANY DEVIATION FROM THIS WILL VOID THE SEALED DRAWING SET



10-7-0	19-5-0	30-0-0
10-7-0	8-10-0	10-7-0

Plate Offsets (X,Y)-- [1:0-4-8,0-0-4], [4:0-8-0,0-5-0], [7:0-4-8,0-0-4], [8:0-5-0,0-7-0], [10:0-8-8,0-7-0]

LOADING (psf)		SPACING- 10-0-0		CSI.		DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	39.4	Plate Grip DOL	1.15	TC	0.78	Vert(LL)	-0.61 8-10	>586	360	MT20	220/190
Snow (Ps/Pg)	39.4/50.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.77 8-10	>470	180	M18AHS	169/162
TCDL	4.0	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.24 7	n/a	n/a		
BCLL	0.0	Code	IBC2018/TPI2014	Matrix-MR						Weight: 266 lbFT = 10%	
BCDL	5.0										

LUMBER-
TC 2x10 M23/2400MSR 1.8E DF/SP
BC 2x8 M23/2400MSR 1.8E DF/SP
WB 2x4 M23/2400MSR 1.8E DF/SP *Except* W2: 2x4 #2 Lester
1 - Ply

BRACING-
TOP CHORD 2-4-0 oc purlins (2-5-11 max.).
BOT CHORD 5-10-0 oc bracing.

REACTIONS. (lb/size) 7=7257/0-5-8 (req. 0-7-12), 1=7257/0-5-8 (req. 0-7-12)
Max Horz 1=-172(LC 13)
Max Uplift 7=-796(LC 9), 1=-796(LC 8)
Max Grav 7=7284(LC 18), 1=7284(LC 17)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-16939/1855, 2-17=-14554/1534, 3-17=-14348/1558, 3-4=-14457/1704, 4-5=-14457/1703, 5-18=-14348/1558, 6-18=-14554/1534, 6-7=-16939/1860
BOT CHORD 1-10=-1743/15824, 9-10=-957/10892, 8-9=-957/10892, 7-8=-1629/15824
WEBS 3-10=-2804/351, 5-8=-2804/345, 2-10=-2686/454, 4-10=-590/5732, 4-8=-587/5732, 6-8=-2686/464

NOTES-
1) This truss has been checked for uniform roof live load only, except as noted.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=2.4psf; BCDL=1.0psf; h=20ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.33 plate grip DOL=1.33
3) TCLL: ASCE 7-16; Pr=39.4 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=50.0 psf; Ps=39.4 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=0.94; Ct=1.20; Unobstructed slippery surface
4) Roof design snow load has been reduced to account for slope.
5) Unbalanced snow loads have been considered for this design.
6) Dead loads shown include weight of truss. Top chord dead load of 5.0 psf (or less) is not adequate for a shingle roof. Architect to verify adequacy of top chord dead load.
7) All plates are MT20 plates unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) WARNING: Required bearing size at joint(s) 7, 1 greater than input bearing size.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 796 lb uplift at joint 7 and 796 lb uplift at joint 1.
11) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
12) Purlins are supported between trusses by means of a ledger strip or purlin hanger.

LOAD CASE(S) Standard

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.
Signature: Matthew Pjesky
Name: Matthew Pjesky
Date: 09-29-25 License Number: 61670

THIS CERTIFICATION IS LIMITED TO THE STRUCTURAL DESIGN OF THE FRAMING AND COVERING PARTS MANUFACTURED BY LESTER BUILDING SYSTEMS, ALL OTHER ITEMS SUCH AS EQUIPMENT, VENTILATION, PLUMBING, ELECTRICAL, ERECTION, DOORS, FIRE REQUIREMENTS, INSPECTION, CONCRETE FLOORS, ETC. IS THE RESPONSIBILITY OF OTHERS.

CT633954	TITLE1 TITLE2	8 PRE

DA003	ENG STAMP BOX - STRUCTURAL DESIGN FULL	384 R2

DATE: 9/29/2025
SHEET 05 OF 15
JOB-NUMBER 633954
DRWN BY: Amanda x5235
CHKD BY:
REV NO: 0

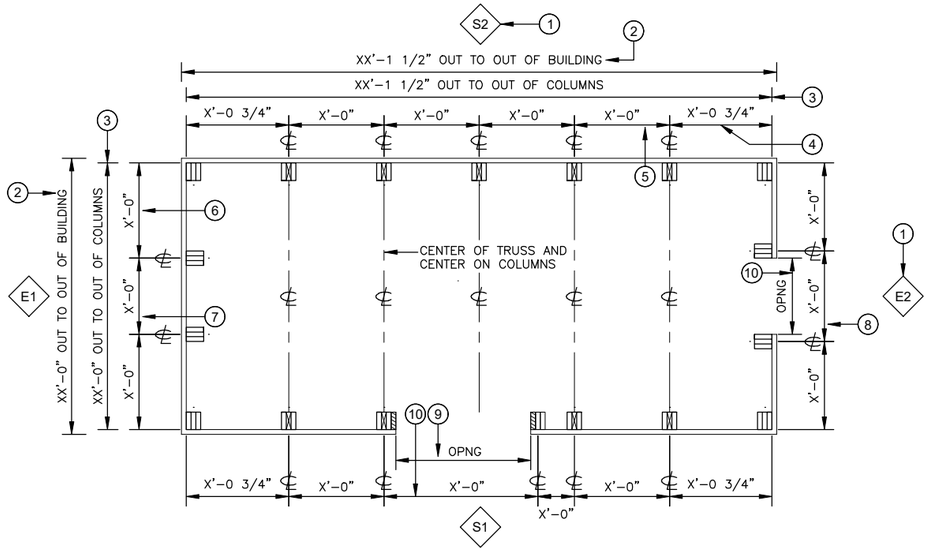
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SYMBOL MEANS "CENTER LINE"



SYMBOL SCHEDULE ○

1. ◇ THIS SYMBOL IS A REFERENCE THAT RELATES TO YOUR "WHERE USED". IT CALLS OUT THE WALL TYPE/LOCATION. S2 REFERS TO SIDEWALL 2. E2 REFERS TO ENDWALL 2. IT CAN HELP YOUR CONSTRUCTION CREW IDENTIFY WHERE TO STAGE BUILDING MATERIAL

2. OUT TO OUT OF BUILDING LENGTH AND WIDTH IS FROM OUTSIDE EDGE OF BYPASS WALL GIRT TO OUTSIDE EDGE OF BYPASS WALL GIRT.

3. OUT TO OUT OF COLUMNS LENGTH AND WIDTH IS MEASURED FROM OUTSIDE EDGE OF CORNER COLUMN TO THE OUTSIDE EDGE OF OPPOSITE CORNER COLUMN.

4. END BAYS (BAY NEXT TO ENDWALL) WILL HAVE A DIMENSION SLIGHTLY DIFFERENT THAN THE INTERMEDIATE BAYS. THIS DIMENSION MEASURES FROM THE CENTER OF THE INTERMEDIATE COLUMN TO THE OUTSIDE EDGE OF CORNER COLUMN.

5. INTERMEDIATE BAYS ARE DIMENSIONED FROM CENTER OF COLUMN TO CENTER OF COLUMN.

6. THE BAY NEXT TO EACH SIDEWALL MEASURES FROM THE CENTER OF COLUMN TO THE OUTSIDE EDGE OF CORNER COLUMN.

7. MIDDLE BAYS ON THE ENDWALL ARE DIMENSIONED FROM THE CENTER OF COLUMN TO CENTER OF COLUMN.

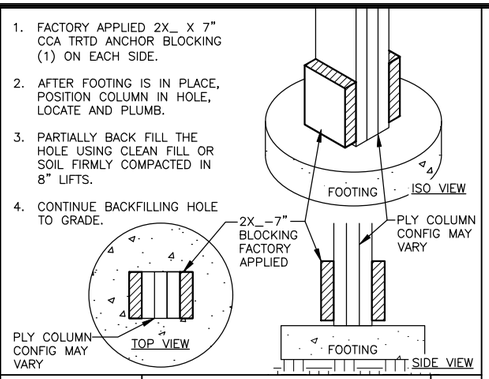
8. DIMENSION FOR ENDWALL COLUMNS AT DOOR OPENINGS ARE MEASURED FROM CENTER OF COLUMN TO CENTER OF COLUMN. AN OPENING DIMENSION WILL REPRESENT ACTUAL OPENING SIZE.

9. DIMENSION FOR SIDEWALL COLUMNS AT DOOR OPENINGS ARE MEASURED FROM CENTER OF COLUMN OR CENTER OF TRUSS TO CENTER OF COLUMN OR CENTER OF TRUSS. (REFER TO FLOOR PLAN OF YOUR PROJECT)

!!!PAY CAREFUL ATTENTION TO WHERE THE DIMENSION LINES MEASURE!!!

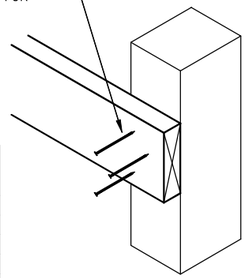
10. OPENING DIMENSION IS FROM SIDE OF COLUMN TO SIDE OF COLUMN.

1. FACTORY APPLIED 2X_ X 7" CCA TRTD ANCHOR BLOCKING (1) ON EACH SIDE.
2. AFTER FOOTING IS IN PLACE, POSITION COLUMN IN HOLE, LOCATE AND PLUMB.
3. PARTIALLY BACK FILL THE HOLE USING CLEAN FILL OR SOIL FIRMLY COMPACTED IN 8" LIFTS.
4. CONTINUE BACKFILLING HOLE TO GRADE.



EF211 | ANCHOR BLOCKS – FACTORY APPLIED COLUMN EMBEDMENT 1" | 32 R1

NAIL 2X_ FRAMING MEMBER TO COLUMN USING 16d GALV R.S. NAILS, SEE CHART BELOW FOR QTY.



FRAMING MEMBER SIZE	QTY. 16d GALV R.S. NAILS (P/N: 040140)
2X4	(2)
2X6	(2)
2X8	(3)
2X10	(3)
2X12	(4)

FF001 | TYPICAL 2X_ FRMG TO COLUMN CONN WALL FRAMING FASTENING 1.5" | 48 R1

DA568 | BYPASS FRAME DIMENSION STANDARDS FLOOR PLAN LAYOUT GUIDE 3/8" | 12 R2

CONVERSION TO GUN NAIL

TLN NAILS REQUIRED FOR TREATED LUMBER

HAND NAIL	GUN NAIL	MULTIPLICATION WOOD–WOOD	MULTIPLICATION HANGER–WOOD	EXAMPLE: GUN NAIL REPLACEMENT FOR COMMON DETAILS (IF GUN NAILING SHOWN ON DETAILS – FOLLOW DETAIL)		
16d COM	0.131"x3.25	1.5	1.7	2X4 FLAT PURLIN	HAND NAIL	(2) 16d COMMONS
					GUN NAIL	(3) 0.131 X 3.25 SMOOTH
16d R.S.	0.131"x3.25	1.4	1.4	BYPASS WALL GIRTS	HAND NAIL	(2) 16d R.S. NAILS
					GUN NAIL	(3) 0.131 X 3.25 SMOOTH
				SPLASH PLANK	HAND NAIL	(2) 16d R.S. NAILS
					GUN NAIL	(3) 0.131 X 3.25 SMOOTH
10d COM	0.131"x3.25	1	1.2	BOOKSHELF GIRTS	HAND NAIL	(4) 10d BOX NAILS
					GUN NAIL	(4) 0.131 X 3.25 SMOOTH
8d COM	0.131"x3.25	1	1	5/8" SHEATHING	HAND NAIL	(2) 16d COMMONS
					GUN NAIL	(3) 0.131 X 3.25 SMOOTH
10d C.C.	0.131"x3.25	1	1			

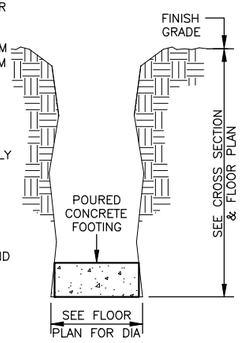
ONLY POWER DRIVEN NAILS LISTED IN "NATIONAL EVALUATION SERVICES REPORT NER–272 (POWER DRIVEN STAPLES AND NAILS FOR USE IN ALL TYPES OF BUILDING CONSTRUCTION) MAY BE USED. FULL HEAD OR CLIPPED HEAD POWER DRIVEN NAILS ONLY. T–HEADED NAILS AND STAPLES "MAY NOT" BE SUBSTITUTED FOR CONNECTIONS INDICATED ON DRAWINGS.

DA600 | GUN NAIL CONVERSION CHART GENERAL INFORMATION | 32 R1

1) AUGER HOLE AS PER DIAMETER REQUIRED FOR THE FOOTING.
2) REMOVE ALL LOOSE DIRT FROM BOTTOM OF HOLE, "TAMP" BOTTOM OF HOLE WELL.
3) POUR CONCRETE FOOTING TO REQUIRED DEPTH SPECIFIED ON FLOOR PLAN.
4) ALLOW CONCRETE TO PROPERLY CURE.

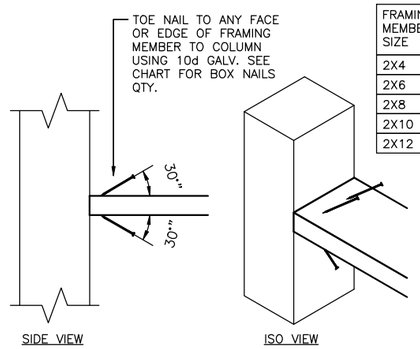
SEE CROSS SECTION AND FLOOR PLAN FOR EMBEDMENT DEPTH AND FOOTING SIZE.

UNDISTURBED SOIL BELOW FOOTING



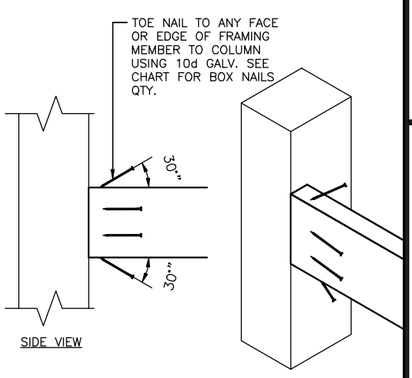
EF203 | POURED CONCETE FOOTING COLUMN EMBEDMENT 1/2" | 16 R1

TOE NAIL TO ANY FACE OR EDGE OF FRAMING MEMBER TO COLUMN USING 10d GALV. SEE CHART FOR BOX NAILS QTY.



FRAMING MEMBER SIZE	QTY. 10d GALV BOX NAILS (P/N: 040076)
2X4	(3)
2X6	(3)
2X8	(4)
2X10	(5)
2X12	(6)

TOE NAIL TO ANY FACE OR EDGE OF FRAMING MEMBER TO COLUMN USING 10d GALV. SEE CHART FOR BOX NAILS QTY.



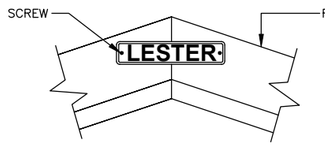
FF002 | TOE–NAILED 2X_ FRMG TO COLUMN CONN WALL FRAMING FASTENING 1.5" | 48 R1

CONVERSION TO GALVANIZED NAIL

(P/N: 040021) 4d COMMON BRIGHT = (P/N: 040082) 4d GALV COMMON
(P/N: 040025) 8d COMMON BRIGHT = (P/N: 040086) 8d GALV COMMON
(P/N: 040026) 10d COMMON BRIGHT = (P/N: 040087) 10d GALV COMMON
(P/N: 040028) 16d COMMON BRIGHT = (P/N: 040089) 16d GALV COMMON
(P/N: 040016) 10d CC BOX = (P/N: 040076) 10d GALV BOX

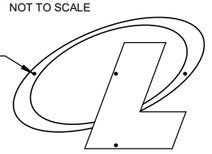
DA603 | NAIL CONVERSION TO GALV NAILS GENERAL INFORMATION 1" | 32 R0

SCREW — RAKE TRIM

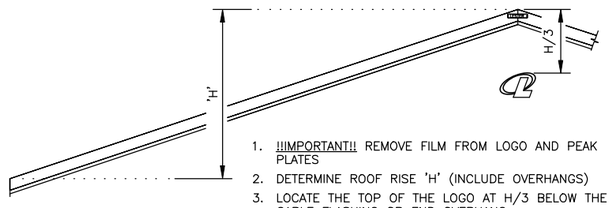


PEAK PLATE
NOT TO SCALE

SCREW



LOGO
NOT TO SCALE



1. !!IMPORTANT!! REMOVE FILM FROM LOGO AND PEAK PLATES
2. DETERMINE ROOF RISE 'H' (INCLUDE OVERHANGS)
3. LOCATE THE TOP OF THE LOGO AT H/3 BELOW THE GABLE FLASHING OR END OVERHANG
4. FASTEN W/SCREWS WHEN INSTALLED OVER TOP OF MAJOR RIB(S), FASTEN W/SCREWS & SPACERS IN ALL OTHER HOLES IF THEY DO NOT LAND ON A MAJOR RIB(S).
   NOTE: ALL SCREWS GET SPACERS IF FASTENING TO FLAT SIDING
5. INSTALL PEAK PLATE AS SHOWN ABOVE

DD001 | PEAK & LOGO PLATE INSTALLAION BUILDING SIGNAGE | 8 R1

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

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DA003 | ENG STAMP BOX – STRUCTURAL DESIGN FULL | 384 R2

DATE: 9/29/2025
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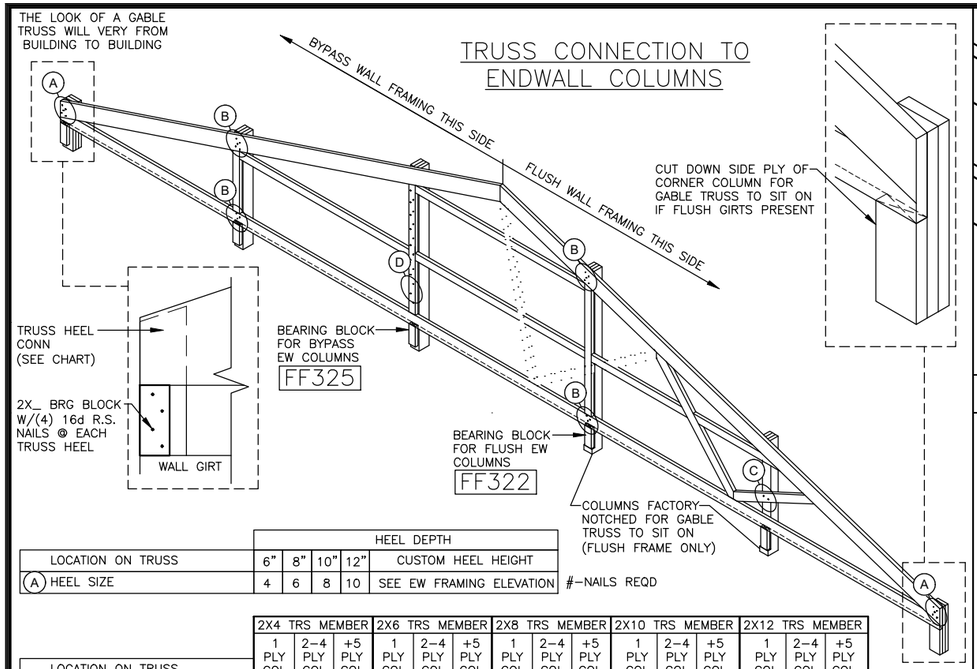
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See Titleblock DRWN BY for Extension

TRUSS CONNECTION TO ENDWALL COLUMNS



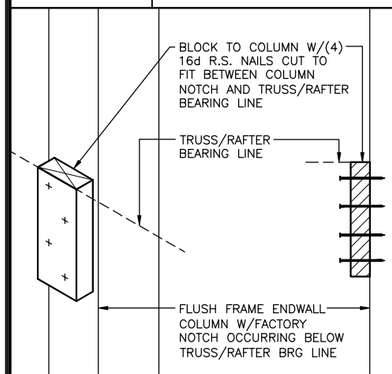
LOCATION ON TRUSS	HEEL DEPTH 6"	8"	10"	12"	CUSTOM HEEL HEIGHT
(A) HEEL SIZE	4	6	8	10	SEE EW FRAMING ELEVATION

#–NAILS REQD

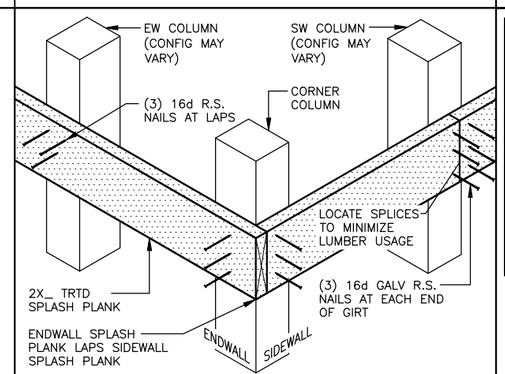
LOCATION ON TRUSS	2X4 TRS MEMBER 1 PLY COL	2–4 PLY COL	+5 PLY COL	2X6 TRS MEMBER 1 PLY COL	2–4 PLY COL	+5 PLY COL	2X8 TRS MEMBER 1 PLY COL	2–4 PLY COL	+5 PLY COL	2X10 TRS MEMBER 1 PLY COL	2–4 PLY COL	+5 PLY COL	2X12 TRS MEMBER 1 PLY COL	2–4 PLY COL	+5 PLY COL	
(B) TOP & BTM CHORD	2	4	6	3	6	9	3	6	9	4	8	12	4	8	12	#–NAILS REQD
(C) DIAGONAL & HORIZONTAL WEBS	2	2	3	2	3	4	2	3	4	4	5	6	2	3	4	#–NAILS REQD
(D) VERTICAL WEBS	12" O.C. IN EACH PLY															

FF300	GABLE TRUSS TO ENDWALL COLUMN CONN WALL FRAMING FASTENING 1/4"	8	R1

FOR A 2–PLY GABLE TRUSS SEE FRAME ELEVATION OF DRWGS

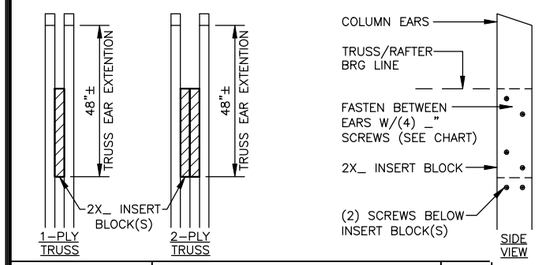


FF325	BYPASS ENDWALL COLUMN PREP FOR TRUSS WALL FRAMING FASTENING 1.5"	48	R3

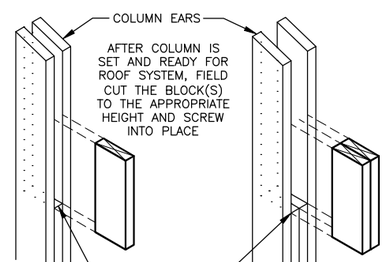


FF417	2X_ SPLASH PLANK CONN – BYPASS UNI–FRAME WALL FASTENING 1"	32	R1

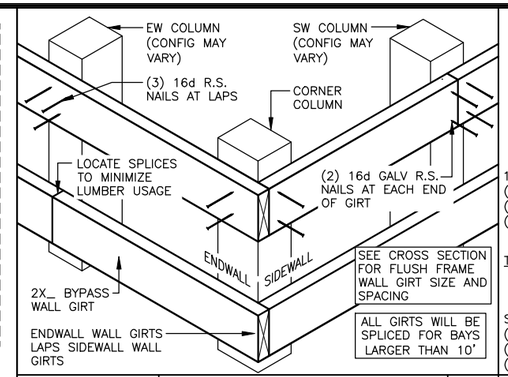
INSERT BLOCK LENGTH	INSERT BLOCK FASTENERS
LESS THAN 3"	(2) 10d NAILS
BETWEEN 3" – 9"	(2) STRUC SCREWS
GREATER THAN 9"	(4) STRUC SCREWS



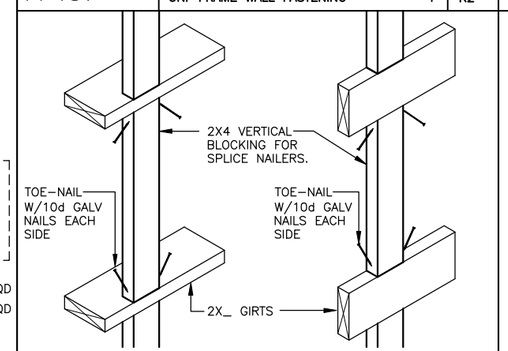
COL # PLYS	SCREW LENGTH
3	4.5" STRUC SCR (P/N: 042074)
4	6" STRUC SCR (P/N: 042076)
5	8" SPIDER SCR (P/N: 042249)



FF390	2X6, 2X8, OR 2X10 COL PREP FOR TRUSS WALL FRAMING FASTENING 3/4"	24	R8



FF437	BYPASS WALL GIRTS CONN – STANDARD UNI–FRAME WALL FASTENING 1"	32	R2

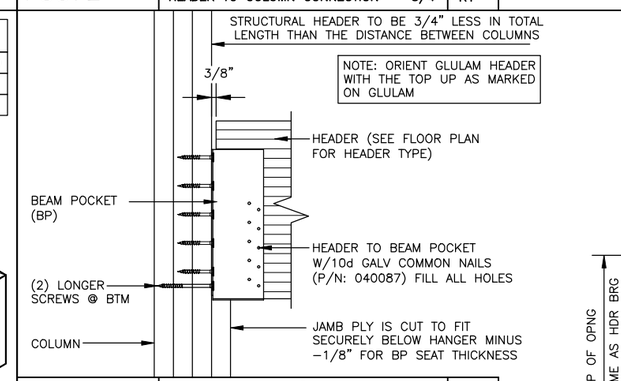


FF482	VERTICAL BLOCKING BETWEEN GIRTS UNI–FRAME WALL FASTENING 1"	32	R2

LUMBER PLY HEADER QTY./SIZE	10d GALV. BOX NAILS INTO HEADER	INTO COLUMN	JA–_ CLIP (PER. FLANGE)	JA–_ CLIP QTY./SIZE	KIT #
2–PLY 2X8	8	3	4	JA–3	741370
3–PLY 2X8	8	3	4	JA–3	741370
4–PLY 2X8	8	3	6	JA–5	741371
5–PLY 2X8	8	3	4	(2) JA–3	741372
6–PLY 2X8	8	3	4 & 6	JA–3/JA–5	741373
2–PLY 2X10	10	4	4	JA–3	741380
3–PLY 2X10	10	4	4	JA–3	741380
4–PLY 2X10	10	4	6	JA–5	741381
5–PLY 2X10	10	4	4	(2) JA–3	741382
6–PLY 2X10	10	4	4 & 6	JA–3/JA–5	741383
2–PLY 2X12	12	5	4	JA–3	741390
3–PLY 2X12	12	5	4	JA–3	741390
4–PLY 2X12	12	5	6	JA–5	741391
5–PLY 2X12	12	5	4	(2) JA–3	741392
6–PLY 2X12	12	5	4 & 6	JA–3/JA–5	741393

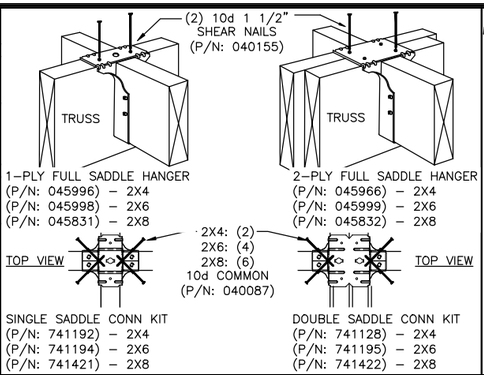
HEADER LOCATION AT COLUMN BASED ON OPNG TYPE.
FOR OVHD DOOR SEE DETAIL F0344

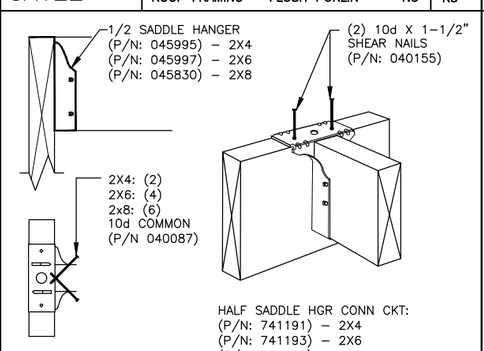
F0372	HEADER BEARING AT 1 1/2" ABOVE OPNG HEADER TO COLUMN CONNECTION 3/4"	24	R1



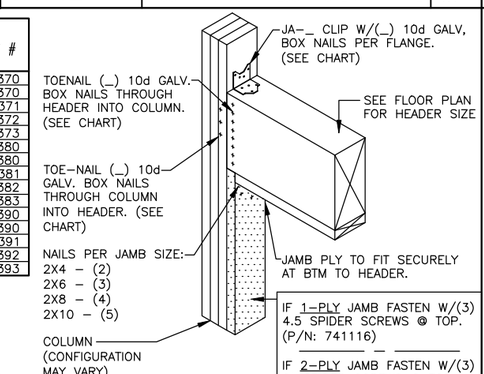
F0380	BP TO COL – 11.75" HIGH BEAM POCKET HDR. BRG. @ TOP OF DR. OPNG. 1.5"	48	R4

GA122	2X_ PURLIN SINGLE/DOUBLE SADDLE HGR ROOF FRAMING – FLUSH PURLIN 1.5"	48	R5

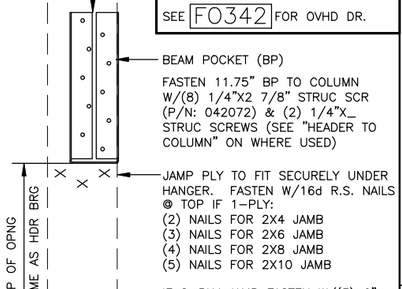




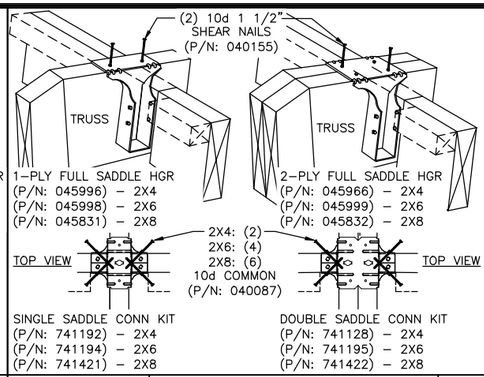
GA142	2X_ PURLIN HALF SADDLE HANGER ROOF FRAMING – FLUSH PURLIN 2"	64	R4

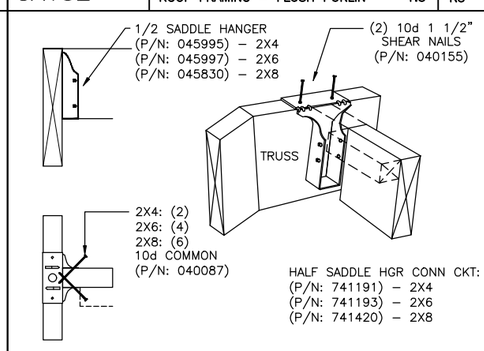


HEADER LOCATION AT COLUMN BASED ON OPENING TYPE:
SEE F0340 FOR SLDG DR.
SEE F0342 FOR OVHD DR.



GA152	RIDGE NAILER W/ OR W/O 2X2 IN SADDLE ROOF FRAMING – FLUSH PURLIN 1.5"	48	R5

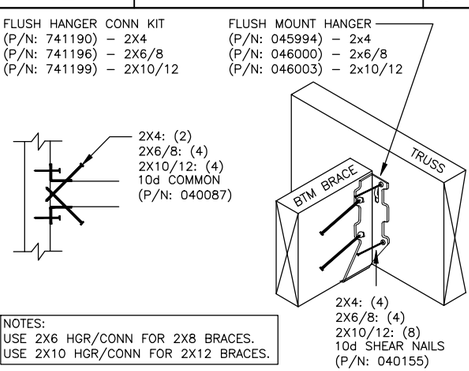




GA162	RIDGE NAILER W/ OR W/O 2X2 HALF SAD ROOF FRAMING – FLUSH PURLIN 1.5"	48	R8

FLUSH HANGER CONN KIT (P/N: 741190) – 2X4 (P/N: 741196) – 2X6/8 (P/N: 741199) – 2X10/12

FLUSH MOUNT HANGER (P/N: 045994) – 2x4 (P/N: 046000) – 2x6/8 (P/N: 046003) – 2x10/12



NOTES:
USE 2X6 HGR/CONN FOR 2X8 BRACES.
USE 2X10 HGR/CONN FOR 2X12 BRACES.

GA172	2X_ BTM BRACE IN FLUSH MOUNT HANGER ROOF/CEILING FRAMING 2"	64	R3

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

THIS CERTIFICATION IS LIMITED TO THE STRUCTURAL DESIGN OF THE FRAMING AND COVERING PARTS MANUFACTURED BY LESTER BUILDING SYSTEMS, ALL OTHER ITEMS SUCH AS EQUIPMENT, VENTILATION, PLUMBING, ELECTRICAL, ERECTION, DOORS, FIRE REQUIREMENTS, INSPECTION, CONCRETE FLOORS, ETC. IS THE RESPONSIBILITY OF OTHERS.

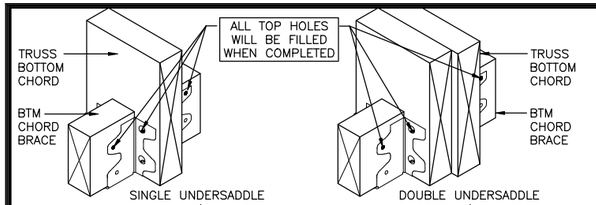
DA003	ENG STAMP BOX – STRUCTURAL DESIGN FULL	384	R2

DATE: 9/29/2025
SHEET 07 OF 15
JOB–NUMBER 633954
DRWN BY: Amanda x5235
CHKD BY:
REV NO: 0
JOB DESCRIPTION: 30'x70'x20'

CUSTOMER:
R. Henry Construction, Inc.
101 Power Dr
Mankato, MN 56001

DEALER:
Jennifer Wight
25434 Cedar Lane
New Prague, MN 56071

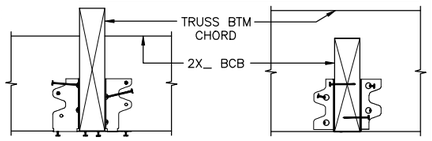
LESTER BUILDING SYSTEMS, LLC.
TOLL–FREE : 800-826-4439
See Tileblock DRWN BY for Extension



BOTTOM VIEW

FASTEN UNDERSADDLE HANGER W/(12) #10x1.5" STRUCTURAL SCREW (P/N: 042223):
3 TOTAL SCREWS INTO EACH BCB
(1) SCREWS FROM THE BOTTOM
(2) SCREWS FROM SIDES PLACED IN TOP HOLES
6 TOTAL SCREWS INTO TRUSS BOTTOM CHORD
(2) SCREWS FROM BOTTOM
(4) SCREWS INTO FACE PLACED IN TOP HOLES

SINGLE UNDERSADDLE STD CONN KIT P/N: 741140
DOUBLE UNDERSADDLE STD CONN KIT P/N: 741141

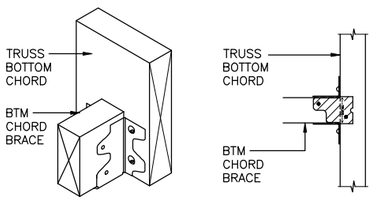


SIDE VIEW

GA176	2X_ BCB SGL/DBL UNDERSADDLE HGR ROOF FRAMINGS – STANDARD LOAD 2"	64 R2

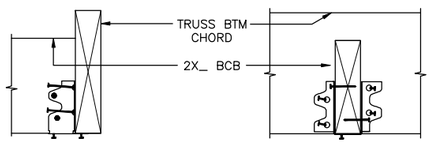
1 1/4" SHEAR NAILS (P/N: 040155) HAVE BEEN SENT TO FILL IN BOTTOM HOLES IF CEILING IS PRESENT.

HALF UNDERSADDLE HANGER P/N: 045961
HALF UNDERSADDLE CONN KIT P/N: 741139



BOTTOM VIEW

FASTEN THE HALF UNDERSADDLE HANGER W/(10) #10x1.5" STRUCTURAL SCREW (P/N: 042223):
5 TOTAL SCREWS INTO EACH BCB
(1) SCREWS FROM THE BOTTOM
(4) SCREWS FROM SIDES
5 TOTAL SCREWS INTO TRUSS BOTTOM CHORD
(1) SCREWS FROM BOTTOM
(4) SCREWS INTO FACE

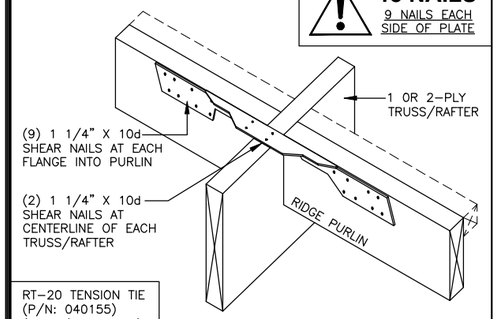


SIDE VIEW

GA178	HALF UNDERSADDLE BCB HANGER ROOF FRAMINGS – STANDARD LOAD 2"	64 R3

1 1/4" SHEAR NAILS (P/N: 040155) HAVE BEEN SENT TO FILL IN BOTTOM HOLES IF CEILING IS PRESENT.

18 NAILS
9 NAILS EACH SIDE OF PLATE



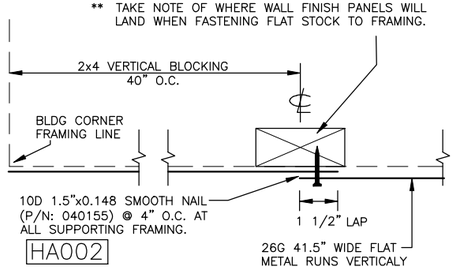
RT-20 TENSION TIE
(P/N: 040155)
(KIT P/N: 741040)

GA442	SINGLE ROW AT RIDGE PURLIN DIAPHRAGM HARDWARE 1.5"	48 R4

IF HOUSE WRAP IS CONFIGURED ON PROJECT THEN INSTALL THIS FIRST THEN FLAT METAL

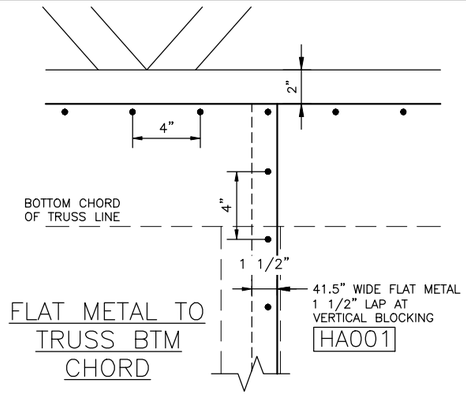
2X4 VERTICAL BLOCKING BETWEEN GIRTS AT EACH SPLICE. ROUGHLY EVERY 40" O.C. FF482

** TAKE NOTE OF WHERE WALL FINISH PANELS WILL LAND WHEN FASTENING FLAT STOCK TO FRAMING.



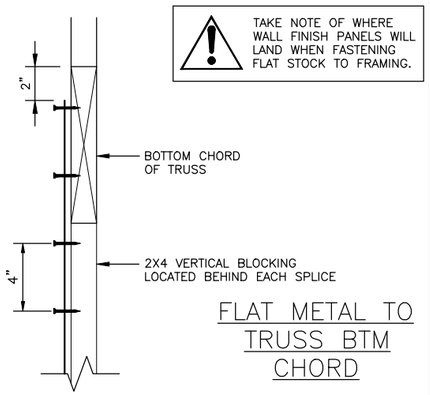
HA002

HA001	FLAT METAL START & FASTENING 0" THICK FLAT METAL – SHEAR WALL 3"	96 R0

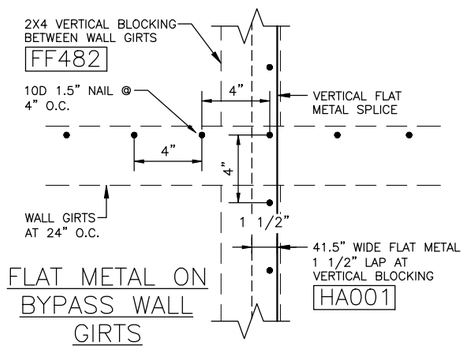


FLAT METAL TO TRUSS BTM CHORD

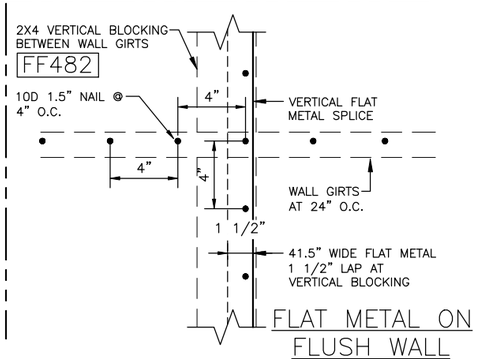
TAKE NOTE OF WHERE WALL FINISH PANELS WILL LAND WHEN FASTENING FLAT STOCK TO FRAMING.



FLAT METAL TO TRUSS BTM CHORD



FLAT METAL ON BYPASS WALL GIRTS



FLAT METAL ON FLUSH WALL GIRTS

HA002	FLAT METAL CONN TO WALL GIRTS & TRUSS 0" THICK FLAT METAL – SHEAR WALL 2"	64 R1

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

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DA003	ENG STAMP BOX – STRUCTURAL DESIGN FULL	384 R2

DATE: 9/29/2025

JOB-NUMBER 633954

SHEET 08 OF 15

DRWN BY: Amanda x5235

CHKD BY: . .

REV NO: 0

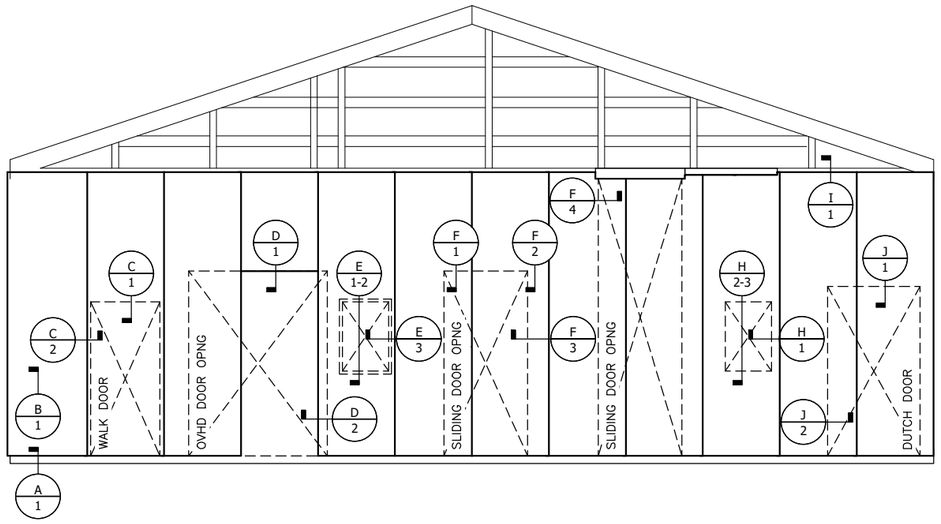
JOB DESCRIPTION: 30'x70'x20' . .

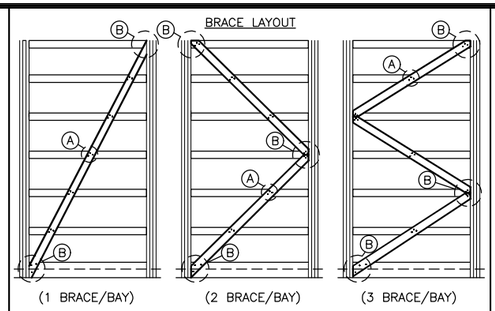
CUSTOMER: R. Henry Construction, Inc. 101 Power Dr Mankato, MN 56001

DEALER: Jennifer Wight 25434 Cedar Lane New Prague, MN 56071

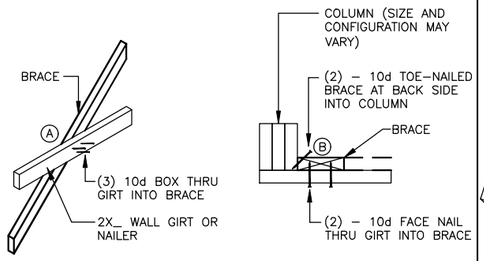
LESTER BUILDING SYSTEMS, LLC. TOLL-FREE : 800-826-4439

See Titleblock DRWN BY for Extension



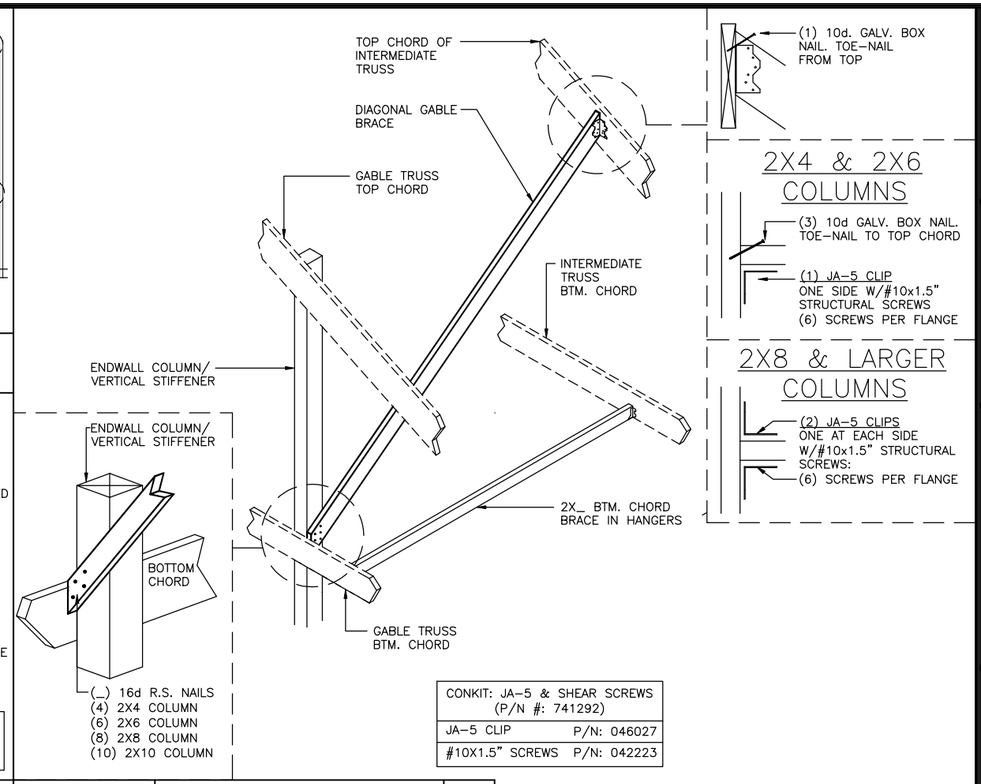


SEE ELEVATIONS FOR CONFIGURATION
SEE WHERE USED REPORT FOR LUMBER SIZE AND GRADE
SEE FLOOR PLAN FOR LOCATIONS



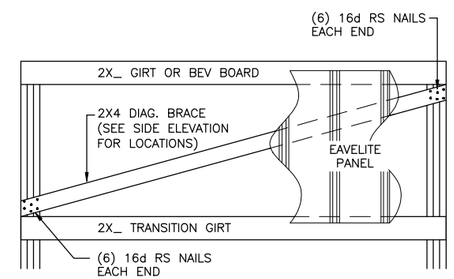
CORNER BRACES ARE TO BE CUT FROM 2X4 #2 LUMBER UNLESS NOTED OTHERWISE

HA527	WALL DIAGONAL BRACE – EMBEDDED BRACING INSTALLATION – CONFIGURED 1/4"	8 R3

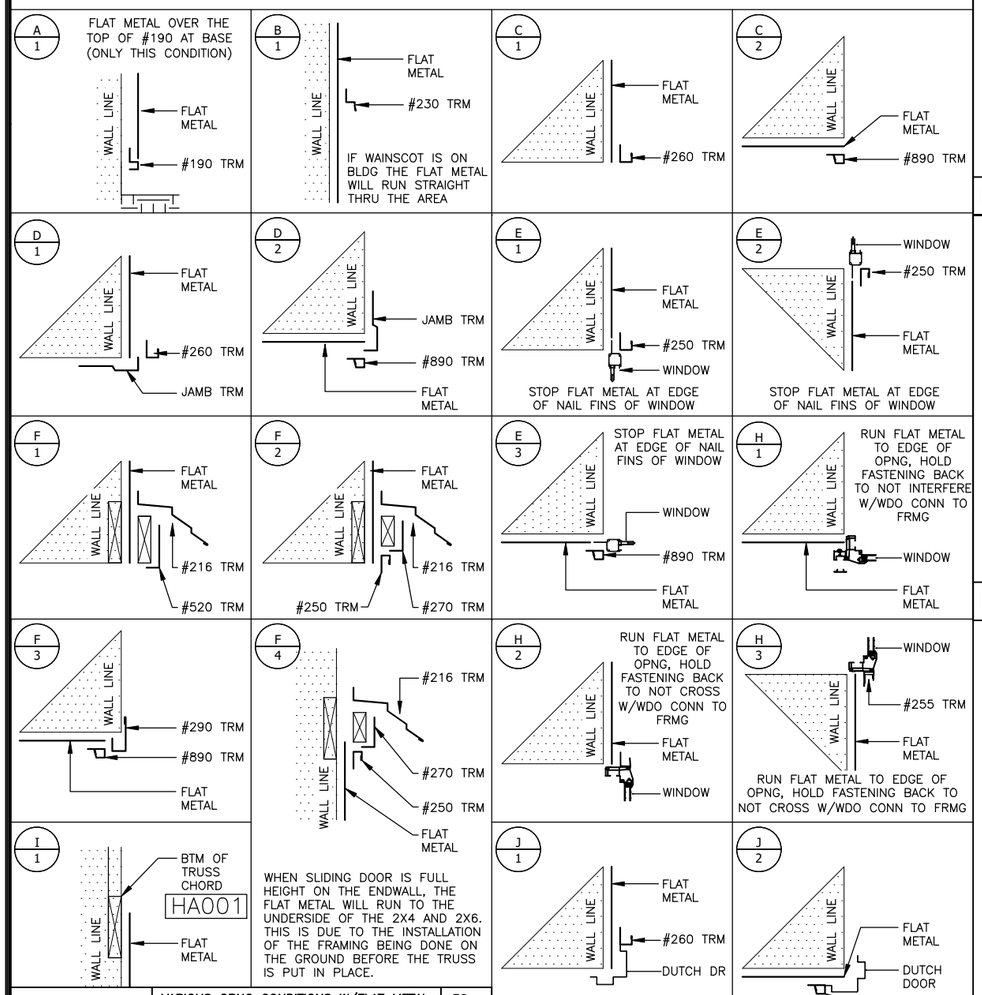


CONKIT: JA–5 & SHEAR SCREWS (P/N #: 741292)	
JA–5 CLIP	P/N: 046027
#10X1.5" SCREWS	P/N: 042223

HB100	DIAGONAL GABLE BRACE CONNECTION STANDARD TRUSS BRACING 3/8"	12 R3



HA550	SHEAR BRACE AT EAVE LITE – BYPASS WALL BRACING 1/2"	16 R1



HA004	VARIOUS OPNG CONDITIONS W/FLAT METAL 0" THICK FLAT METAL – SHEAR WALL 1"	32 R1

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

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Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

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DA003	ENG STAMP BOX – STRUCTURAL DESIGN FULL	384 R2

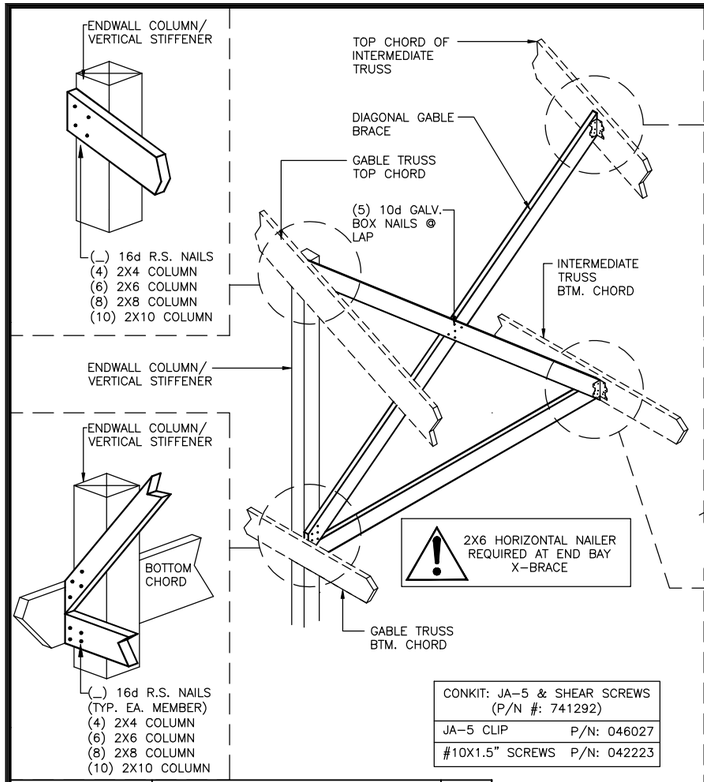
DATE: 9/29/2025
SHEET 09 OF 15
JOB–NUMBER 633954
DRWN BY: Amanda x5235
CHKD BY:
REV NO: 0

JOB DESCRIPTION: 30'x70'x20'

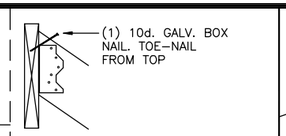
CUSTOMER: R. Henry Construction, Inc.
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Mankato, MN 56001

DEALER: Jennifer Wight
25434 Cedar Lane
New Prague, MN 56071

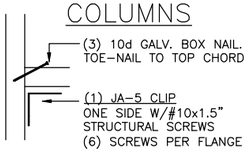
LESTER BUILDING SYSTEMS, LLC.
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See Titleblock DRWN BY for Extension



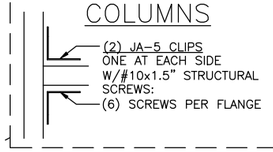
CONKIT: JA-5 & SHEAR SCREWS (P/N #: 741292)	
JA-5 CLIP	P/N: 046027
#10X1.5" SCREWS	P/N: 042223

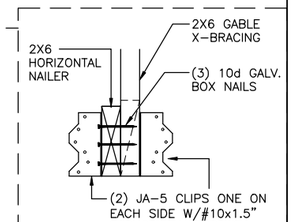


2X4 & 2X6 COLUMNS

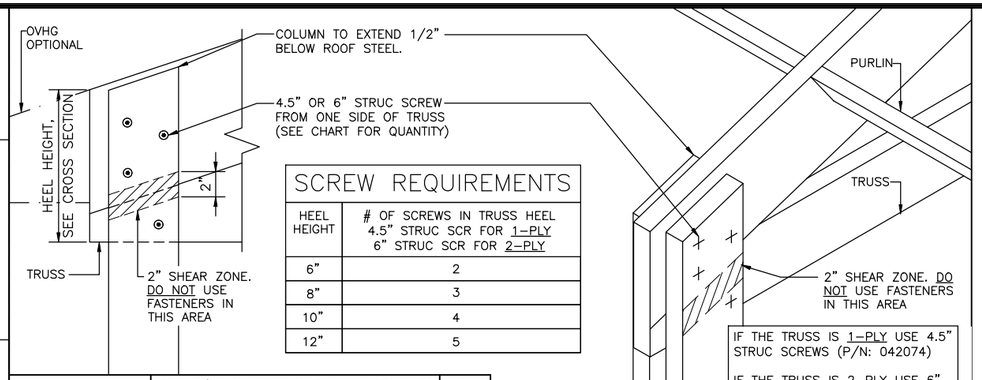


2X8 & LARGER COLUMNS





HB101	DIAGONAL GABLE X-BRACING CONNECTION STANDARD TRUSS BRACING 3/8"	12 R3

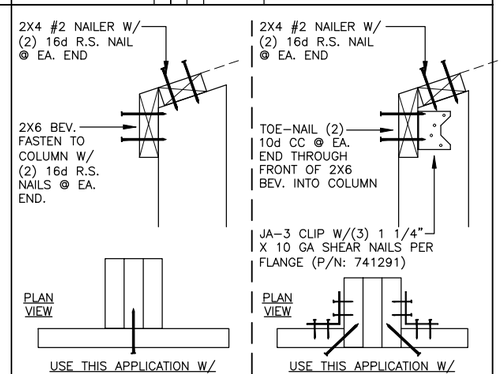


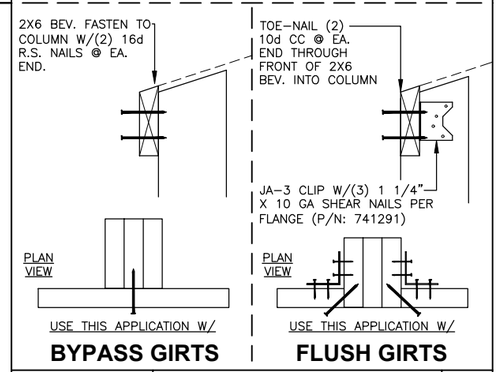
SCREW REQUIREMENTS	
HEEL HEIGHT	# OF SCREWS IN TRUSS HEEL 4.5" STRUC SCR FOR 1-PLY 6" STRUC SCR FOR 2-PLY
6"	2
8"	3
10"	4
12"	5

IF THE TRUSS IS 1-PLY USE 4.5" STRUC SCREWS (P/N: 042074)

IF THE TRUSS IS 2-PLY USE 6" STRUC SCREWS (P/N: 042076)

HD631	TRS W/FLUSH PURLINS TO COL *STANDARD* TRUSS TO COL CONN. 1.5"	48 R4



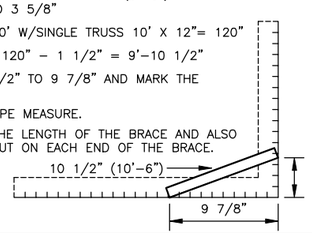


IF130	2x6 & 2x6/2X4 BEV EAVE NAILER CONN BEV EAVE NAILER CONN 1.5"	48 R6

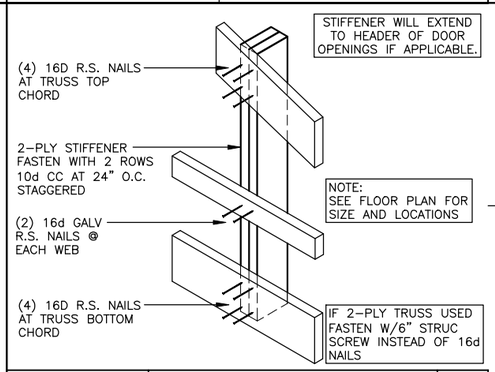
1. MEASURE THE RISE IN FEET AND INCHES.
2. SUBTRACT 6 INCHES FOR HEIGHT OF BRACE CUT.
3. MEASURE THE BAY WIDTH IN FEET AND INCHES. MEASURE FROM THE INSIDE FACE TO INSIDE FACE OF THE TRUSSES.
4. KEEP THESE TWO MEASUREMENTS IN MIND AND GET OUT YOUR RAFTER FRAMING SQUARE.
5. THINK OF THE INCHES ON YOUR SQUARE IN TERMS OF FEET AND FRACTIONS OF A FOOT.
   1" = 1'
   2" = 2'
   3" = 3' AND SO ON
   1/2" = 6"
   1/4" = 3" AND SO ON
6. MEASURE ACROSS THE SQUARE WITH THE BAY WIDTH.
7. MEASURE UP THE VERTICAL LEG OF THE SQUARE FOR THE TRUSS RISE
8. WITH THESE TWO POINTS MARKED ON YOUR SQUARE, USE A TAPE MEASURE TO MEASURE THE DIAGONAL.
9. THIS MEASUREMENT, WHEN THOUGHT OF AS FEET AND INCHES, WILL GIVE YOU THE LENGTH OF THE BRACE FROM THE LONG POINT TO THE SHORT POINT ON THE 2X6 BRACE.

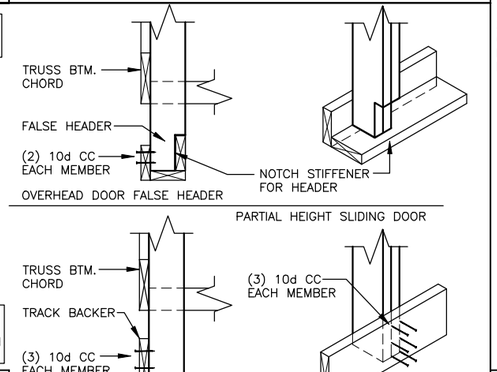
EXAMPLE: 10' BAY SPACING, 4/12 ROOF PITCH
BRACE 10' IN FROM SIDEWALL
10" HEEL ON TRUSS

1. 10 X 4" (4" RISE PER 1') = 40"
2. ADD 10" FOR HEEL HGT = 10"
3. SUBTRACT 6" FOR BRACE HGT = 6"
   44" (3'-8")
4. CONVERT 3'-8" TO 3 5/8"
5. BAY SPACING IS 10' W/SINGLE TRUSS 10' X 12"= 120"
6. SUBTRACT TRUSS: 120" - 1 1/2" = 9'-10 1/2"
7. CONVERT 9'-10 1/2" TO 9 7/8" AND MARK THE FRAMING SQUARE.
8. NOW READ THE TAPE MEASURE.
9. THIS GIVES YOU THE LENGTH OF THE BRACE AND ALSO THE ANGLES TO CUT ON EACH END OF THE BRACE.

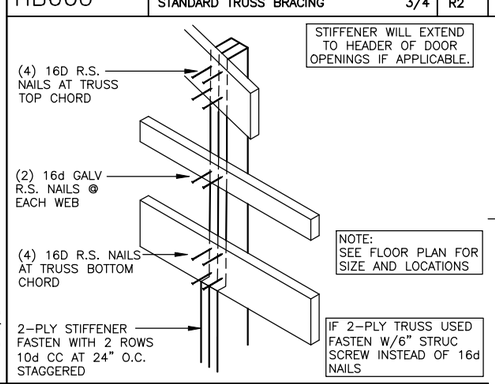


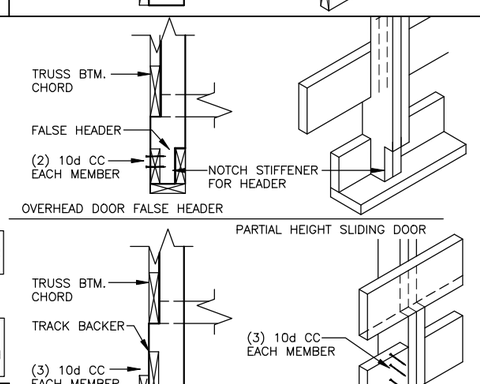
HB160	TRUSS DIAGONAL BRACE STEP BY STEP INSTRUCTIONS 3"	96 R1





HB660	VERTICAL STIFFENER BYPASS CONN - EW STANDARD TRUSS BRACING 3/4"	24 R2





HB661	VERTICAL STIFFENER FLUSH CONN - EW STANDARD TRUSS BRACING 3/4"	24 R0

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

THIS CERTIFICATION IS LIMITED TO THE STRUCTURAL DESIGN OF THE FRAMING AND COVERING PARTS MANUFACTURED BY LESTER BUILDING SYSTEMS, ALL OTHER ITEMS SUCH AS EQUIPMENT, VENTILATION, PLUMBING, ELECTRICAL, ERECTION, DOORS, FIRE REQUIREMENTS, INSPECTION, CONCRETE FLOORS, ETC. IS THE RESPONSIBILITY OF OTHERS.

DA003	ENG STAMP BOX - STRUCTURAL DESIGN FULL	384 R2

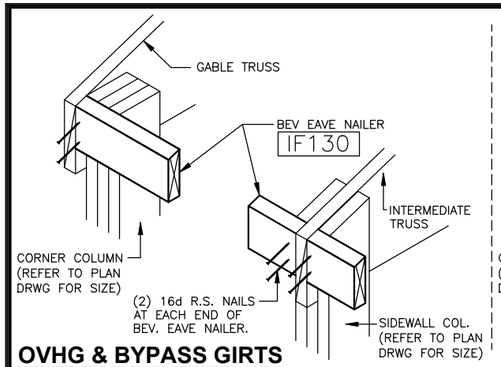
DATE: 9/29/2025
SHEET 10 OF 15
JOB-NUMBER 633954
DRWN BY: Amanda x5235
CHKD BY:
REV NO: 0

JOB DESCRIPTION: 30'x70'x20'

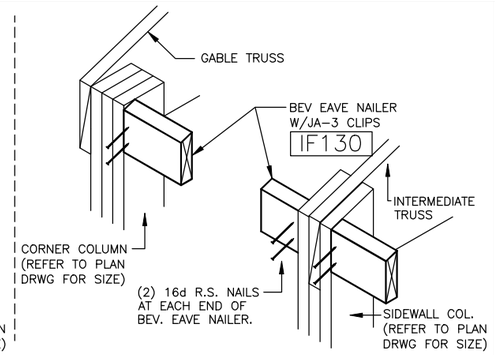
CUSTOMER:
R. Henry Construction, Inc.
101 Power Dr
Mankato, MN 56001

DEALER:
Jennifer Wight
25434 Cedar Lane
New Prague, MN 56071

LESTER BUILDING SYSTEMS, LLC.
TOLL-FREE: 800-826-4439
See Titleblock DRWN BY for Extension

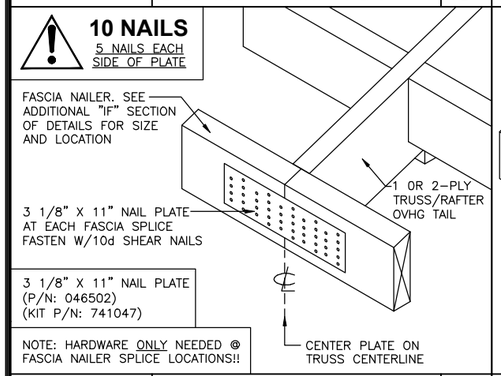


OVHG & BYPASS GIRTS



IF132	BEVELED EAVE NAILER TO COLUMN CONN. EAVE FASTENING – FLUSH PURLINS 1"	32 R2

10 NAILS
5 NAILS EACH SIDE OF PLATE

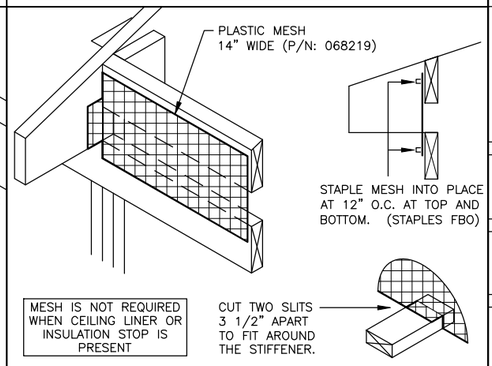


3 1/8" X 11" NAIL PLATE (P/N: 046502) (KIT P/N: 741047)

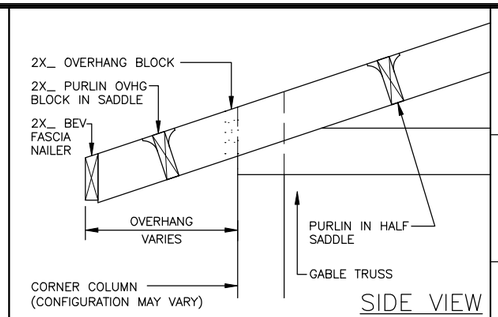
NOTE: HARDWARE ONLY NEEDED @ FASCIA NAILER SPLICE LOCATIONS!!

IF202	NAIL PLATE AT FASCIA NAILER W/10 NAILS DIAPHRAGM HARDWARE 1.5"	48 R4

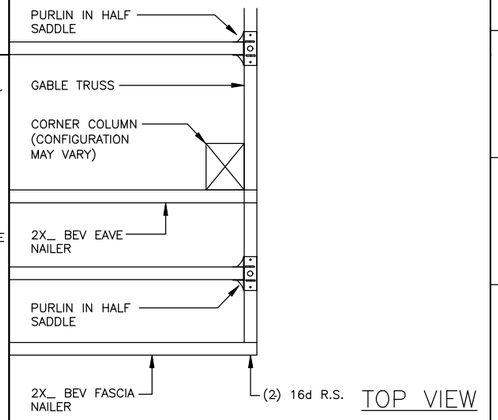
NO OVHG W/FLUSH GIRTS



IF261	14" PLASTIC MESH/NETTING INSTALLATION EAVE OVHG FRAMING 1"	32 R4

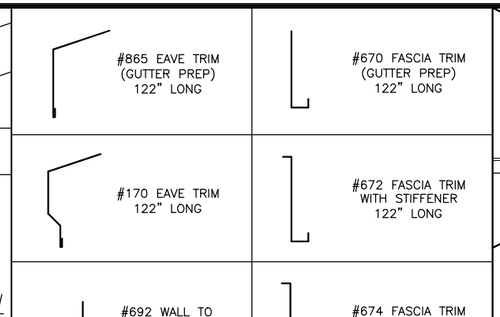


SIDE VIEW



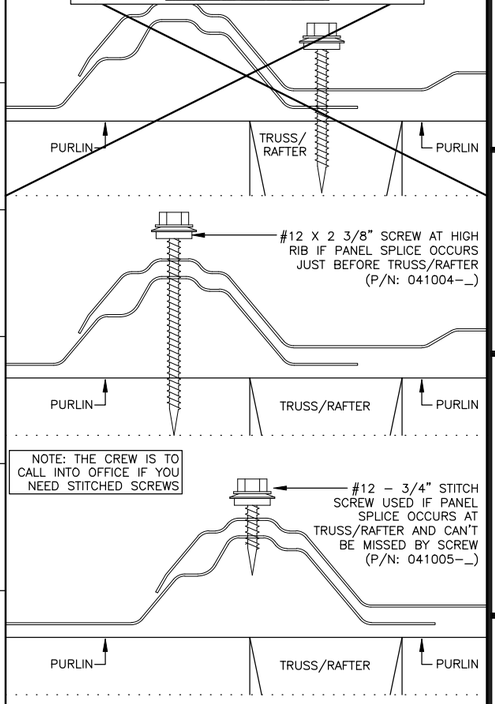
TOP VIEW

IF462	0" EW OVHG & SW OVHG W/PURLIN CORNER FRAMING – FLUSH PURLIN 1"	32 R1

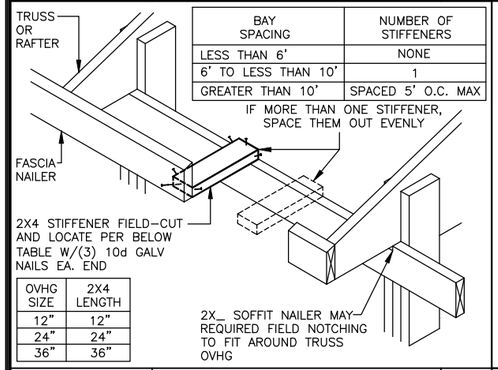


JF001	COMMON ROOF TRIM IDENTIFICATIONS UNI-RIB ROOF FINISH & FLASHING 2"	64 R0

!!! IMPORTANT !!!
DO NOT ATTACH ROOF PANELS TO TRUSSES/RAFTERS
ATTACH ONLY TO PURLINS



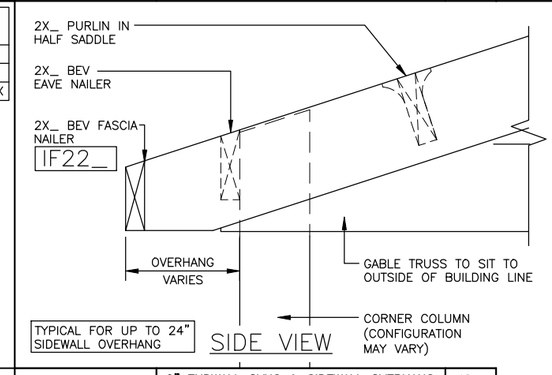
JF039	STITCH SCREW FASTENING ON ROOF UNI-RIB ROOF FINISH & FLASHING FULL	384 R2



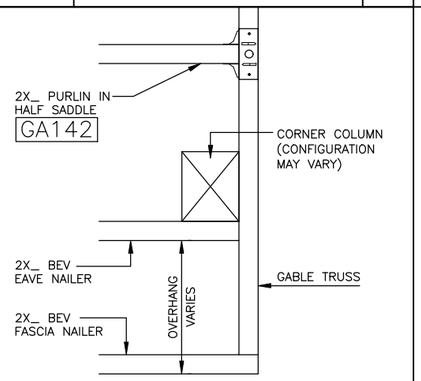
BAY SPACING	NUMBER OF STIFFENERS
LESS THAN 6'	NONE
6' TO LESS THAN 10'	1
GREATER THAN 10'	SPACED 5' O.C. MAX

OVHG SIZE	2X4 LENGTH
12"	12"
24"	24"
36"	36"

IF221	MID-BAY OVHG SOFFIT STIFFENER STANDARD EAVE FRAMING 3/4"	24 R3

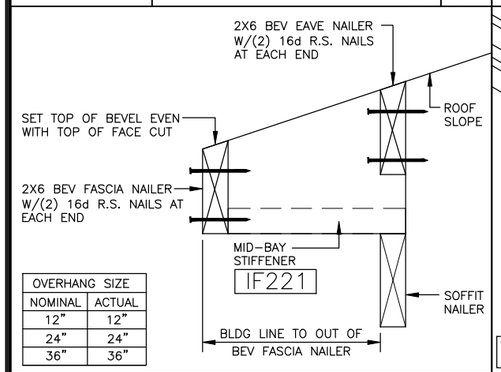


SIDE VIEW



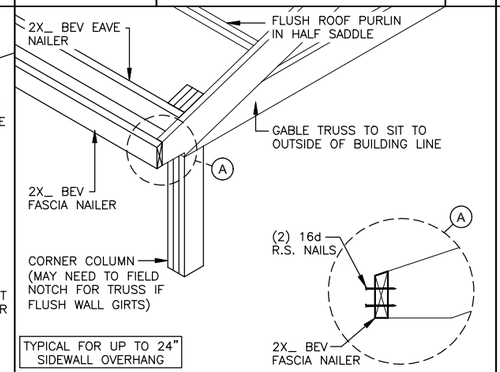
PLAN VIEW

IF402	0" ENDWALL OVHG & SIDEWALL OVERHANG CORNER FRAMING – FLUSH PURLIN 1.5"	48 R4

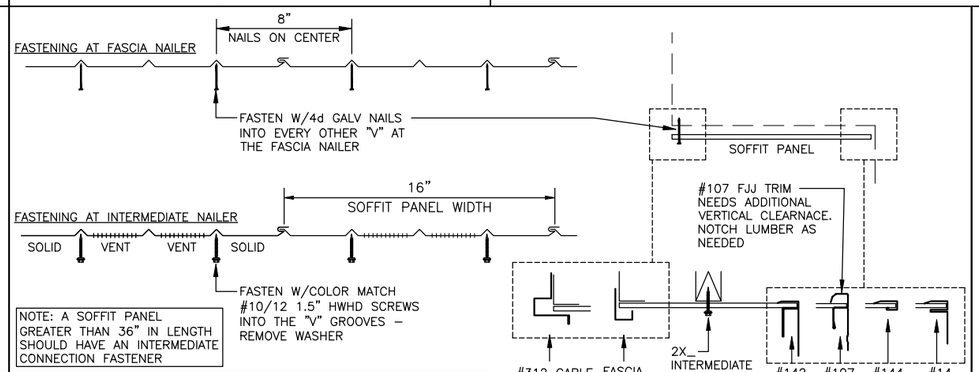


OVERHANG SIZE	
NOMINAL	ACTUAL
12"	12"
24"	24"
36"	36"

IF222	SW OVERHANG FRAMING – BYPASS GIRTS SW EAVE FRAMING – FLUSH PURLIN 2"	64 R1



IF403	0" ENDWALL OVHG & SIDEWALL OVHG (ISO) CORNER FRAMING – FLUSH PURLIN 1/2"	16 R3



IF642	COLORED METAL SOFFIT W/ FASTENERS OVERHANG SOFFIT CONNECTIONS 2"	64 R5

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

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DA003	ENG STAMP BOX – STRUCTURAL DESIGN FULL	384 R2

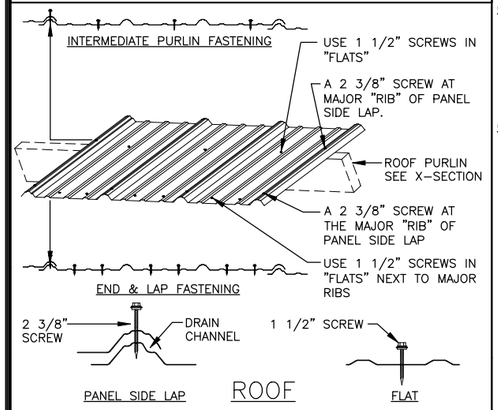
DATE: 9/29/2025
SHEET 11 OF 15
JOB-NUMBER 633954
DRWN BY: Amanda x5235
CHKD BY:
REV NO: 0
JOB DESCRIPTION: 30'x70'x20'

CUSTOMER:
R. Henry Construction, Inc.
101 Power Dr
Mankato, MN 56001

DEALER:
Jennifer Wight
25434 Cedar Lane
New Prague, MN 56071

LESTER BUILDING SYSTEMS, LLC.
TOLL-FREE: 800-826-4439
See Titleblock DRWN BY for Extension

!!DO NOT ATTACH ROOF PANELS TO TRUSS/RAFTER!!
ATTACH ONLY TO PURLINS JF039

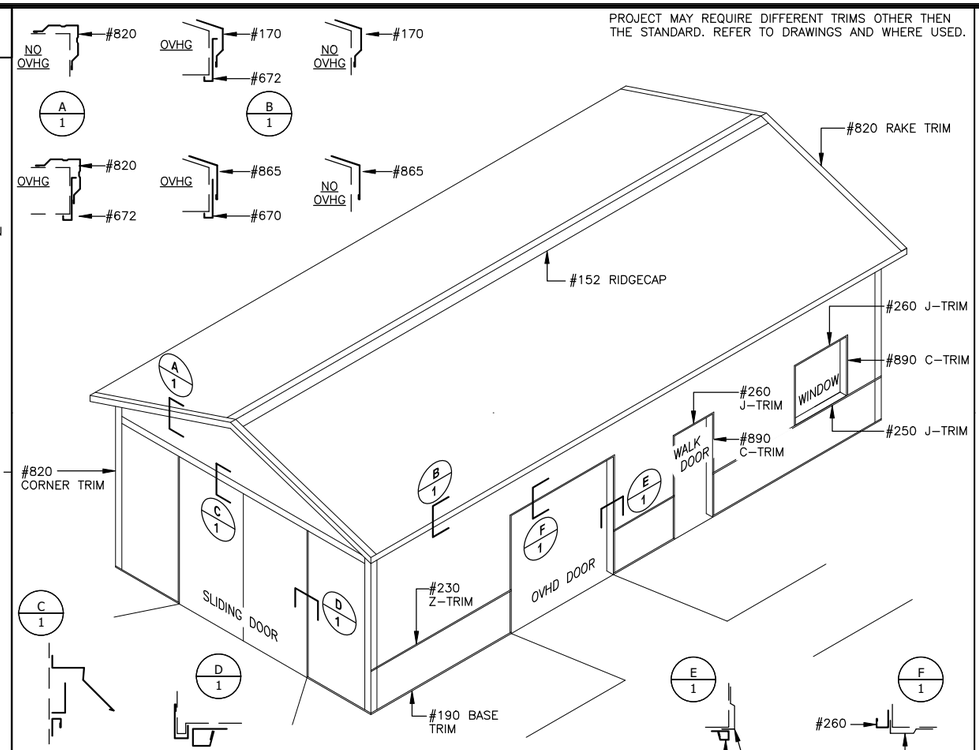


APPLICATION OF UNI-RIB PANELS WITH SCREWS

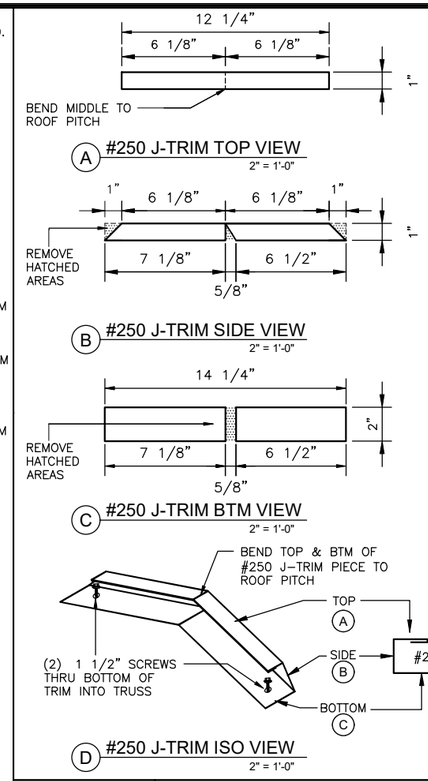
* USE 1 1/2" HWH EPDM AT "FLATS" OF PANEL. DO NOT OVER TIGHTEN. (P/N: 041003 W/SUFFIX RANGE)
* USE 2 3/8" HWH EPDM AT MAJOR "RIB" OF PANEL. DO NOT OVER TIGHTEN. (P/N: 041004 W/SUFFIX RANGE)
* AT PANEL LAP SPLICES AND AT THE ENDS, LOCATE SCREWS IN "FLATS" NEXT TO MAJOR RIBS, AND ON MAJOR "RIB" OF PANEL SIDE LAP.
* PROVIDE A MINIMUM GAP OF 1/8" BETWEEN ANY HORIZONTAL SURFACE AND THE BOTTOM OF THE UNI-RIB PANEL
* PRIOR TO PANEL APPLICATION, AVOID WALKING ON MAJOR "RIBS" IN ORDER TO PREVENT DAMAGE.
* IF RIGID INSULATION UP TO 1" THICK, INCREASED SCREW LENGTH BY THE THICKNESS OF THE INSULATION W/INCREMENTS OF 1/2"

JF044	SCREW FASTENING PATTERN UNI-RIB ROOF FINISH & FLASHING 3/4"	24 R7

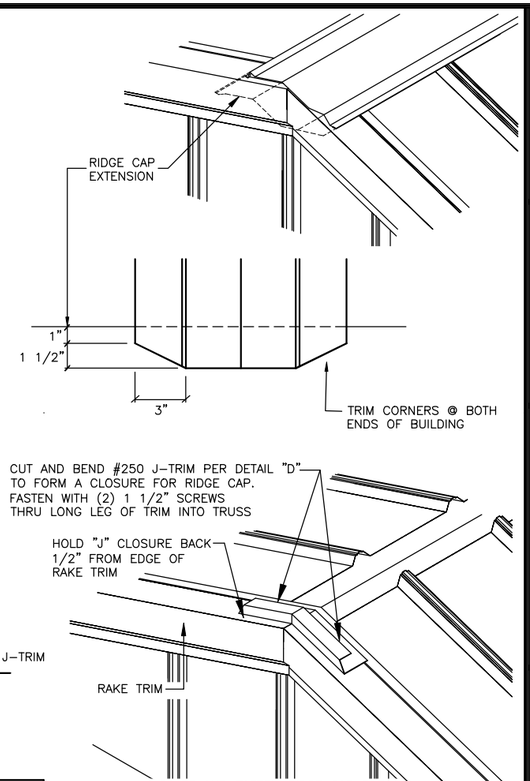
PROJECT MAY REQUIRE DIFFERENT TRIMS OTHER THEN THE STANDARD. REFER TO DRAWINGS AND WHERE USED.

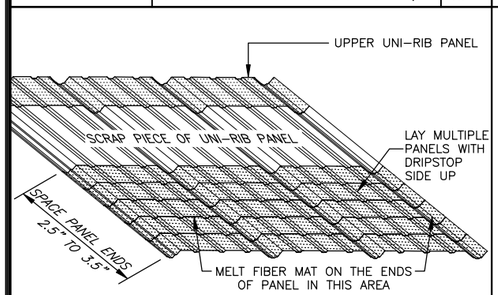


JF086	STANDARD TRIM LOCATIONS UNI-RIB ROOF FINISH & FLASHING 1/4"	64 R6



JF707	GABLE END CLOSURE ON GABLE ROOF RIDGECAP END CONDITION 2"	64 R4





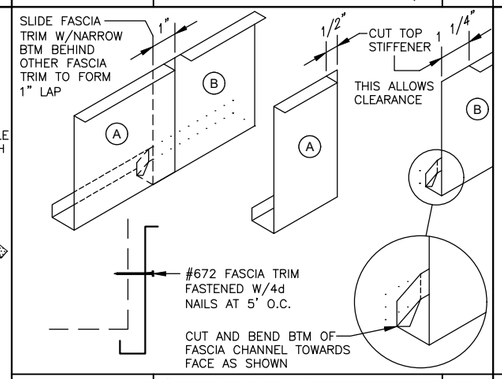
APPLICATION OF MELTING DRIPSTOP ON UNI-RIB PANELS

(MELT MULTIPLE PANELS AT ONE TIME)

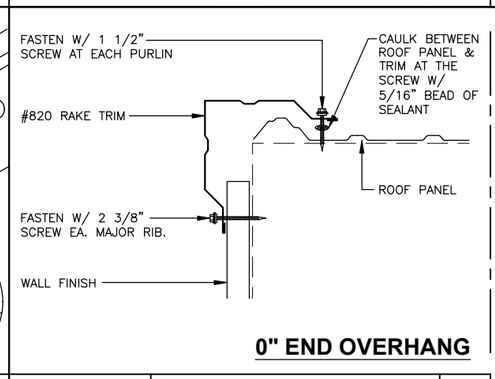
* PREPARE PANELS BY LAYING MULTIPLE UNI-RIB PANELS W/DRIPSTOP SIDE UP. REMEMBER TO LAY THEM IN A WAY TO NOT SCRATCH THE PAINTED SIDE.
* SPACE THE BOTTOM END OF EACH PANEL 2.5" TO 3.5" APART FROM EACH OTHER.
* USE A SCRAP PIECE OF UNI-RIB ON TOP ON THE UPPER PANEL.
* USE AN ELECTRICAL/GAS HEATER CCA. 650° C. AND MELT THE BOTTOM END OF ALL PANELS SUCH THAT THE FIBER MAT CONSOLIDATED AND THE PORES ARE ELIMINATED. THE FIBER MAT WILL MELT WITHIN SECONDS.

THE FIBER MAT OF DRIPSTOP CAN WICK WATER UP THE UNDERSIDE OF THE PANEL ANY TIME THE EDGE OF THE PANEL IS EXPOSED TO WATER. THIS OCCURS AT THE EAVE AND AT THE END LAP SPLICES. MELTING THE FIBER MAT ELIMINATES THE SMALL PORES THAT ALLOW WATER TO BE PULLED INTO THE MATERIAL.

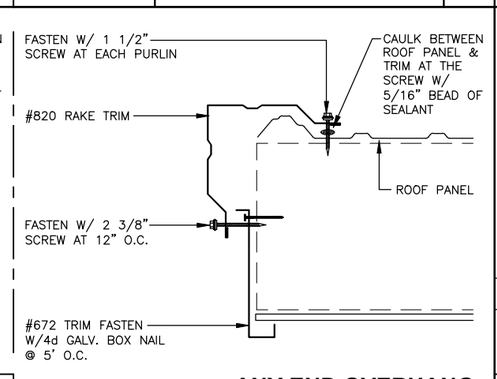
JF050	DRIPSTOP MELTING APPLICATION UNI-RIB ROOF FINISH & FLASHING 1/2"	16 R2

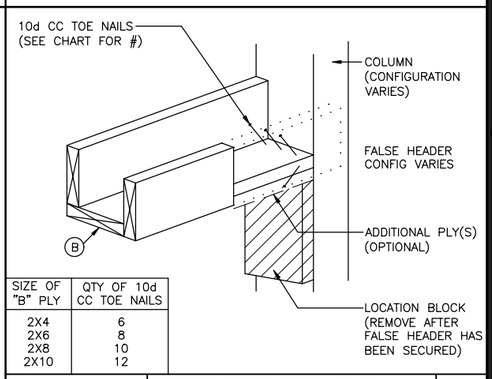


JF153	#672 FASCIA TRIM – SPLICE CONNECTION ROOF FINISH & FLASHING 3"	96 R1



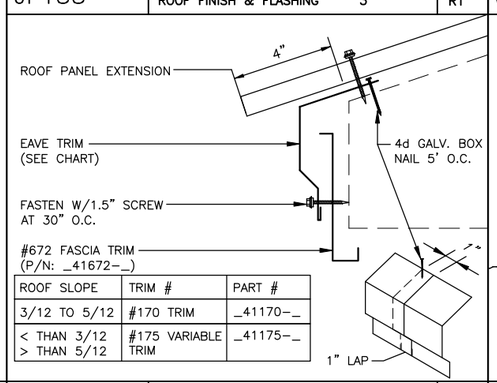
JF330	#820 RAKE TRIM CONNECTION UNI-RIB ROOF FINISH & FLASHING 3"	96 R5





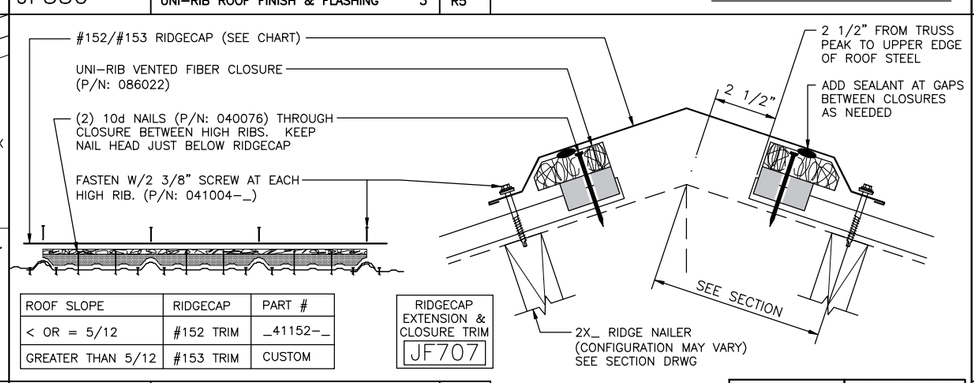
SIZE OF "B" PLY	QTY OF 10d CC TOE NAILS
2X4	6
2X6	8
2X8	10
2X10	12

LK247	FALSE HEADER TO COLUMN CONN. HEADER FRAMING 1"	32 R1



ROOF SLOPE	TRIM #	PART #
3/12 TO 5/12	#170 TRIM	_41170-_
< THAN 3/12 > THAN 5/12	#175 VARIABLE TRIM	_41175-_

JF154	SW OVERHANG W/#170 EAVE TRIM UNI-RIB ROOF FINISH & FLASHING 3"	96 R9



ROOF SLOPE	RIDGECAP	PART #
< OR = 5/12	#152 TRIM	_41152-_
GREATER THAN 5/12	#153 TRIM	CUSTOM

RIDGECAP EXTENSION & CLOSURE TRIM JF707

JF708	CONTINUOUS VENTED RIDGE – GABLE ROOF UNI-RIB ROOF VENTILATION 3"	96 R8

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

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USE SEALANT AT ALL SPLICES	LAP RIDGECAP 5" AT ALL SPLICES

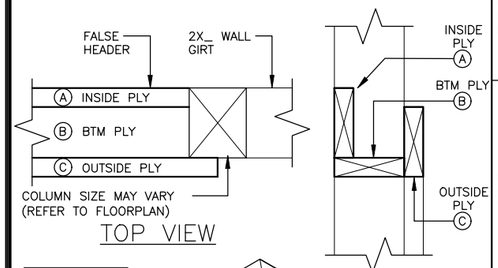
DA003	ENG STAMP BOX – STRUCTURAL DESIGN FULL	384 R2

DATE: 9/29/2025
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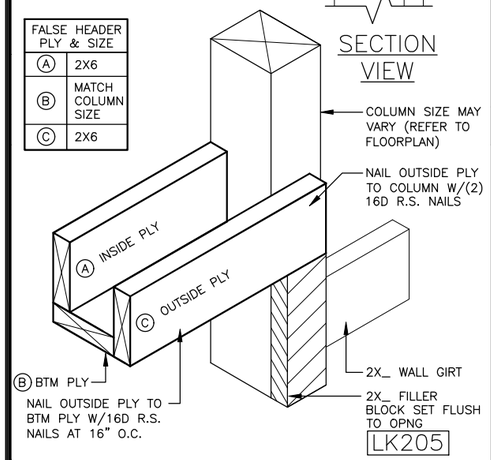
LESTER BUILDING SYSTEMS, LLC.
TOLL-FREE: 800-826-4439
See Titleblock DRWN BY for Extension



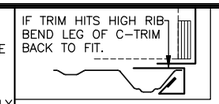
TOP VIEW

SECTION VIEW

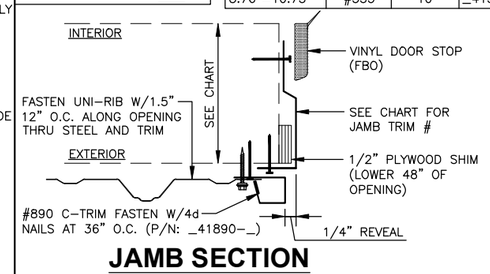
FALSE HEADER PLY & SIZE	
A	2X6
B	MATCH COLUMN SIZE
C	2X6



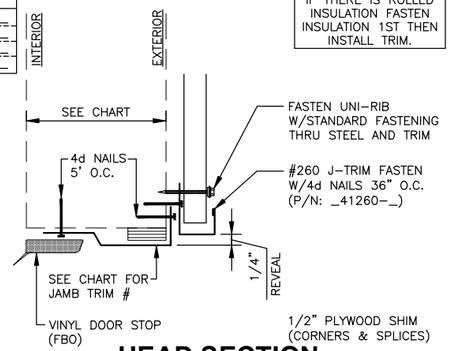
LK205



JAMB DEPTH	TRIM STYLE	TRIM LEG DEPTH	PART #
4"–5.5"	#522	5"	_41522–_
5.51"–7.75"	#512	7"	_41512–_
7.76"–8.75"	#552	8"	_41552–_
8.76"–10.75"	#555	10"	_41555–_

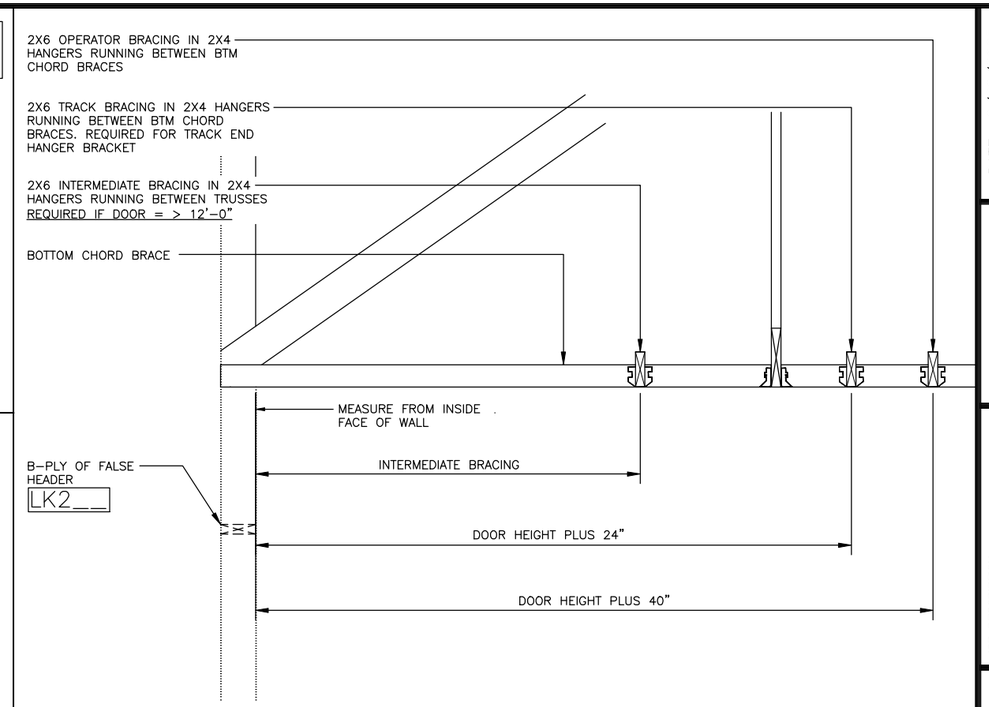


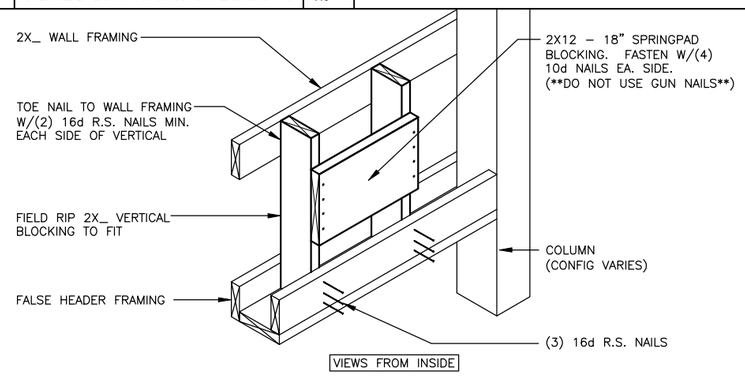
JAMB SECTION



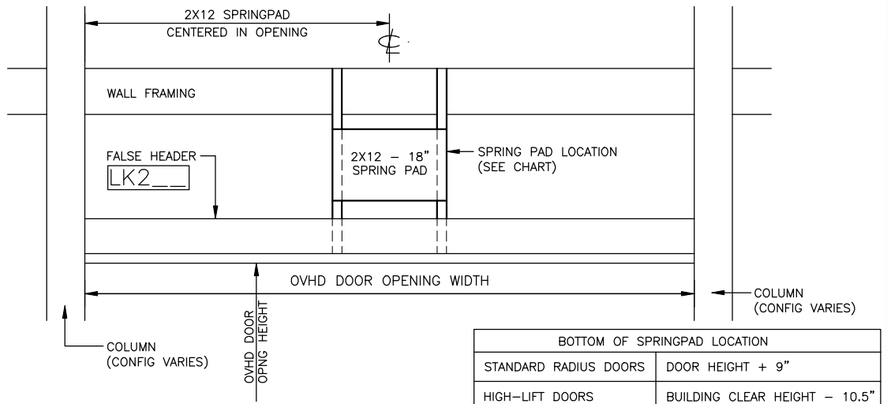
HEAD SECTION

LK424	DOOR OPNG TRIM – EXTERIOR UNI–RIB OVERHEAD DOOR FRAMING & FLASHING 3"	96 R5





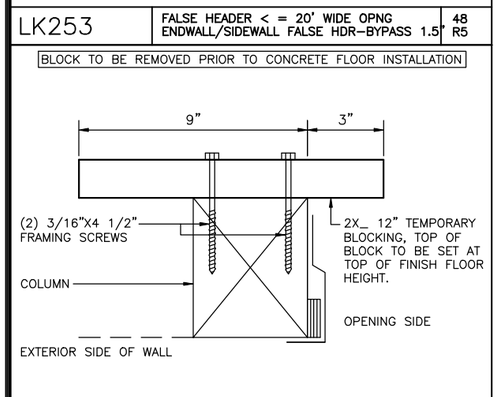
VIEWS FROM INSIDE



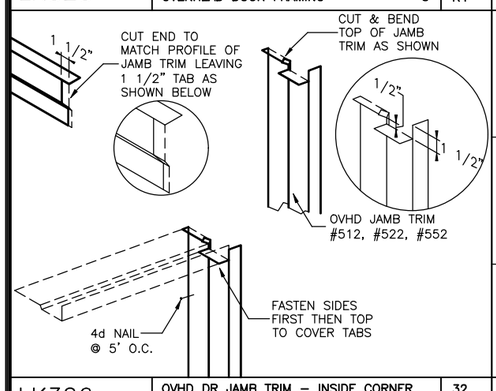
BOTTOM OF SPRINGPAD LOCATION	
STANDARD RADIUS DOORS	DOOR HEIGHT + 9"
HIGH–LIFT DOORS	BUILDING CLEAR HEIGHT – 10.5"
FULL VERTICAL DOORS	2 X DOOR HEIGHT

LK623	STANDARD RADIUS TRACK BRACING – EW OVERHEAD DOOR FRAMING 3/4"	24 R3

OVERHEAD DOOR IN ENDWALL



LK325	2X_ TEMPORARY DOOR SUPPORT OVERHEAD DOOR FRAMING 3"	96 R4

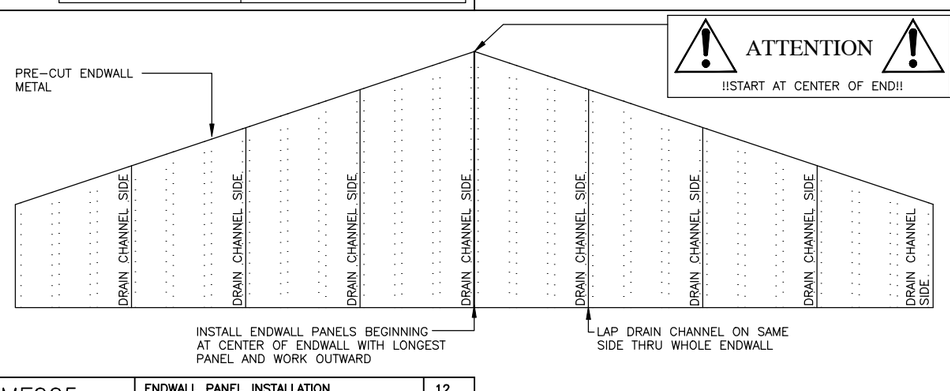


LK326	OVHD DR JAMB TRIM – INSIDE CORNER METAL FLASHINGS FIELD WORK 1	32 R0

LK621	SPRINGPAD LOCATION <=16' DOOR OPNG. OVERHEAD DOOR FRAMING 3/4"	24 R7

#190 BASE TRIM 122" LONG	#312 BTM CLOSURE 122" LONG	#820 RAKE/CORNER 183" LONG 244" LONG
#250 J–TRIM 122" LONG	#260 J–TRIM 122" LONG 198" LONG	#270 3.5" L–TRIM #510 7" L–TRIM #520 5" L–TRIM #550 8.5" L–TRIM 122" LONG
#890 C–TRIM 170" LONG 244" LONG	#230 Z–TRIM 122" LONG	#512 7" JAMB TRIM #522 5" JAMB TRIM #552 8" JAMB TRIM #555 10" JAMB TRIM 122" LONG

MF001	COMMON WALL TRIM IDENTIFICATIONS UNI–RIB ROOF FLASHING 2"	64 R0



MF005	ENDWALL PANEL INSTALLATION UNI–RIB WALL PANELS 3/8"	12 R1

ATTENTION
!!START AT CENTER OF END!!

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

THIS CERTIFICATION IS LIMITED TO THE STRUCTURAL DESIGN OF THE FRAMING AND COVERING PARTS MANUFACTURED BY LESTER BUILDING SYSTEMS, ALL OTHER ITEMS SUCH AS EQUIPMENT, VENTILATION, PLUMBING, ELECTRICAL, ERECTION, DOORS, FIRE REQUIREMENTS, INSPECTION, CONCRETE FLOORS, ETC. IS THE RESPONSIBILITY OF OTHERS.

DA003	ENG STAMP BOX – STRUCTURAL DESIGN FULL	384 R2

DATE: 9/29/2025

JOB–NUMBER 633954

SHEET 13 OF 15

DRWN BY: Amanda x5235

CHKD BY:

REV NO: 0

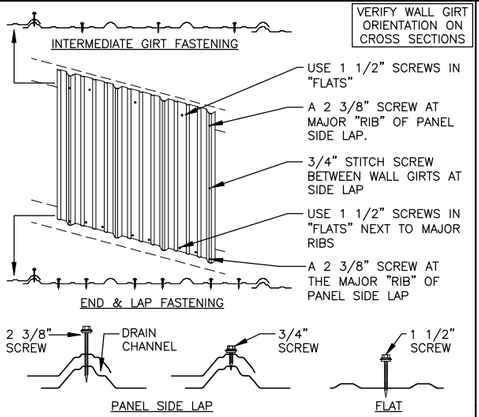
JOB DESCRIPTION: 30'x70'x20'

CUSTOMER: R. Henry Construction, Inc. 101 Power Dr Mankato, MN 56001

DEALER: Jennifer Wight 25434 Cedar Lane New Prague, MN 56071

LESTER BUILDING SYSTEMS, LLC. TOLL–FREE : 800-826-4439

See Titleblock DRWN BY for Extension

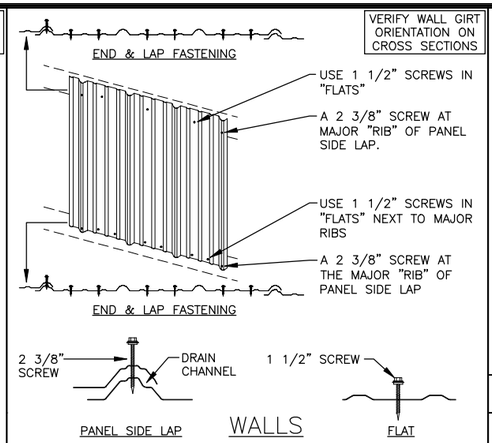


WALLS

APPLICATION OF UNI–RIB PANELS WITH SCREWS

* USE 1 1/2" HWH EPDM AT "FLATS" OF PANEL. DO NOT OVER TIGHTEN. (P/N: 041003 W/SUFFIX RANGE)
* USE 2 3/8" HWH EPDM AT MAJOR "RIB" OF PANEL. DO NOT OVER TIGHTEN. (P/N: 041004 W/SUFFIX RANGE)
* USE 3/4" HWH EPDM STITCH SCREW BETWEEN WALL GIRTS AT AT ALL LAP JOINTS. (P/N: 041005 W/SUFFIX RANGE)
* AT INTERMEDIATE GIRT CONNECTIONS, LOCATE SCREWS INSIDE "FLATS", AND AT THE MAJOR "RIB" OF PANEL.
* AT PANEL LAP SPLICES AND AT THE ENDS, LOCATE SCREWS IN "FLATS" NEXT TO MAJOR RIBS, AND ON MAJOR "RIB" OF PANEL SIDE LAP.
* PROVIDE A MINIMUM GAP OF 1/8" BETWEEN ANY HORIZONTAL SURFACE AND THE BOTTOM OF THE UNI–RIB PANEL

MF043	(1) STITCH SCR FASTENING PATTERN UNI–RIB WALLS FINISH & FLASHING 3/4"	24 R3

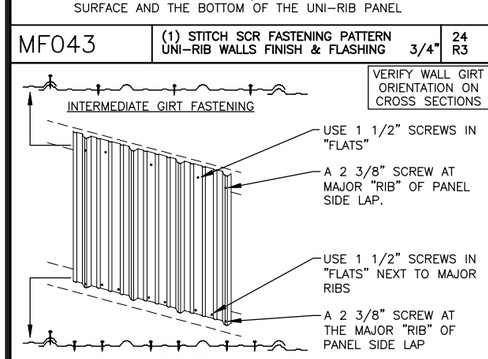


CAULK SIDE LAPS IF THERMO–EAVE LITE PANELS ARE BEING INSTALLED

APPLICATION OF UNI–RIB ACRYLIT PANELS WITH SCREWS

* USE 1 1/2" HWH EPDM AT "FLATS" OF PANEL. DO NOT OVER TIGHTEN. (P/N: 041003–100)
* USE 2 3/8" HWH EPDM AT MAJOR "RIB" OF PANEL. DO NOT OVER TIGHTEN. (P/N: 041004–100)
* AT INTERMEDIATE GIRT CONNECTIONS, LOCATE SCREWS INSIDE "FLATS", AND AT THE MAJOR "RIB" OF PANEL.
* AT PANEL LAP SPLICES AND AT THE ENDS, LOCATE SCREWS IN "FLATS" NEXT TO MAJOR RIBS, AND ON MAJOR "RIB" OF PANEL SIDE LAP.
* PROVIDE A MINIMUM GAP OF 1/8" BETWEEN ANY HORIZONTAL SURFACE AND THE BOTTOM OF THE UNI–RIB PANEL
* PRIOR TO PANEL APPLICATION, AVOID WALKING ON MAJOR "RIBS" IN ORDER TO PREVENT DAMAGE.

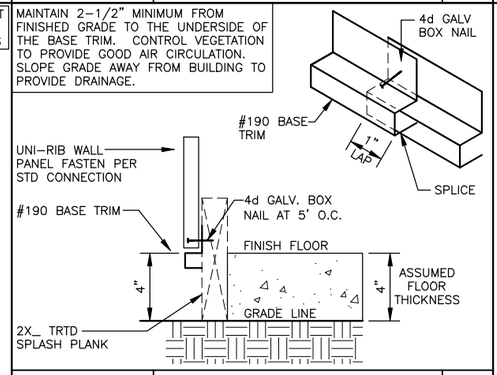
MF045	EAVE ACRYLIT SCREW FASTENING PATTERN UNI–RIB WALLS FINISH & FLASHING 3/4"	24 R6



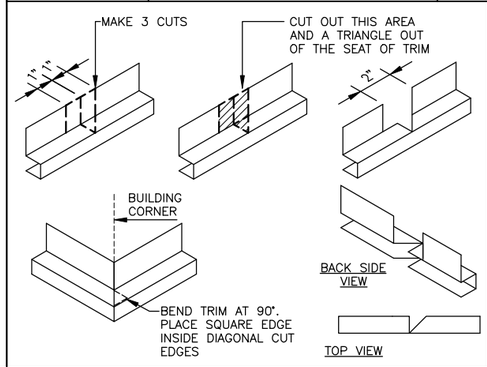
APPLICATION OF UNI–RIB PANELS WITH SCREWS

* USE 1 1/2" HWH EPDM AT "FLATS" OF PANEL. DO NOT OVER TIGHTEN. (P/N: 041003 W/SUFFIX RANGE)
* USE 2 3/8" HWH EPDM AT MAJOR "RIB" OF PANEL. DO NOT OVER TIGHTEN. (P/N: 041004 W/SUFFIX RANGE)
* AT INTERMEDIATE GIRT CONNECTIONS, LOCATE SCREWS INSIDE "FLATS", AND AT THE MAJOR "RIB" OF PANEL.
* AT PANEL LAP SPLICES AND AT THE ENDS, LOCATE SCREWS IN "FLATS" NEXT TO MAJOR RIBS, AND ON MAJOR "RIB" OF PANEL SIDE LAP.
* PROVIDE A MINIMUM GAP OF 1/8" BETWEEN ANY HORIZONTAL SURFACE AND THE BOTTOM OF THE UNI–RIB PANEL
* PRIOR TO PANEL APPLICATION, AVOID WALKING ON MAJOR "RIBS" IN ORDER TO PREVENT DAMAGE.

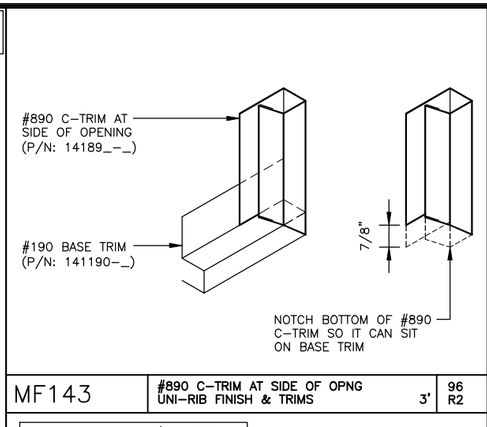
MF044	SCREW FASTENING PATTERN UNI–RIB WALLS FINISH & FLASHING 3/4"	24 R5



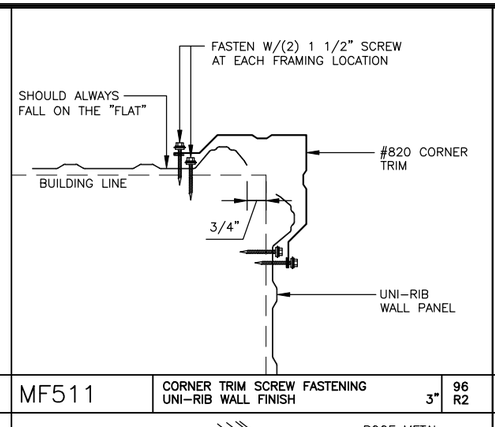
MF113	#190 BASE TRIM TO TRTD SPLASH PLANK BASE TRIM PLACEMENT (UNI–I) 2"	64 R2



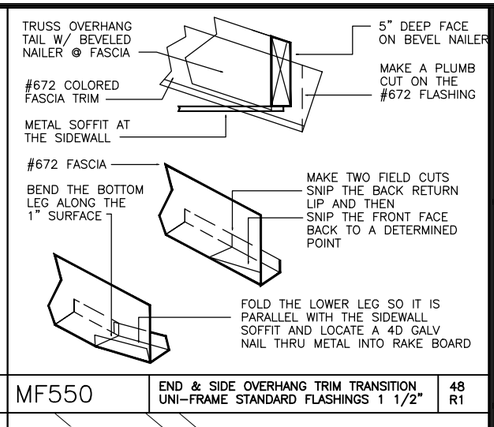
MF142	#190 BASE TRIM AT CORNER OF BLDG UNI–RIB WALL FINISH & FLASHING 2"	64 R1



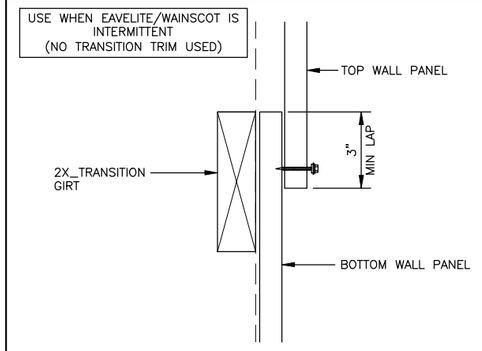
MF143	#890 C–TRIM AT SIDE OF OPNG UNI–RIB FINISH & TRIMS 3'	96 R2



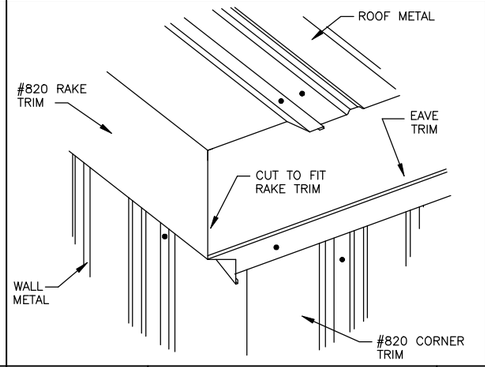
MF511	CORNER TRIM SCREW FASTENING UNI–RIB WALL FINISH 3"	96 R2



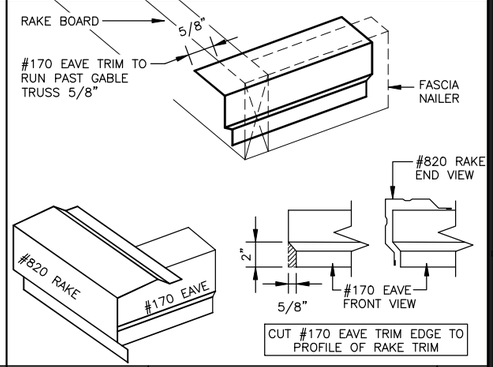
MF550	END & SIDE OVERHANG TRIM TRANSITION UNI–FRAME STANDARD FLASHINGS 1 1/2"	48 R1



MF344	WALL PANEL LAP – EAVELITE/WAINSCOT UNI–RIB WALL PANEL & TRIM 3"	96 R2

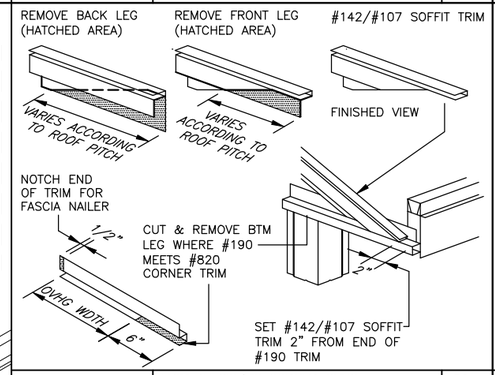


MF530	TRIM CONFIG AT EAVE LINE CORNER WALL METAL & TRIM FASTENING 3/4"=1	24 R3

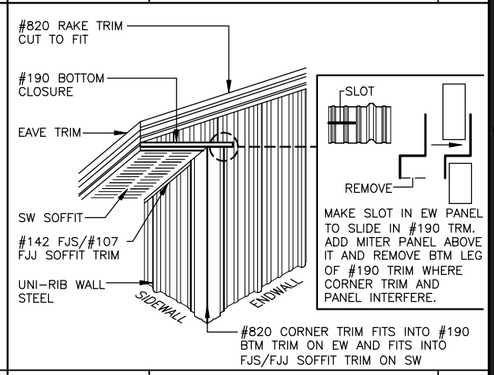


MF551	#170 EAVE TRIM – CORNER – OVERHANG UNI–RIB WALL PANEL & TRIMS 1.5"	48 R1

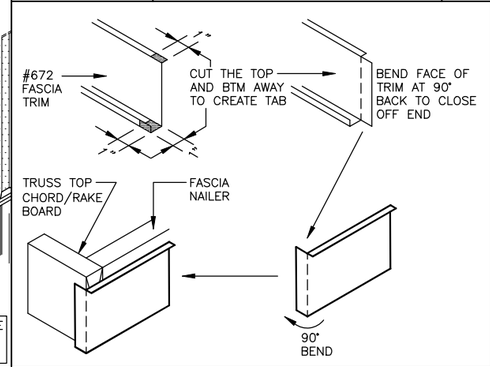
MF359	EAVE LITE ON SIDEWALL – OVERHANG UNI–RIB WALL PANEL & TRIMS 3/4"	24 R5



MF548	TRIM AT SW/EW CORNER OVHG UNI–RIB WALL FINISH & FLASHING	32 R2



MF562	0" ENDWALL OVHG – SIDEWALL OVHG UNI–RIB WALL PANEL & TRIMS 1/2"	16 R7



MF549	#672 FASCIA TRIM ON SW OVHG CORNER UNI–RIB WALL FINISH & FLASHING 1.5"	48 R1

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

THIS CERTIFICATION IS LIMITED TO THE STRUCTURAL DESIGN OF THE FRAMING AND COVERING PARTS MANUFACTURED BY LESTER BUILDING SYSTEMS, ALL OTHER ITEMS SUCH AS EQUIPMENT, VENTILATION, PLUMBING, ELECTRICAL, ERECTION, DOORS, FIRE REQUIREMENTS, INSPECTION, CONCRETE FLOORS, ETC. IS THE RESPONSIBILITY OF OTHERS.

DA003	ENG STAMP BOX – STRUCTURAL DESIGN FULL	384 R2

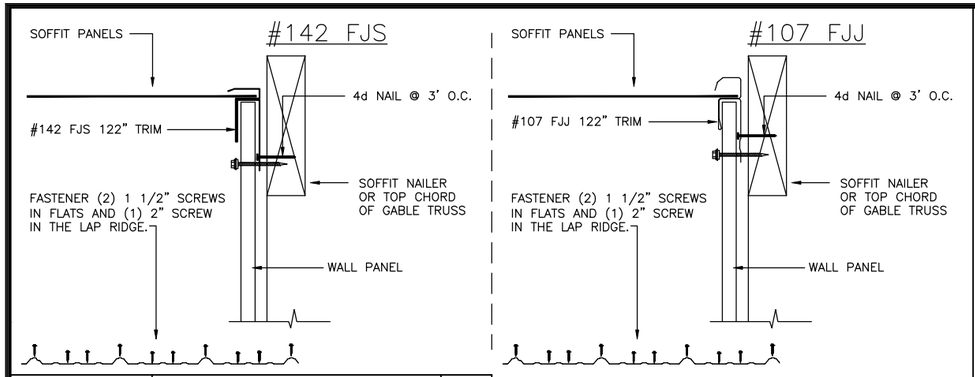
DATE: 9/29/2025
SHEET 14 OF 15
JOB–NUMBER 633954
DRWN BY: Amanda x5235
CHKD BY:
REV NO: 0

JOB DESCRIPTION: 30'x70'x20' . . .

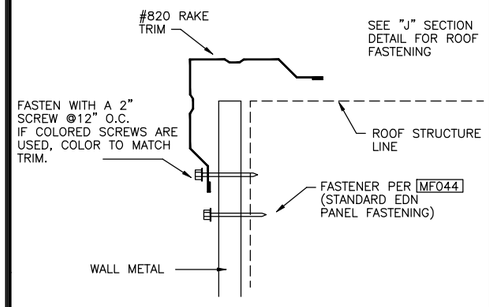
CUSTOMER:
R. Henry Construction, Inc.
101 Power Dr
Mankato, MN 56001

DEALER:
Jennifer Wight
25434 Cedar Lane
New Prague, MN 56071

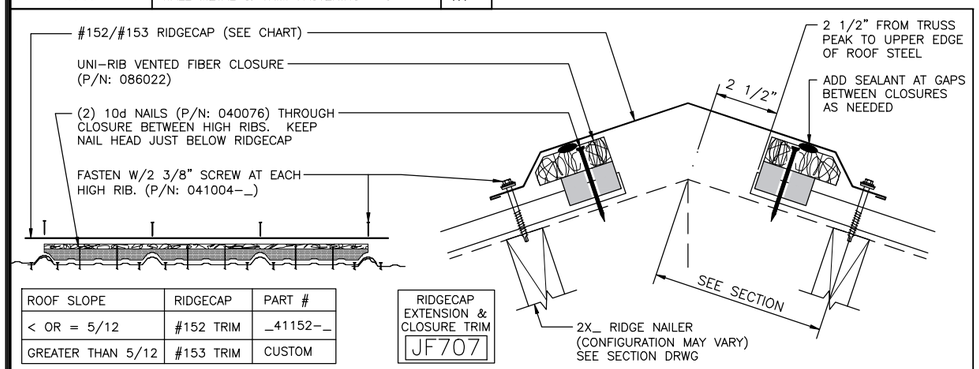
LESTER BUILDING SYSTEMS, LLC.
TOLL–FREE: 800-826-4439
. See Titleblock DRWN BY for Extension



MF724	"F" TRIM AT SOFFIT STEEL SIDING & TRIM FASTENING 3"	96 R4



MF738	#820 RAKE TRIM TO WALL METAL WALL METAL & TRIM FASTENING 3"	96 R4



ROOF SLOPE	RIDGECAP	PART #
< OR = 5/12	#152 TRIM	_41152-_
GREATER THAN 5/12	#153 TRIM	CUSTOM

RIDGECAP EXTENSION & CLOSURE TRIM: JF707

OA050	CONTINUOUS VENTED RIDGE – GABLE ROOF UNI-RIB ROOF VENTILATION 3"	96 R8

USE SEALANT AT ALL SPLICES | LAP RIDGECAP 5" AT ALL SPLICES

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

Signature: Matthew Pjesky

Name: Matthew Pjesky

Date: 09-29-25 License Number: 61670

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DA003	ENG STAMP BOX – STRUCTURAL DESIGN FULL	384 R2

DATE: 9/29/2025

SHEET 15 OF 15

JOB-NUMBER 633954

DRWN BY: Amanda x5235

CHKD BY:

REV NO: 0

JOB DESCRIPTION: 30'x70'x20'

CUSTOMER:
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101 Power Dr
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New Prague, MN 56071

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